

Virginia Water Central

Virginia Water Resources Research Center Blacksburg, Virginia April 2005 (No. 34)



Virginia's waters and land activities that affect the waters were the subject of over 100 bills in the 2005 General Assembly. A review of water-related legislation begins on this page. *Photo: Potomac River at Mt. Vernon, January 10, 2005.*

FEATURE ARTICLE

Water in the 2005 Virginia General Assembly

The 2005 Virginia General Assembly convened January 12 and adjourned February 27, with a reconvened ("veto") session on April 6. The legislature considered 3363 measures (2938 introduced this year and 425 carried over from last year); 1610 measures passed both houses, while 1753 failed. (No legislation carries over from this year, because it was the second year of a two-year Assembly, with elections scheduled for this November.) Among the most important business was consideration of amendments to the current biennial state budget.

This article lists **126 measures related to water resources or to land activities with a potential impact on water**. The list comes from the Legislative Information Service (LIS) Web site, at leg1.state.va.us. The measures were located by searching the following LIS subject categories: Conservation; Drainage, Soil Conservation, Sanitation, and Public Facilities Districts; Fisheries and Habitat of Tidal Waters; Game, Inland Fisheries and Boating; Health; Mines and Mining; Waste Disposal; Water and Sewer Systems; and Waters of the State, Ports and Harbors.

This list of water-related bills is organized by the LIS categories (alphabetically). Where LIS listed bills under more than one category, this article places the bill in category that seemed most appropriate (no bills are listed under Health or Mines and Mining). 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

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VIRGINIA POLYTECHNIC INSTITUTE
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House; **SB** = bill started in the Senate; and **SJ** = joint resolution started in the Senate.

The bill summaries were taken directly from LIS, with some editing for space, clarity, or emphasis. *Water Central* has numbered the bills consecutively to help refer readers from one bill to another; these numbers, however, have no *legislative* significance.

A table on page 3 lists bills that received significant press attention, according to *Water Central's* reading of several state newspapers.

Abbreviations for State Agencies and Other Terms

DCR = Department of Conservation and Recreation

DEQ = Department of Environmental Quality

DGIF = Department of Game and Inland Fisheries

DOF = Department of Forestry

MRC = Marine Resources Commission

SWCB = State Water Control Board

VDH = Department of Health

WQIF = Water Quality Improvement Fund



CONSERVATION

1. **HB 1602 Environmental impact reviews; completion within six months of project funding. PASSED.**

Provides that any state agency, board, or commission that issues a permit for a highway construction project pursuant to Title 10.1, 28.2, 29.1, or 62.1 of the *Code of Virginia* must, within 15 days of receipt of an individual or general permit application, review the application for completeness and either accept the application or request additional specific information from the Department of Transportation.

2. **HB 1655 Income tax, state and corporate; credit for purchase of conservation tillage equipment. PASSED.**

Increases from \$2,500 to \$4,000 the cap on the individual and corporate income tax credits for purchase of conservation tillage equipment.

3. **HB 1790 Nutrient management; state governmental entities to develop and implement plan. PASSED.**

Requires state governmental entities that own or lease land upon which nutrients are applied to develop and implement a nutrient-management plan by July 1, 2006, to be submitted to the Department of Conservation and Recreation (DCR) for review and approval every three years.

4. **HB 1890 Soil and water conservation districts; duties of directors. PASSED.**

Enumerates seven new responsibilities of soil and water conservation district directors, including (among others) identification of soil and water issues, engaging in actions that will improve soil and water stewardship through the use of locally led programs, increasing understanding among community leaders of their role in soil and water quality protection and improvement; and ensuring that district resources are used effectively and managed wisely.

5. **HB 1931 Recreational access funding; limitations. PASSED.**

Clarifies limitations on expenditures for constructing roads and bikeways to recreational areas.

6. **HB 1971 Poultry waste management; changes phosphorus application rates. PASSED.**

Requires that phosphorous application rates for nutrient-management plans conform to regulatory criteria and standards adopted by the DCR. Currently nutrient-management plans for poultry waste are to include phosphorous application rates that are equal to the capacity of a crop to remove phosphorous from the soil. The rates contemplated by DCR would consider such factors as the soil's phosphorous level, slope of the land, farming practices, and proximity to streams.

Continued after table on next page

Table 1. Several Noteworthy Water-related Bills in the 2005 Virginia General Assembly.

| Subject | Bill Number(s) and Number in This Article's List | Bill Fate | Press Sources (all dates are 2005) |
|--|---|--|---|
| Budget: \$50 million for Bay clean-up. | HB 2777 (#19) SB 1235 (#93) | Passed | Associated Press, Jan. 31 <i>Augusta Free Press</i> , Mar. 9 <i>Fredericksburg Free Lance-Star</i> , Jan. 31 <i>Newport News Daily Press</i> , Feb. 28 <i>Virginian-Pilot</i> , Feb. 28 <i>Washington Post</i> , Feb. 27 and Feb. 28 |
| Budget: Increased funds for state park staff, construction, operations, and dam repair. | Budget amendments | Passed | <i>Richmond Times-Dispatch</i> , Mar. 1 <i>Roanoke Times</i> , Mar. 10 |
| Clean Smokestack Act (addressed mercury and other substances that can become water pollutants) | HB 2742 (#18) | Failed | Capital News Service, Jan. 30 <i>Newport News Daily Press</i> , Jan. 9 |
| Foundation for Natural Resources | SB 1141 (#30) | Passed | Not seen by <i>Water Central</i> in press accounts |
| Landfill distance from wells | HB 2192 (#67) | Passed | <i>Lynchburg News & Advance</i> , Feb. 24 <i>Richmond Times-Dispatch</i> , Feb. 22 <i>Virginian-Pilot</i> , Feb. 28 |
| Menhaden management | HB 1795 (#39) HB 2809 (#43) HJ 658 (#47) | Failed Passed Failed | <i>Newport News Daily Press</i> , Feb. 1 <i>Richmond Times-Dispatch</i> , Jan. 16 <i>Roanoke Times</i> , Feb. 3 and Mar. 10 |
| Nonnative oysters | HB 2452 (#41) | Passed | <i>Newport News Daily Press</i> , Jan. 9 <i>Virginian-Pilot</i> , Feb. 24 |
| Nutrient credit trading | HB 2862 (#106) SB 1275 (#122) | Both Passed | <i>Lynchburg News & Advance</i> , Feb. 13 and Feb. 24 <i>Virginian-Pilot</i> , Feb. 8 and Feb. 28 |
| Off-shore gas exploration | SB 1054 (#123) | Passed; then vetoed by governor | <i>Richmond Times-Dispatch</i> , Feb. 24 <i>Virginian-Pilot</i> , Jan. 22 and Feb. 28 |
| Sewage fee for water quality clean up (Clean Streams Act) | HB 2694 (#16) SB 1240 (#31) | Both Failed | Associated Press, Jan. 31 <i>Fredericksburg Free Lance-Star</i> , Jan. 31 <i>Newport News Daily Press</i> , Jan. 9 and Jan. 18 <i>Virginian-Pilot</i> , Feb. 8 |
| Sewage Sludge/Biosolids | HB 2073 (#76) HB 2074 (#77) HB 2197 (#78) HB 2198 (#79) HB 2493 (#84) HB 2624 (#87) HB 2805 (#88) HJ 643 (#90) SB 787 (#91) | Passed Failed Passed Passed Failed Passed Passed Passed Failed | <i>Lynchburg News & Advance</i> , Feb. 24, noted HB 2197 and 2198; other bills not seen by <i>Water Central</i> in press accounts. |

7. HB 2085 Conservation officers; expands jurisdiction and allows mutual aid agreements. PASSED.

Expands the jurisdiction of conservation officers and allows the DCR to enter mutual aid agreements.

8. HB 2086 Conservation officers; change of powers. PASSED. Grants conservation officers, as law-enforcement officers for the DCR, the power to arrest without a warrant, and deletes all references to conservation officers as conservators of the peace.

9. **HB 2212 Natural Area Preservation Fund; addition of fees, lease proceeds, and funds accrued from preserves. PASSED.** Adds to the Natural Area Preservation Fund the following: fees, lease proceeds, and funds from the use or management of state natural area preserves acquired or held by the DCR.
10. **HB 2365 Stormwater management program; updates for the DCR's authorities. PASSED.** Updates the DCR's authorities under its stormwater-management program. The changes include exempting from the Administrative Process Act permits issued through a federally delegated program, changing the timing of the terms for the three at-large members of the Soil and Water Conservation Board, creating new reporting requirements for local plan-approving authorities, and authorizing the Soil and Water Conservation Board to establish a statewide permit fee schedule for stormwater management related to municipal separate storm sewer system permits.
11. **HB 2386 Conveyance of easements; eliminates public hearing requirement for localities. PASSED.** Eliminates the public hearing requirement for localities that convey easements across public property for ingress, egress, utilities, cable, telecommunications, storm water management, open space, environmental protection, and other similar conveyances involving matters of public interest.
12. **HB 2464 Stream channel restoration and relocation projects; exempt certain from requirements. PASSED.** Provides a definition of natural-channel design concepts, and exempts stream-restoration and relocation projects that incorporate these concepts from any flow rate capacity and velocity requirements in the Erosion and Sediment Control Law regulations.
13. **HB 2546 Electric generating facilities; to meet emissions reductions in severe non-attainment area. FAILED.** Would have directed any electricity-generating facility in a severe non-attainment area to meet new requirements for reducing sulfur-dioxide, nitrogen oxide, and particulate matter no later than January 1, 2009.
14. **HB 2620 Forest and forestry; transfers current regulations from DCR to Department of Forestry (DOF). PASSED.** Transfers from DCR to DOF regulations that pertain to the DOF's duties and powers, specifically the State Forest Regulations and the Reforestation of Timberlands Regulations.
15. **HB 2680 Water Quality Improvement Fund; changes criteria for prioritizing requests for funding therefrom. FAILED.** Would have changed several of the criteria for prioritizing requests for funding from the Water Quality Improvement Fund (WQIF), including the criterion that places a priority on the issuance of grants from the Fund for projects that exceed state or federal water quality requirements.
16. **HB 2694 Clean Streams Act, and Clean Streams Advisory Commission; created, report. FAILED.** Would have required localities to assess residences connected to a municipal sewer system, septic system, or other wastewater treatment system \$52 per year, and industrial facilities connected to a municipal sewer system \$1,200 per year; the money would have been deposited into the WQIF and disbursed for the design and installation of nutrient-removal technology at wastewater facilities and for agricultural best management practices. An identical Senate bill, SB 1240 (#31), also failed.
17. **HB 2696 Water Quality Improvement Fund; requires moneys for financing cost of nutrient removal facilities. FAILED.** Would have required that at least 80 percent of the WQIF be awarded in grants to finance the design and installation of nutrient-removal technologies at wastewater facilities until Virginia's surface waters meet applicable water quality criteria. Historically, money in the WQIF has been allocated almost equally between point sources of pollution (such as wastewater facilities) and nonpoint sources of pollution.
18. **HB 2742 Clean Smokestack Act; created, report. FAILED.** Would have established maximum limits for sulfur dioxide and nitrogen oxide emissions released from facilities with coal-fired electric-generating units that produce at least 25 megawatts of electricity; these limits would have gone into effect on May 1, 2011. This bill would also have required the Department of Environmental Quality (DEQ) to develop a strategy to reduce mercury emissions from electric-generating units and other sources, study the issues related to controlling emissions of carbon dioxide (CO₂) from coal-fired generating units and other stationary sources of air pollution, evaluate available control technologies, and estimate the benefits and costs of alternative strategies to reduce emissions of CO₂.
19. **HB 2777 Capitalizing the Water Quality Improvement Fund. PASSED.** Appropriates \$50 million from the General Fund to the WQIF on July 1, 2005, to be used solely to finance nutrient-removal technologies at publicly-owned sewage systems. In addition, beginning July 1, 2005, the annual appropriations to the WQIF provided from the 10-percent General Fund surplus and the 10 percent of any unreserved General Fund year-end balance will have a different distribution formula: 70 percent will be allocated to the Department of Historic Resources for implementing best management practices that reduce nitrogen and phosphorous nonpoint source pollution, and 30 percent will be allocated to the DEQ to make grants to significant dischargers and to treatment works that utilize the Public-Private

Education Facilities and Infrastructure Act, to design and install state-of-the-art nutrient-removal technology. The bill also directs the committees of oversight to develop recommendations for a permanent source of funding to clean up the Chesapeake Bay and its tributaries, as well as other impaired waters outside the Bay watershed. Identical bills SB 810 (#26) and SB 1235 (#93) also passed.

20. **HB 2788 Land preservation tax credit; transfer to other taxpayers. PASSED.** Authorizes the Department of Taxation to recognize the transfer of unused tax credits under the Virginia Land Conservation Incentives Act of 1999 for a donation made prior to January 1, 2002, provided that the transfer occurred on or before December 31, 2004; notification of at least one transfer attributable to such donation was filed with the Department on or before December 31, 2004; and the credit holder who transferred the credit can establish that the transfer was made in reliance on erroneous advice from the Department of Taxation concerning the transferability of the credits.
21. **HB 2828 Pollutant Discharge Elimination System; exempts certain facilities from annual maintenance fee. FAILED.** Would have exempted certain facilities that paid an application fee for a Virginia Pollutant Discharge Elimination System permit between July 1, 2002, and July 1, 2004, from having to pay the annual maintenance fee that was imposed beginning July 1, 2004.
22. **HB 2902 Watershed improvement districts; simple majority of votes cast to pass referendum held to create. PASSED.** Requires a simple majority of the votes cast to pass a referendum held to create a watershed improvement district. (Currently, at least *two-thirds* of the votes cast must be in favor of the proposed district and must represent ownership of at least two-thirds of the land in the district.)
23. **HJ 687 State park; DCR to study establishing in Henry County. FAILED.** Would have requested the DCR to study the feasibility of establishing a state park along the South Mayo and North Mayo rivers in Henry County.
24. **HJ 798 Green Globes environmental assessment tool; to recognize and incorporate into state and local practices. FAILED.** Would have encouraged the Commonwealth to recognize and incorporate the Green Globes environmental assessment tool into state and local practices for the design and procurement of building-construction projects.
25. **SB 697 Park fees; exemption. FAILED.** Would have exempted any person who is renting or leasing a facility within a state park from having to pay an entrance or parking fee.
26. **SB 810 Water Quality Improvement Fund; grants for biological nutrient removal technology. PASSED.** See HB 2777 (#19).
27. **SB 926 Public easements; provisions for relocation. PASSED.** Provides that all public easements (with certain exceptions) may be relocated by recordation of plat signed by the property owner and approved by an authorized local official, regardless of the manner of acquisition or the type of instrument used to dedicate the original easement. If the purpose of the easement is to convey stormwater drainage from a public roadway, then the entity responsible for operating the roadway shall first determine that the relocation does not threaten the integrity of the roadway or public passage.
28. **SB 1088 Environmental Excellence Program; change of various boards' authority to approve methods. PASSED.** Codifies the existing environmental excellence program and gives the Air Pollution Control Board, the Virginia Waste Management Board, and the State Water Control Board (SWCB) authority to approve alternative compliance methods, including but not limited to changes to monitoring and reporting requirements and schedules, streamlined submission requirements for permit renewals, the ability to make certain operational changes without prior approval, and other changes that would not increase a facility's impact on the environment; the bill establishes conditions for such alternative methods. The bill also provides that Governor's Environmental Excellence Awards shall be awarded each year to recognize participants in the Virginia Environmental Excellence Program.
29. **SB 1139 Income tax, state and corporate; limits land preservation tax credits. PASSED.** Requires the fair market value of qualified donations under the Virginia Land Conservation Incentives Act of 1999 to be substantiated by a qualified appraisal, which must be signed by a qualified appraiser; a copy of the appraisal must be submitted to the Department of Taxation.
30. **SB 1141 Foundation for Natural Resources; created, report. PASSED.** Creates the Foundation for Virginia's Natural Resources to assist in developing and encouraging non-regulatory conservation programs within the Secretariats of Natural Resources and of Agriculture and Forestry, and to foster collaboration and partnerships among businesses, communities, and the Commonwealth's environmental-enhancement programs.
31. **SB 1240 Clean Streams Act, and Clean Streams Advisory Commission; created, report. FAILED.** See HB 2694 (#16).

- 32. SB 1253 Recreational Facilities Authority; increases number of members of board of directors. PASSED.** Increases from 13 to 18 the membership of the board of directors of the Virginia Recreational Facilities Authority. According to Section 10.1-1601 of the *Virginia Code*, the purpose of the Authority is to “provide a high quality recreational attraction in the western part of the Commonwealth; expand the historical knowledge of adults and children; promote tourism and economic development in the Commonwealth; set aside and conserve scenic and natural areas along the Roanoke River and preserve open-space lands; and enhance and expand research and educational programs....”
- 33. SB 1317 Cell phones; retailer to have recycling system. FAILED.** Would have required cell-phone retailers to have a system of acceptance and collection of used cell phones for reuse, recycling, or proper disposal. The bill also would have called for state agencies that purchase or lease cell phones to require prospective bidders to certify that they have complied with the recycling requirements.
- 34. SJ 367 Private landowners; Board of Forestry studying, continued. PASSED.** Continues the Board of Forestry's study of incentives to private landowners to hold and preserve their forest lands.

DRAINAGE, SOIL CONSERVATION, SANITATION, AND PUBLIC FACILITIES DISTRICTS

- 35. HB 2290 Soil Quality Improvement, Commission on; created, report. FAILED.** Would have established a Commission on Soil Quality Improvement to evaluate the potential for adopting soil-quality improvement approaches to address agricultural nonpoint source pollution.
- 36. HB 2937 Erosion and sediment control plans; allows DCR to issue special order to locality not implementing. PASSED.** Authorizes the DCR to issue a special order to a locality that has not taken action to correct the manner in which it is administering its erosion and sediment control program, and established fines for violations. Prior to the DCR issuing a special order, the Soil and Water Conservation Board is to conduct a formal hearing pursuant to the Administrative Process Act.
- 37. SB 1277 Erosion and Sediment Control Act; includes definition of agricultural and pasture land. FAILED.** Would have defined what constitutes agricultural and improved pasture under the Erosion and Sediment Control Act.
- 38. SB 1294 Attorney General; duties include representation of soil and water conservation districts. PASSED.** Allows the Attorney General to represent soil and water conservation districts and district directors in civil litigation if requested by the attorney for the Commonwealth (currently such representation is provided by local Commonwealth's Attorneys).

FISHERIES AND HABITAT OF TIDAL WATERS

- 39. HB 1795 Menhaden fishery; Marine Resources Commission (MRC) may adopt regulations governing. FAILED.** Would have given the MRC authority to adopt regulations governing the fishing of menhaden. See related bills: HB 2809 (#43), which passed, and HJ 658 (#47), which failed.
- 40. HB 2378 Wetlands board, local; members that hear cases relating to Chesapeake Bay Preservation ordinance to serve on. PASSED.** Allows members of locally established Chesapeake Bay Preservation ordinance boards to serve on a local wetlands board as well.
- 41. HB 2452 Nonnative oysters; MRC to allow placement on state-owned bottomlands. PASSED.** Authorizes the MRC commissioner to allow placement of nonnative *Crassostrea ariakensis* oysters on state-owned bottomlands. This bill requires that 30 to 60 days before diploid or fertile *C. ariakensis* oysters are placed in state waters, the MRC is to hold at least one public hearing for the purpose of receiving data, views, and argument concerning the placement.
- 42. HB 2695 Zoning Ordinances; protection of commercial fishing operations. PASSED.** Provides that registered commercial fishermen and seafood buyers who operate their businesses from their waterfront residences shall not be prohibited by a locality from continuing their businesses, notwithstanding the provisions of any local zoning ordinance. The bill applies only to businesses that have been in operation by the current owner, or a family member of the current owner, for at least 20 years at the location in question, and the protection granted by the bill shall continue so long as the property is owned by the current owner or a family member of the owner.
- 43. HB 2809 Menhaden fishery; Governor to issue proclamation to implement measures to manage. PASSED.** Authorizes the governor to issue a proclamation to implement measures to manage the menhaden fishery, if such measures are required by the Atlantic States Marine Fisheries Commission

and the General Assembly is not in session to enact a statute to adopt such measures. Prior to issuing such a proclamation, the governor must determine whether the measures are necessary for the conservation of the Atlantic menhaden fishery and in accordance with scientific, biological, and social data. See related bills: HB 1795 (#39) and HJ 658 (#47), which both failed.

44. **HB 2815 Saltwater recreational fishing license; person not required to obtain commercial gear license. PASSED.** Requires a person fishing using a cast net, dip net, or up to two eel pots to obtain a saltwater recreational fishing license.
45. **HB 2816 Headboat and charterboat owners; allows recreational fishing license to cover passengers on his boat. PASSED.** Allows the recreational fishing license issued to a headboat and charterboat owner to cover all the passengers on his boat; also allows a headboat or charterboat owner to obtain an individual saltwater recreational license at no charge when he is issued the license for his boat.
46. **HB 2909 Saltwater fishing and tidal habitat laws; disbursement of moneys from certain Funds for projects. FAILED.** Would have allowed disbursements from the Marine Fishing Improvement Fund and the Virginia Saltwater Recreational Fishing Development Fund to be used for funding projects and procurements to assist in enforcing saltwater fishing and tidal habitat laws and regulations.
47. **HJ 658 Menhaden fishery; joint subcommittee to study means of regulating in the Chesapeake Bay. FAILED.** Would have established a joint subcommittee to study the most appropriate means of regulating the fishing of menhaden in the Chesapeake Bay and its tributaries. See related bills: HB 1795 (#40), which failed, and HB 2809 (#43), which passed.
48. **SB 1232 MRC's Marine Police; authorized to patrol federal security zones. PASSED.** Authorizes the MRC's Marine Patrol to patrol and enforce violations of federal security zones located in Virginia's tidal waters (currently, the Marine Patrol has enforcement powers only in safety zones).
49. **SB 1248 Water resources projects; establishing coordinated process. PASSED.** Establishes a coordinated process to review water resources projects that require both a permit from the MRC and an individual Virginia Water Protection Permit from the DEQ. The joint review process will also involve other agencies such as the Virginia Institute of Marine Science, the Department of Game and Inland Fisheries (DGIF), the Department of Health (VDH), the DCR, the Department of Agriculture and Consumer Services, and other interested agencies. A panel is to be established to provide guidance to the applicant on potential natural resource impacts and regulatory implications of proposed projects.

GAME, INLAND FISHERIES, AND BOATING

50. **HB 1756 Watercraft or motorboat; involuntary manslaughter while driving intoxicated. PASSED.** Provides that any person who unintentionally causes the death of another person as a result of operating a watercraft or motorboat while intoxicated is guilty of involuntary manslaughter.
51. **HB 2026 Personal flotation devices; penalty. FAILED.** Would have required coaches of water sports to wear personal flotation devices while operating motorboats, with violation a Class 4 misdemeanor.
52. **HB 2029 Nonindigenous aquatic nuisance species (snakehead); prohibited without permit, penalty. PASSED.** Imposes a Class 1 misdemeanor penalty on anyone who introduces a snakehead fish (Family Channidae) into state waters. The bill includes an exemption from the civil penalty for a person who has lawfully caught such a fish, killed it, and reported their actions to the DGIF. *Governor's recommendation for the April 6 session:* Apply the law also to the Zebra Mussel (*Dreissena polymorpha*).
53. **HB 2310 Mechanic's lien; increases limits for repairs and storage for keeper of stable, garage, marina, etc. PASSED.** Increases from \$300 to \$500 the lien limits for storage and requires that the person asserting the lien make a reasonable attempt to notify any secured party of record at the Department of Motor Vehicles or the DGIF not just in writing but also by telephone, with both forms of notice required within three business days of the person's taking possession of the boat, aircraft, or vehicle. Personal property left with the stored property must be returned only if the owner claims the item before auction.
54. **HB 2505 Duck blinds; allows use in certain localities and waters, and abolishes prohibited hunting in localities. FAILED.** See HB 2689 (#56).
55. **HB 2686 Personal property exempt from taxation; includes commercial fishing boats. PASSED.** Designates boats weighing less than five tons and used for business purposes as a separate class of tangible personal property for taxation purposes.
56. **HB 2689 Duck blinds; allows use in certain localities and waters; offshore blind stake sites; penalty. PASSED.** Gives the owners, their lessees, or permittees of land adjacent to the waters in Stafford, Prince William, and Fairfax counties the exclusive privilege of erecting stationary blinds on their shoreline and the prior right to erect stationary blinds in the waters in front of their property. The bill

also removes the prohibition on hunting migratory waterfowl from floating blinds in the waters of Caroline, Essex, King George, Richmond, and Westmoreland counties, and in portions of creeks, streams, and bays flowing into the Rappahannock and Potomac rivers, through the establishment of an offshore blind stake site license. A similar bill, HB 2505 (#54), which did not have the blind stake provision, failed.

- 57. HB 2743 Sales and use taxes from watercraft; City of Hampton. FAILED.** Would have dedicated, for recreational and environmental projects in Hampton, two percent of the 3.5 percent state general sales tax revenues and all of the watercraft sales tax revenues from the sales of boats and by boating businesses in the City. An identical Senate bill, SB 759 (#59), also failed.
- 58. HB 2887 Migratory Waterfowl Conservation Stamp; required for those persons hunting or taking waterfowl. PASSED.** Establishes the Virginia Migratory Waterfowl Conservation Stamp, which a person must obtain to hunt migratory waterfowl. The proceeds from the sale of the stamp will be deposited in a special account to be used to fund expenses associated with administering the stamp program, habitat improvement grants to nonprofit organizations, and DGIF initiatives to protect, restore, enhance, and develop waterfowl habitat.
- 59. SB 759 Sales and use taxes from watercraft; City of Hampton. FAILED.** See HB 2743 (#57).
- 60. SB 909 Personal flotation devices; required for children 12 years of age or younger to wear, penalty. FAILED.** Would have required all children six years of age or younger to wear a Type I, II, III, or V U.S. Coast Guard-approved personal flotation device on recreational vessels under 21 feet in length (not applicable to moored or anchored vehicles or to children below deck or in an enclosed cabin). An identical bill, SB 1061 (#62), also failed.
- 61. SB 1057 Abandoned vessel; reduces time before landowner, etc. may acquire title. PASSED.** Reduces from 12 months to 60 days the time required before a landowner, lessee, or agent may begin the process to acquire title to any vessel abandoned on his land or the water immediately adjacent to his land.
- 62. SB 1061 Personal flotation devices; required for children 12 years of age or younger to wear, penalty. FAILED.** See SB 909 (#60).
- 63. SB 1197 Game wardens; to have at least one on patrol during boating season at large lakes. PASSED.** Requires the DGIF to have at least one game warden whose primary responsibility is to patrol during the daylight hours of boating season on lakes that are at least as large as Smith Mountain Lake (located in Bedford, Franklin, and Pittsylvania counties) and that have a boating accident record comparable to Smith Mountain Lake.
- 64. SB 1273 Income tax, state; separate classification for boats used in businesses. PASSED.** Establishes, as a separate classification of tangible personal property for tax-rate purposes, boats weighing less than five tons used for business purposes only.

WASTE DISPOSAL

- 65. HB 1546 Solid waste management laws; enforcement thereof. PASSED.** Increases from \$25,000 to \$32,500 the maximum penalties for violations of the solid waste management laws.
- 66. HB 1760 Solid Waste Management and Clean-up Fund; created, report. FAILED.** Would have established a \$1 per ton municipal solid waste disposal fee to be collected by localities in which municipal solid waste landfills are located. Fifty percent of the funds would have been for abatement of pollution caused by landfills or improper management of waste, groundwater monitoring and cleanup, litter control, recycling, or for other waste-related purposes; and the remaining 50 percent would have been for a new Virginia Solid Waste Management and Clean-up Fund and for the existing WQIF.
- 67. HB 2192 Landfills; distance from ground water supply and required replacement of non-tidal wetlands. PASSED.** Reduces from five miles to three miles the distance that a landfill can be sited from a surface water or a groundwater supply intake or reservoir; allows a landfill to be constructed as close as one mile from any existing surface or groundwater supply *if the landfill meets certain conditions*; and increases the threshold for allowing a landfill to be constructed or expanded in a nontidal wetland (under the existing law, permits may be issued for landfill construction or expansion that impacts less than 1.25 acres of nontidal wetlands; this bill allows the issuance of a permit for a landfill that would impact less than two acres). The bill authorizes the director of the DEQ to issue a permit for an expansion of a landfill located in a wetland only under certain specific conditions, including that the proposed site must be at least 100 feet from any surface water body and one mile from any tidal wetland and that there must be wetlands mitigation with at least a two-to-one ratio. This bill incorporated HB 2923 (#71).

68. **HB 2408 Sewage disposal fees; included on real estate tax bills. PASSED.** Permits counties to include solid waste disposal fees on the corresponding real estate tax bills.
69. **HB 2440 Hazardous waste facilities; financial assurances therefor. PASSED.** Directs any forfeited financial assurances for abandoned hazardous waste storage, treatment, or disposal facilities be paid to the director of the DEQ to assure proper closure and maintenance of the facilities, not only to the *locality* (as is the case under current law).
70. **HB 2922 Solid waste; program established to protect public health, etc. from improper disposal. FAILED.** Would have directed landfills, transfer stations, incinerators, and waste-to-energy facilities to establish programs to ensure that only authorized types of solid waste are accepted at the facilities.
71. **HB 2923 Landfills; distance from ground water supply and required replacement of non-tidal wetlands. Incorporated into HB 2192 (#67).**

WATER AND SEWER SYSTEMS

72. **HB 1590 Landlord and tenant; submetering of water and sewer equipment in rented buildings. PASSED.** Clarifies that submetering equipment for water and sewer service—which measures the actual water or sewer usage in a unit when the equipment is not owned by the utility that provides service to the building—may be used in commercial and residential buildings *if* clearly stated in the rental agreement or lease. (Landlords are currently authorized to use ratio billing systems, which do not measure actual usage.)
73. **HB 1921 Contractors, Board for; water well systems provider licensure and certification. PASSED.** Requires the State Board for Contractors to establish a certification program for water well providers, beginning July 1, 2007, with three levels of certification. From one through five years after the required regulations become effective, no person may construct a well unless a certified contractor (of any of the three levels) is onsite at all times during the construction; after five years, the onsite certified contractor must be a master driller (the highest level). The bill exempts certain individuals from the program's examination requirements if they provide satisfactory proof of experience in well construction.
74. **HB 1922 Water and sewer systems; certain fees shall not be lien on property. PASSED.** Provides that certain sewer fees and charges shall be a lien on the property served *only if* certain procedures are followed, including first obtaining a judgment against the lessee or tenant who contracted for the service. This bill incorporated HB 2004 (#75) and HB 2563 (#85).
75. **HB 2004 Water and sewer systems; delinquent fees or charges. Incorporated into HB 1922 (#74).**
76. **HB 2073 Sewage sludge; individual may request testing, responsibility of cost. PASSED.** Allows an individual to request that the VDH obtain a sample of sewage sludge at a specific site prior to land application of the material and submit the sample to a certified laboratory for analysis, with the person requesting the testing responsible for the cost of obtaining and analyzing the sample.
77. **HB 2074 Sewage sludge; requires localities to test annually. FAILED.** Would have required localities in which sewage sludge has been land-applied to test two permitted sites each year, with the test results submitted to the agency that issued the permit for the particular site and made available for public inspection. For a related bill, see HB 2493 (#84), which also failed.
78. **HB 2197 Sewage sludge; notification to local government before application to land. PASSED.** Requires that a person holding a permit to land-apply sewage sludge notify the local government at least 100 days prior to applying sludge. The notice will identify the location of the permitted site and the expected sources of the material to be land-applied. The requirement takes effect October 10, 2005.
79. **HB 2198 Sewage sludge; program established to train employees for testing. PASSED.** Requires the Board of Health and the VDH to establish a training program on testing and monitoring sewage sludge for employees of local governments that have adopted a biosolids ordinance.
80. **HB 2220 Non-conventional sewage disposal systems; schedule of civil penalties for violation for operation, etc. FAILED.** Would have authorized a locality to establish, by ordinance, a schedule of civil penalties for violations relating to the operation and maintenance of *non-conventional* sewage disposal systems, including holding tanks and residential discharging treatment systems. A nearly identical bill, HB 2228 (#81), also failed.
81. **HB 2228 Non-conventional sewage disposal systems; schedule of civil penalties for violation for operation, etc. FAILED.** See HB 2220 (#80).
82. **HB 2450 Stormwater regulation; combined billing charges. PASSED.** Removes the requirement of passing an ordinance when a locality is establishing the order in which payments are applied for combined billing of stormwater charges and other charges.

- 83. HB 2451 Septic systems; validity of septic tank permits. PASSED.** Excludes certain transfers of real property from the current provision that waives granted for certain failing onsite sewage systems are nontransferable, and limits the waiver provisions to systems on real property with 1 to 4 dwelling units. The bill also requires the owner of the residential real property with the waived onsite sewage system to provide a written disclosure to the purchaser; the purchaser will have certain processes for terminating the contract. Real estate licensees will have to inform owners and purchasers of their rights, and the Real Estate Board is to enforce the disclosure, termination, and real estate licensees' duties under this provision.
- 84. HB 2493 Sewage sludge; reimbursement to localities for testing and monitoring. FAILED.** Would have provided that localities be reimbursed for all direct costs associated with testing and monitoring of the land application of sewage sludge. An identical Senate bill, SB 787 (#91), also failed. For a related bill, see HB 2074 (#77), which also failed.
- 85. HB 2563 Water and sewer systems; delinquent fees or charges. Incorporated into HB 1922 (#74).**
- 86. HB 2591 Water and sewer systems; waiver to families of active duty National Guard members and Reservists. FAILED.** Would have allowed localities to provide a waiver of all or a portion of water and sewer charges to families of active duty National Guard members and reservists.
- 87. HB 2624 Sewage sludge; localities to adopt an ordinance that requires injection into soil. PASSED.** Provides that surface incorporation (into the soil) of sewage sludge applied to cropland may be required when practicable and compatible with a soil-conservation plan meeting the standards and specifications of the U.S. Natural Resources Conservation Service. The bill also directs the Virginia Board of Health to develop regulations for extended buffers to be employed for application of sewage sludge to hay, pasture, and forest land, or to croplands where surface incorporation is not practicable.
- 88. HB 2805 Sewage sludge; prohibits any person from altering composition. PASSED.** Directs that, prior to delivery at the land-application site, sewage sludge be treated to meet standards for land application as required by SWCB regulation. The bill prohibits any person from altering the composition of sewage sludge at the application site (except for addition of lime or deodorants to sewage sludge that has been treated to meet land-application standards).
- 89. HB 2865 Water and sewer systems; locality to require developers, etc. to connect to public systems. PASSED.** Allows localities to require developers to connect to abutting or adjacent public water or sewer systems, and require that all buildings on lots resulting from subdivision of a larger tract that abuts or adjoins a public water or sewer system or main shall be connected to that public water or sewer system.
- 90. HJ 643 Biosolids; study of land application. PASSED.** Directs the Joint Legislative Audit and Review Commission to study land application of biosolids and evaluate the following: (i) current resources available to the VDH for oversight of the Virginia Biosolids Program; (ii) resources available to assist local governments with implementing their biosolids inspection and monitoring authority; (iii) programs to ensure the proper training and support of local biosolids monitors; (iv) incentives to encourage sharing information and resources among local governments, including the use of regional or multi-jurisdictional monitors; and (v) measures to encourage and assist coordination and communication between the VDH and local governments so as to ensure consistency and efficiency in complaint response and enforcement.
- 91. SB 787 Sewage sludge; reimbursement of local monitoring of land application. FAILED.** See HB 2493 (#84), which also failed.
- 92. SB 795 Water and sewer systems; taxes may be a lien on property in Cumberland County. PASSED.** Adds Cumberland County to the list of localities that may provide that taxes on water and sewer service may be a lien on the property served.
- 93. SB 1235 Retail Sales and Use Tax; increased, creates Water Quality Improvement Restricted Use Fund. PASSED.** See HB 2777 (#19).
- 94. SB 1281 Water and sewer systems; mandatory connection in Campbell County. PASSED.** Adds Campbell County to those counties that may require connection to their water and sewage systems by owners of property that may be served by such systems.

WATERS OF THE STATE, PORTS AND HARBORS

- 95. HB 2031 Dams; mapping inundation zones. PASSED.** Authorizes localities to map inundation zones for those areas that may be threatened by a break in a dam, and encourages localities to incorporate this information into their zoning and subdivision ordinances. The bill also authorizes the director of the DCR to award grants to assist with mapping and digitization of dam-break inundation zones.

- 96. HB 2067 Chesapeake Bay Bridge and Tunnel Commission; provisions for members. PASSED.** Provides that a member performing "extraordinary duties" may receive compensation for those duties. This provision expires January 1, 2006, and contains an emergency clause. An identical Senate bill, SB 1261 (#121), also passed.
- 97. HB 2145 Port Authority; service charge payments to localities. PASSED.** Provides that local service-charge payments imposed on property of the Virginia Port Authority are to be paid *by the Authority*, not from the state's general fund.
- 98. HB 2188 Vocational Incentive Scholarship Program for Shipyard Workers Fund; created. FAILED.** Would have required the General Assembly to make an annual appropriation for scholarships for shipyard workers enrolled in a three-year educational program at Tidewater Community College.
- 99. HB 2276 Retail petroleum products sales facility; required by ordinance to remove and restore site. FAILED.** Would have authorized local ordinances requiring owners of motor fuels retail facilities, within three years after the premises cease to be used for that purpose, to remove all improvements, grade the surface, and thereafter maintain the surface in a natural or vegetated state until another use is established on the site. An identical Senate bill, SB 1199 (#118), also failed.
- 100. HB 2427 Wetlands ; prohibits condemnation of any property for compensatory mitigation. PASSED.** Prohibits eminent-domain condemnation of any property for compensatory wetlands mitigation unless the property to be acquired is located within the same locality as the project affecting wetlands, or the local government serving the property consents to its acquisition for such purpose. The prohibitions do not apply to property acquired by the Commonwealth Transportation Commissioner.
- 101. HB 2527 District and circuit courts; jurisdiction lying on waterways applied to Norfolk but not Richmond. PASSED.** Extends to the City of Norfolk the *Virginia Code* provision that district and circuit courts for counties and cities lying on waters bounding the Commonwealth have concurrent jurisdiction over the waters opposite the jurisdiction as far as the jurisdiction of the Commonwealth extends. Prior to this legislation, the provision did *not* apply to Norfolk *or* Richmond. An identical Senate bill, SB 1180 (#117), also passed.
- 102. HB 2616 Dams; right of entry for inspection. PASSED.** Authorizes the Soil and Water Conservation Board or its designees to enter any property at a reasonable time and under reasonable circumstances to perform their dam-safety responsibilities, provided they make a reasonable effort to obtain the landowner's consent. If the landowner does not allow entry, they may apply for a warrant.
- 103. HB 2645 Wetlands; updating of maps for localities, copy in land records of circuit court. PASSED.** Directs the SWCB to ensure that, beginning on or after January 1, 2007, wetland-inventory maps identifying the location of nontidal wetlands maintained by the SWCB are made readily available to the public; to notify the circuit court clerk's office and other appropriate officials in each locality of the availability of the wetland-inventory maps; and to request that the locality provide information on the maps in the location where the land records are maintained.
- 104. HB 2671 Marine Resources Commission; includes all structures by riparian property owners in Potomac River. PASSED.** Expands jurisdiction of the MRC to include all structures and improvements built or proposed by riparian property owners in the Potomac River appurtenant to the Virginia shore.
- 105. HB 2692 Northern Neck Chesapeake Bay Public Access Authority Act; created. PASSED.** Allows the counties of Lancaster, Northumberland, Richmond, and Westmoreland to declare that there is a need for a public access authority to be created. If an operating agreement is developed for the purpose of establishing or operating a public access authority for any such localities, these localities may form the Northern Neck Chesapeake Bay Public Access Authority. The Authority's duties would include identifying land that can be secured for use by the general public as a public access site; researching and determining ownership of all identified sites; determining appropriate public use levels of identified access sites; developing appropriate mechanisms for transferring title of Commonwealth or private holdings to the Authority; developing appropriate acquisition and site-management plans for public access usage; and determining what holdings should be sold to advance the mission of the Authority.
- 106. HB 2862 Nutrient Credit Exchange Program; created. PASSED.** Establishes a *nutrient exchange or trading* program for point-source dischargers of nitrogen and phosphorus, in order to achieve and maintain compliance with nutrient cap goals in the Chesapeake Bay and its tidal tributaries. The SWCB would be required to issue a general permit under the Virginia Pollutant Discharge Elimination System to eligible point-source dischargers of nitrogen and phosphorous. Facilities that obtain such a permit, and which are interested in participating in the trading program, would be identified together with their individual load cap allocations and trading ratios. The trading association authorized by the bill would provide the mechanism by which those under the general permit would be matched with

nutrient-trading partners. Within nine months of the issuance of the general permit, permittees either individually or through the trading association would be required to submit compliance plans to the DEQ. The compliance plans would have to include any capital projects and implementation schedules for the nitrogen and phosphorous reductions needed to comply with the waste load allocations for all the permittees in a particular tributary. An identical Senate Bill, SB 1275 (#122), also passed.

- 107. HJ 640 Chesapeake Bay; joint subcommittee to study options to provide funding for clean-up. PASSED.** Establishes an eight-member joint subcommittee to study options to provide a long-term funding source to clean up Virginia's polluted waters, including the Chesapeake Bay and its tributaries.
- 108. SB 746 Resources Authority; expands projects that can be financed to include design and construction of roads. PASSED.** Adds to the list of projects that can be financed through the Virginia Resources Authority the following: design and construction of roads, public parking garages, and other public transportation facilities, and facilities for public transportation by commuter rail. The Authority also finances projects for water, sewer, drainage, and several other water-related functions. For another Virginia Resources Authority bill, see SB 1256 (#120), which also passed.
- 109. SB 809 Water Control Board; water quality standards. FAILED.** Would have required the SWCB, when adopting or revising a water standard or policy, to determine whether the adoption or revision would require significant modifications to a large number of permitted facilities, in which case the SWCB would have been required to develop an implementation schedule for facilities to comply with the standard or policy, taking into account cost and labor factors affecting the construction of treatment facilities to meet the new standard or policy.
- 110. SB 811 Water Control Board; adopting a chlorophyll standard. FAILED.** Would have required the SWCB, when it considers the adoption of a chlorophyll standard or policy, to provide to the committees with jurisdiction over water-quality matters a range of alternatives and an analysis of the benefits, detriments, and the economic and social costs associated with each alternative. Currently, in the instance of any proposed water-quality standard or policy adopted by regulation that is more restrictive than the federal requirements, the SWCB has to provide the oversight committees with a reason why the more restrictive provisions are needed. [*Ed. note:* Chlorophyll is the pigment that green plants and algae use during photosynthesis to capture the energy in sunlight. Measurements of chlorophyll in water bodies help indicate the amount of algae and other water-quality conditions.]
- 111. SB 869 Water and Waste Authorities; authorized to acquire property and grant security interests. PASSED.** Authorizes authorities formed under the Virginia Water and Waste Authorities Act to grant security interests in any personal property or any interest, right, or estate held by the authority.
- 112. SB 903 Peninsula Ports Authority; nonresidents of localities allowed appointment to commission. PASSED.** Allows that appointees to the Peninsula Ports Authority Commission may be non-residents of the localities embraced within the authority, provided they have a principal place of *business* within one of those localities.
- 113. SB 1056 Chesapeake Bay Preservation Act; broadens boundaries thereof. FAILED.** Would have expanded the boundaries of the Chesapeake Bay Preservation Act to include the entire Virginia watershed of the Chesapeake Bay, not just the Tidewater Virginia portion.
- 114. SB 1089 Environmental enforcement; authorizes DEQ to impose civil penalties. PASSED.** Gives the DEQ authority to impose civil penalties of up to \$32,500 for a given violation, not to exceed \$100,000 per order, after a hearing before an officer appointed by the Supreme Court, under the following conditions: 1) the person has been issued at least two written notices of alleged violation by the DEQ for the same or substantially related violations at the same site; 2) such violations have not been resolved by demonstration that there was no violation, by an order issued by the Board or the Director, or by other means; and 3) at least 130 days have passed since the issuance of the first notice of alleged violation. This bill also allows the SWCB to delegate approval of consent orders, and increases the maximum civil penalty for violations of the air, waste, and water programs from \$25,000 to \$32,500.
- 115. SB 1103 Chesapeake Bay Local Assistance Department; abolished. PASSED.** Eliminates the Chesapeake Bay Local Assistance Department and transfers responsibility for administration of the Chesapeake Bay Preservation Act to the DCR. The bill reflects language in Item 382, Subsection J, of Chapter 4 of the 2004-2006 Appropriation Act enacted during the 2004 Session (Special Session I) that had the same provisions. The Chesapeake Bay Local Assistance Board continues as the policy board for administration of the Preservation Act.
- 116. SB 1142 Recordation tax; transfer to Water Quality Improvement Fund. FAILED.** Would have provided that \$20 million of recordation taxes collected each year be transferred to the Virginia WQIF,

after allocations were made for the \$40 million deposit to the U.S. Route 58 Corridor Development Fund and the \$40 million distribution to counties and cities, as currently required under law.

- 117. SB 1180 District and circuit courts; jurisdiction lying on waterways applied to Norfolk but not Richmond. PASSED.** See HB 2527 (#101).
- 118. SB 1199 Retail petroleum products sales facility; required by ordinance to remove and restore site. FAILED.** See HB 2276 (#99).
- 119. SB 1233 Ohio River Valley Sanitation Commission; changes selection of members from State. PASSED.** Provides that two of the three Virginia members of the Ohio River Valley Sanitation Commission be members of the SWCB and that the third be the director of the DEQ (currently, all three Virginia commissioners are members of the SWCB). The bill also specifies circumstances for commissioners to designate someone to represent them and cast a vote on their behalf at a meeting.
- 120. SB 1256 Resources Authority; expands projects to be financed to include construction at federal facilities. PASSED.** Authorizes the Virginia Resources Authority to assist in making financing available at federal government facilities in order to support the location and retention of federal facilities in Virginia and the transition of former federal facilities to other uses. For another Virginia Resources Authority bill, see SB 746 (#108), which also passed.
- 121. SB 1261 Chesapeake Bay Bridge and Tunnel Commission. PASSED.** See HB 2067 (#96).
- 122. SB 1275 Nutrient Credit Exchange Program; created. PASSED.** See HB 2862 (#106).

OTHER

- 123. SB 1054 Natural gas exploration, off-shore; exemption to existing moratorium. PASSED; then VETOED BY GOVERNOR.** Directs the Virginia Liaison Office to work with members of the Virginia Congressional delegation and executive agencies to develop and enact legislation or executive action that would provide an exemption to the existing moratorium on off-shore natural gas exploratory activity.
- 124. HB 2068 Law-enforcement officers of Marine Resources Commission; free use of certain toll facilities. PASSED.** Allows free use of toll facilities by law-enforcement officers of the MRC, but this privilege does not extend to the Chesapeake Bay Bridge-Tunnel or facilities controlled by the Richmond Metropolitan Authority.
- 125. HB 2093 Transportation enhancement projects; certain percentage of grants expended for environmental studies. FAILED.** Would have required that, in financing “enhancement” projects undertaken using federal grants to homeowners associations, no more than two percent of any such grant could be spent for environmental studies or other activities preliminary to construction.
- 126. HJ 819 Steel Bridge in Chesapeake; Coast Guard to make current operating schedule permanent. PASSED.** Urges the United States Coast Guard to maintain the Memorial Day to Labor Day lift schedule at the Rt. 17 South/Dominion Boulevard “Steel Bridge” over the Elizabeth River.

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 Article, Science article, and Water Status Report. 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; VS = Virginia studies.

| Newsletter Section | Science SOLs | Social Studies SOLs |
|--|---|---------------------------------------|
| Feature (2005 Virginia General Assembly) | None | VS.10, CE.7, GOVT.8, GOVT.9, GOVT.16. |
| Science (Beavers) | 2.5, 2.8, 3.4, 3.5, 4.5, 4.8, LS.7, LS.8, LS.9, LS.10, BIO.9. | None |
| Water Status Report (Groundwater Levels) | ES.9. | None |

SCIENCE BEHIND THE NEWS

If They're in *Your* Neighborhood, Beavers Can Be Big News

“Beaver dam sighted! Engineers rush to site!” No, that’s not usually going to lead the 6 p.m. news. But finding beavers or evidence of their work can be exciting news if it’s near your property or along your favorite hiking route. Whether one marvels at the animals’ engineering or worries over trees taken down and land submerged, beavers’ impacts get our attention. An 1868 classic work, *The American Beaver*, by Lewis H. Morgan, noted humans’ fascination with beavers: “There is no animal, below man, in the entire range of [mammals], which offers to our investigation such a series of works, or presents such remarkable materials for the study and illustration of animal psychology” (p. 18).

The American Beaver (*Castor canadensis*) is classified in the mammalian order of rodents, or Rodentia, along with chipmunks, mice, rats, squirrels, and others. Like other rodents, beavers have four large front teeth—the incisors—with which they file, or gnaw, plant materials. Rodent incisors wear down faster on the back edge than the front edge, so the teeth retain a chisel-like shape, making for more effective gnawing. The beaver is the largest North American rodent: they can grow up to about four feet long, including their tail.



American Beaver, *Castor canadensis*.
Photo courtesy of the Illinois Natural History Survey.

Beavers always live near or in water (streams, rivers, or lakes). They construct dams if necessary to deepen the surrounding water and thereby gain more protection from predators (a variety of animals prey on young beavers; bears, wolves, coyotes, and dogs may prey upon adults). Trees form the dam framework, with mud, stones,

and other materials used for filling in spaces. Trees are also beavers’ main food source, although beavers will eat a variety of other aquatic and terrestrial plants. *Beavers: A Wildlife Handbook*, by Kim Long, lists over 60 North American tree species known to be used by beavers, with birches, poplars, and willows listed as favorites.

Beavers live in lodges or in burrows in the banks of streams or lakes. Whether or not a lodge is built depends on several factors, including time of year, depth and flow of the surrounding water, and the age of the animals. Like dams, lodges consist of logs, twigs, mud, stones, and other materials. Burrows typically are dug several feet into banks and have underwater entrances.



Beaver dam (top) and lodge (bottom) along a Toms Creek tributary, Blacksburg, Va., January 2005.

Beavers are noted also for constructing *canals* by which the animals transport materials. Such canals may be hundreds of feet long and typically include locks created by low dams.

Beaver mating occurs between January and March, followed about three months later by arrival of one to six young, known as “kits.” Kits stay in their parents’ lodge or burrow until their second year.

Adaptation to Water

Beavers have a number of physical adaptations for their aquatic existence.

- Their whole body is streamlined to reduce resistance in the water.
- The familiar flat tail (also streamlined for less water resistance) provides a rudder while swimming as well as a warning device—beavers slap their tail on the water to alert others to danger.
- Webbed toes on the hind feet provide propulsion for swimming.
- The outer layer of beaver fur has long, heavy, well-oiled hairs over which water moves easily. The inner layer of the fur has denser, finer hairs for retaining heat.
- The nose and ears can be sealed to keep out water, and the lungs can hold a large amount of air, allowing beavers to remain submerged for as long as 15 minutes.
- The lips have a flap that can seal the mouth *behind* the front teeth, and the tongue can fit tightly against the back of the mouth. These adaptations allow a beaver to use its teeth to gnaw, chew, and transport materials while the animal is submerged.

Beavers in Virginia

Before European settlement of North America, beavers were abundant throughout the continent, including in Virginia. Their valuable fur led to excessive trapping and their disappearance from much of their natural range. The Virginia population was eliminated between 1885 and 1911.

Reintroduction of beavers into their former range began in the 1900s. In the 1930s, the Virginia Game Commission released 35 beavers into nine Virginia counties. This group bred successfully, the population increased, and beavers were distributed to other counties beginning in 1943. By 1987, the Virginia population had increased enough that some 7,800 beavers were trapped in the state. As of 1998, the animal occurred in every Virginia county.

Good News or Bad News?

The U.S. Department of Agriculture’s Wildlife Services Division lists the following potential benefits and drawbacks of having beavers in an area.

Potential Benefits:

- creating habitat for species that prefer wetland or pond environments;
- reducing erosion and sedimentation in streams;
- providing natural irrigation ponds;
- providing a resource for the fur trade.

Potential Drawbacks:

- removing habitat for species that prefer stream or terrestrial environments;
- flooding crops, forests, landscaping, or roads;
- undermining dams or roads;
- spreading disease, such as *Giardia* in drinking water;
- obstructing irrigation canals.

Other references listed below also discuss the potential impacts of beavers and ways to avoid or minimize conflict with human structures or activities. Donald Linzey, author of *The Mammals of Virginia*, concludes, “Generally speaking, even in settled areas, the presence of beavers in small numbers is desirable” (p. 138).

References

PRINT

Linzey, Donald W. *The Mammals of Virginia*. Blacksburg, Va.: McDonald & Woodward, 1998.

Long, Kim. *Beavers: A Wildlife Handbook*. Boulder, Colo.: Johnson Books, 2000.

Morgan, Lewis H. *The American Beaver: A Classic of Natural History and Ecology*. New York: Dover Publications, 1986 (originally published in 1868).

INTERNET

“Beavers: Wetland and Wildlife,” at www.beaversww.org.

Illinois Natural History Survey, “Species Spotlight: Beavers,” INHS Reports March-April 1996, online at www.inhs.uiuc.edu/chf/pub/surveyreports/.

U.S. Department of Agriculture/Wildlife Services Division, “Living with Wildlife: Beaver,” online at www.aphis.usda.gov/ws/nwrc/is/living/beavers.pdf.

—Text and photos (except as noted) by Alan Raflo.

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, March 2005

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 water.usgs.gov/pubs/wdr/2004/WDR-VA-04-2/). Real-time data (updated every 15 minutes) are recorded for 27 observation wells in 20 localities. These data are available online at waterdata.usgs.gov/va/nwis/current/?type=gw (as of 3/22/05). The table below shows one March 22, 2005, 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 in March during each well's period of record. *Current* data (the March 22, 2005, readings) are *provisional* (i.e., subject to revision).

| Well (Local #) | March 22, 2005 (ft. below surface) | Deepest March Level on Record | Shallowest March Level on Record | Period of Record |
|------------------------------------|---------------------------------------|----------------------------------|-------------------------------------|------------------------------------|
| Accomack (66M 19 SOW 110S) | 8.3 | 10.5 (1981) | 8.1 (1987) | Since Sep. 1978 |
| Buckingham (41H 3) | 20.8 | 31.3 (2003) | 8.4 (1973) | Since Mar. 1971 |
| Clarke (46W 175) | 34.4 | 44.7 (2002) | 25.1 (1994) | Since Mar. 1987 |
| Fairfax (52V 2) | 11.2 | 14.1 (1992) | 6.5 (1984) | Since Oct. 1976 |
| Frederick (46X 110) | 34.1 | 34.1 (2005) | 24.7 (2003) | Since Nov. 2002 |
| Hanover (53K 19 SOW 080) | 16.4 | 20.0 (1985) | 11.9 (1979) | Since Jan. 1978 |
| Loudoun (49Y 1 SOW 022) | 58.1 | 60.7 (1999) | 54.3 (1972) | Since Nov. 1963 |
| Montgomery (27F 2 SOW 019) | 2.4 | 6.3 (1981) | 0.0 (1993) | Jul. 1953, then since Apr. 1969 |
| Northampton (63H 6 SOW 103A) | 4.1 | 8.7 (1989, 1992) | 3.2 (1979) | Since Sep. 1977 |
| Orange (45P 1 SOW 030) | 21.0 | 31.5 (1981) | 12.9 (1973) | Since Feb. 1965 |
| Pr. William (49V 1) | 8.5 | 10.0 (1981) | 7.5 (1975, 2003) | Since Nov. 1968 |
| Roanoke County (31G 1 SOW 008) | 18.5 | 19.0 (1988) | 16.6 (1978) | Since Aug. 1966 |
| Rockbridge (35K 1 SOW 063) | 22.5 | 28.2 (1981) | 16.6 (1993) | Since Feb. 1964 |
| Rockingham (41Q 1) | 66.8 | 97.3 (2002) | 60.1 (1997) | Since Aug. 1970 |
| Suffolk (58B 13) | 7.0 | 12.6 (1981) | 4.5 (1994) | Since Mar. 1975 |
| Surry (57E 13 SOW 094C) | 7.4 | 9.2 (1991) | 5.1 (1979) | Since Jul. 1978 |
| Virginia Beach (62B 1 SOW 098A) | 2.0 | 8.1 (1981) | 1.5 (1991) | Since Jun. 1979 |
| Warren (45V 4) | 73.0 | 73.5 (2005) | 72.8 (2005) | Since May 2004 |
| Westmoreland (55P 9) | 0.1 | 4.2 (2002) | 0.0 (2005) | Since Jul. 1977 |
| York (59F 74 SOW 184C) | 2.0 | 8.2 (1991) | 4.0 (1991) | Since Jun. 1990 |

IN AND OUT OF THE NEWS

Newsworthy Items You May Have Missed

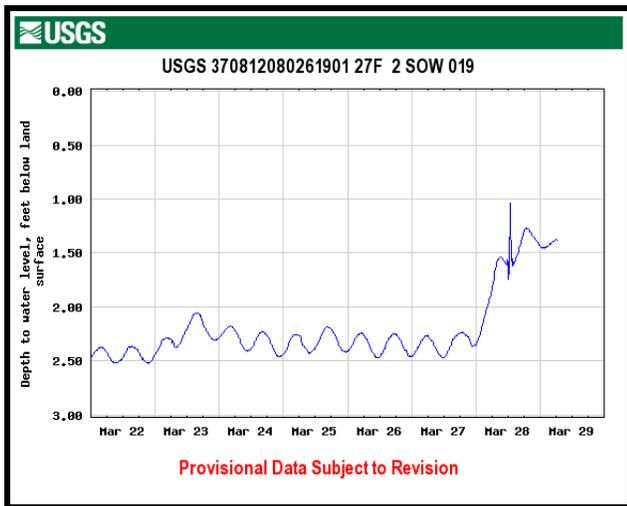
The following summaries are based on information in the source(s) indicated in parentheses, usually at the end of each item. Selection of this issue's items ended March 30. Except as otherwise noted, the localities mentioned are in Virginia and the dates are in 2005.

In Virginia...

- In October 2004, **Virginia received one of 16 National Coastal Wetlands Conservation grants** awarded by the U.S. Fish and Wildlife Service for Fiscal Year 2005. The \$1 million federal grant, matched by \$1.02 million by the Nature Conservancy and Basic, Inc., will allow the Virginia Department of Conservation and Recreation (DCR) to acquire 2,000 acres of salt marsh wetlands in Accomack County. (U.S. Fish and Wildlife Service news release, 10/28/04)
- In December 2004, the Virginia Department of Environmental Quality (DEQ) announced **Citizen Monitoring Grants to 20 watershed organizations**. The grants, ranging this year from \$1,000 to \$15,000 (the total awarded was \$106,000), will support local water-quality monitoring programs conducted mostly by volunteers. For more information on this grant program, visit the DEQ's Web site at www.deq.virginia.gov/cmonitor/2005grant.html, or contact the DEQ's James Beckley at jbeckley@deq.virginia.gov or (804) 698-4025. (DEQ Web site listed above, 12/28/04)
- In January, the **Cumberland Plateau Waste Management Authority received a \$10,000 grant to fund electronics-recycling events** in Buchanan, Dickenson, and Russell counties. The grant came from a program sponsored by the Virginia DEQ and the Dell Corporation. The money supported three March opportunities for residents to recycle computers, telephones, and other equipment that can be a source of toxic metals (such as cadmium, chromium, and lead) if not disposed of properly. This effort in far southwestern Virginia is part of a nationwide response to the need to dispose of an estimated 400 million electronic devices by 2010. For example, on January 6, eBay, Inc., Intel Corporation, and several other corporate sponsors began a nationwide electronics-recycling program. A Web site, ebay.com/rethink, has information on how to dispose of items safely and a program to erase data from computers. (*Coalfield Progress*, 1/5/05; Associated Press, as printed in *The Washington Post*, 1/7/50).



- Three U.S. Navy ships left Norfolk January 20 with **1,200 tons of supplies for Hurricane Jeanne-impacted areas of Haiti and the Dominican Republic**. The September 2004 storm killed over 1,500 people and left thousands homeless. The Navy relief effort—one part of a mission that also includes counter-drug training in Honduras and Columbia—will involve rebuilding schools, digging wells, and providing medical assistance. (*Virginian-Pilot*, 1/20/05)
- About 32 minutes after the devastating, tsunami-causing earthquake near Indonesia on December 26, 2004, **seismic waves traveling some 18,000 miles per hour caused a two-foot rise in the water level in a monitoring well in Christiansburg**. The well is part of a network of groundwater wells monitored remotely and continuously by the Virginia DEQ and the U.S. Geological Survey (USGS). Other wells in the network also detect seismic activity, but the Christiansburg well seems particularly responsive. In fact, when another powerful Indonesian earthquake struck on March 28—about 100 miles from the December 2004 quake—the well spiked again, as shown in the **USGS graph on the following page**. More information from the USGS on earthquakes is available at earthquake.usgs.gov. (*Richmond Times-Dispatch*, 1/8/05; and e-mail from David Nelms, USGS, 3/29/05)



Water-level change in a Christiansburg, Va., monitoring well after the March 28, 2005, earthquake in Indonesia.

• **Residential developments above former landfill sites** made a series of headlines in Chesapeake between January and March, and the revelations led the Virginia DEQ to make landfill site information available online.

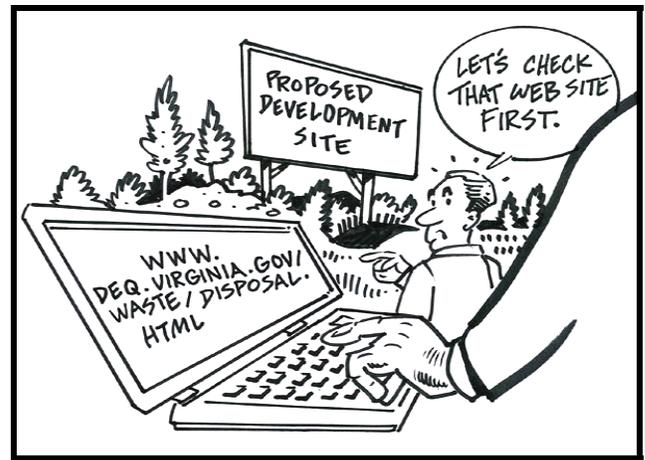
In January, excavation for a swimming pool in the Deep Creek subdivision of Chesapeake unearthed 124 metal barrels, many empty but some one-quarter full of petroleum-based substances. Preliminary tests of the barrels' contents indicated no immediate health threat, but federal officials planned to test soil and well water at all 68 properties during March. The City and the developer disagree on whether the developer was required—as part of the subdivision's approval in 1988—to provide homebuyers with a "Buyer's Awareness Package" that would have identified the site as a former landfill.

In February came the revelation that a 57-home development, River's Edge at Quailshire, is being built on a former landfill site. The original developers acknowledge they knew of the site's history when they bought the property and when they filed a request in 2003 with the Virginia DEQ to clean up the site under the Voluntary Remediation Program. But the city's planning department reportedly was unaware of the site's history until February 2005.

March brought news that a large residential project along the Elizabeth River, approved by the City in 2002, included a 90-home condominium section on the site of a former illegal landfill. The developers and the Virginia DEQ were aware of the site's history, and the DEQ reportedly sought deed restrictions on future residents' use of the site's groundwater. But the city's files on the rezoning request for the entire 175-home project—called The Preserve on the Elizabeth—do not

mention the former landfill. The developers maintained that the city's forms never asked for such information. According to the city's planning directly in a March 25 article, the property's history with the DEQ should have been in the rezoning files, but environmental reviews typically are done after a rezoning, and the city cannot stop a properly zoned residential project even if environmental problems are found.

In March, after the first two situations were reported, the DEQ began posting online information about current and former landfills and dump sites. The Web site, at www.deq.state.va.us/waste/disposal.html, also includes advice for home buyers. (*Virginian-Pilot*, 1/22, 1/28, 2/22, 2/27, and 3/25/05; and *Richmond Times-Dispatch*, 3/12/05)



• Here's more on the **connection between solid waste and water resources**. On February 7, City of Richmond Circuit Court Judge Randall G. Johnson issued his ruling in a lawsuit over the **hauling of trash by barge on Virginia's rivers**. In *James River Association v. Commonwealth of Virginia*, the Association (JRA) had challenged regulations approved in July 2003 by the Virginia Waste Management Board. The regulations set a \$1 per ton fee and established procedures for testing the water-tightness of barge-transported waste containers. JRA raised three challenges: 1) that the regulations altogether were invalid because the public was unaware that the Virginia DEQ and Waste Management, Inc. (who plans to haul trash by barge on the James River) had reached a confidential agreement in December 2002, prior to a 2003 public hearing on the rules; 2) that the \$1 per ton fee was insufficient; and 3) that the regulation for testing whether a barged trash container will leak was invalid because it requires filling a container with only 24 inches of water,

rather than *completely* filling the container. Judge Johnson rejected the challenges to the public process and the fee, but he agreed with the challenge to the leak test. He ordered the state to develop a regulation that meets the pertinent law's mandate that the entire container be watertight. (*Richmond Times-Dispatch*, 2/8/05; *Newport News Daily Press*, 2/9/05; and James River Association, 4/1/05) [Previous *Water Central* item: Apr. 2004, p. 14.]

•As of February, the **James River Reserve Fleet still contained 44 "ghost fleet" ships**—obsolete vessels needing proper disposal. Another 77 such ships remained in the nation's two other reserve fleets, in California and Texas. The reserve fleets contain vessels that could be used for cargo transport or other operations during emergencies, but each fleet has a backlog of ships that are no longer usable. The U.S. Maritime Administration (MARAD) is responsible for overseeing disposal of such ships and the hazardous materials that many contain, with a September 30, 2006, deadline for disposal of the current backlog. But current funds authorized by Congress appear to be far short of the estimated \$80 million for proper disposal of the remaining 121 ships, and in March the Government Accounting Office criticized MARAD for not requesting adequate funds for the ships' disposal and for using a faulty contract-award process. (*Newport News Daily Press*, 2/13 and 3/3/05).



•On February 5, a tractor-trailer fire on Interstate 81 led to a **toxic-chemical spill in a waterway near Fort Defiance in Augusta County**. Some of the truck's approximately 20,000 pounds of toxic chemicals reached a tributary of Middle River, killing fish and raising chromium levels 1,000 times above allowable limits. The Virginia DEQ initially handled the cleanup but had insufficient funds to continue, so the U.S. EPA has taken the lead, with \$200,000 set aside for the cleanup. Litigation has begun over responsibility

for the environmental damage. On February 24 in U.S. District Court in Harrisonburg, Staunton-based HazMat-2000 sued the trucking firm—Logistics International-Georgia—for nearly \$90,000 for cleanup work. The trucking firm has disputed its liability, asserting that inadequate barriers were installed to prevent the chemical runoff into the creek during the fire-fighting operation. (*News Virginian* [Waynesboro], 3/2/05; and *Richmond Times-Dispatch*, 3/8/05)

•The **Nature Conservancy's March \$6.2 million purchase of a 500-acre Northampton County farm** is part of an ongoing federal, state, and private effort to purchase or place under conservation easements 6000 acres area in the Delmarva Peninsula. The targeted area is both attractive to development and valuable for water quality and habitat. (*Eastern Shore News*, 3/5/05)

•On its March 15 meeting, the **State Water Control Board took the following actions:**
 *approved Norfolk's five-year, \$39-million plan to repair its sewer system [previous *Water Central* item: Nov. 2004, p. 20];
 *approved Richmond's final phase of improvements to that city's sewer system [previous *Water Central* item: Aug. 2002, p. 4];
 *approved standards for water clarity, dissolved oxygen, and other water-quality indicators in the Chesapeake Bay and its tributaries;
 *rejected the Cowpasture River Association's request to designate 15 miles of that river as an "exceptional water" [previous *Water Central* item: Aug. 2004, p. 17]. (*Richmond Times-Dispatch*, 3/16/05; and *Virginian-Pilot*, 3/16/05)

•**Onsite sewage treatment**—its economic, regulatory, engineering, managerial, and educational issues—was the focus of some 400 people attending the Virginia **Decentralized Wastewater Summit** held in Roanoke March 29—31. The meeting focused on alternatives both to centralized sewer systems and to conventional septic tanks, particularly in Virginia's rural areas. Conference materials stated that about 25 percent of the U.S. population and about one million Virginia households use some type of onsite or decentralized sewage system. Keynote speaker William Shelton, director of the Housing and Community Development Department, said Virginia "needs more solutions" to the following onsite wastewater issues:
 *the impact of new wastewater technologies on growth and development;
 *the long-term sustainability of such systems;
 *the need for a responsible part to manage and be accountable for such systems; and

*regulatory changes to allow creative solutions when finances or site conditions preclude either a central sewer or conventional septic tanks.

The meeting was sponsored by Canaan Valley Institute (CVI) and several co-sponsors. For more information on the conference, contact CVI's Staunton office at (877) 387-0790 or visit the organization's Web site at www.canaanvi.org.

•Here are some **Chesapeake Bay items**:

••Do you know **OSCAR**? No, not the film award nor the messy roommate in "The Odd Couple." This **OSCAR** is the **Oil Spill Clean-up and Response Tool**, an Internet program managed by the Virginia Institute of Marine Science (VIMS). Located online at http://ccrm.vims.edu/OSCAR_intro.html, the tool allows users to create customized maps and access detailed scientific data for specific locations. The tool is designed to help identify Chesapeake Bay areas that would be particularly vulnerable to an oil spill. (*Virginia Wetlands Report*, Fall 2004)

••Virginia, Delaware, Maryland, New York, Pennsylvania, West Virginia, the District of Columbia, and the U.S. EPA agreed in December to begin **phasing in enforceable limits on nitrogen and phosphorus discharges** from wastewater treatment plants and industries. This would be the first widespread use of permits to regulate the two nutrients on the basis of their impacts on the Bay, although phosphorus discharges have been regulated for many years due to impacts on *local* waters. The initiative is estimated to cost about \$4 billion, affect about 350 facilities basinwide, and reduce annual nitrogen and phosphorus inputs to the Bay by 17.5 million pounds and 1 million pounds, respectively. (Total discharges in 2002 from wastewater treatment plants and industries were 58.4 million pounds of nitrogen and 4.3 million pounds of phosphorus.) The Virginia DEQ is expected to require nutrient-removal improvements as five-year discharge permits come up for renewal. If the plan is fully implemented in Virginia, about 120 facilities would be affected at an estimated cost of \$1 billion. (*Richmond Times-Dispatch*, 1/4/05; and *Bay Journal*, Mar. 2005) [Previous *Water Central* item: Nov. 2004, p. 20.]

••In January, Maryland announced it would wait until at least June before **deciding whether to introduce nonnative oysters** into the Chesapeake Bay. Previously, the Maryland Department of Natural Resources had expected to complete its study of the issue and make a decision by this spring. (*Baltimore Sun*, 1/15/05) [Previous *Water Central* item: Jan. 2005, p. 8.]

••On February 9, Virginia's and Maryland's U.S. senators introduced the "**Captain John Smith Chesapeake National Historic Watertrail Study Act of 2005.**" The bill calls for the U.S. Department of the Interior to study the feasibility of a 3000-mile water trail tracing Smith's voyages in the Bay and its tributaries. Currently there are 13 National Historic Trails in the United States, but there are no national historic *water* trails. As of March 29, the bill was in the Senate Committee on Energy and Natural Resources. (*Cambridge [Md.] Daily Banner*, 2/16/05; and the Library of Congress' legislative information Web site, thomas.loc.gov, 3/29/05)

...and Outside of Virginia

•In January, at least 34 **whales** of several kinds became stranded and died along the **North Carolina** Outer Banks. Previously, no more than three whales had been stranded on the Outer Banks at any one time. (*Virginian-Pilot*, 1/17/05)

•After April 5, **Hawaii** will no longer allow large-capacity **cesspools**. Cesspools are more widely used in Hawaii than in any other state; for example, in 1999 Oahu had 158,000 cesspools compared to 1,000 septic tanks. (Hawaii Water Resources Research Center Bulletin, March 2005)

•Twenty-seven federal disaster declarations due to **hurricanes** were issued in **15 states and two territories** in 2004, exceeding the previous record of 19 set in 1999. Federal hurricane-related disaster relief expenditures totaled \$4.85 billion in 2004, out of \$5.53 billion for all federal disaster aid. (*Natural Hazards Observer*, Mar. 2005)

•As of late March, "severe" to "exceptional" **drought** affected much of the **western United States**, especially Idaho, Montana, and Wyoming. (U.S. Drought Monitor, online at drought.unl.edu/dm/monitor.html, 3/29/05)

Final Word

•"Now that we've nearly tripled that record, regardless of where you live in Virginia, you need to be prepared for tornadoes."—Michael Cline, Virginia emergency management coordinator, commenting on the 86 tornadoes that touched down in 52 Virginia localities in 2004; the previous record, set in 2003, was 31 tornadoes. Most of the 2004 tornadoes resulted from the remnants of hurricanes Gaston, Ivan, and Jeanne. (*Roanoke Times*, 3/7/05)

—By Alan Raflo

NOTICES

Recent State Water Meetings

The Virginia Department of Environmental Quality (DEQ) posts notices of regulatory action, public hearings and meetings, and other events on-line at www.deq.state.va.us/info/ (click on "Public Calendar"). The Regulatory Town Hall Web site, at www.townhall.state.va.us/Intro.cfm, has schedules of, and minutes from, public meetings by all of Virginia's boards, commissions, and departments.

Following is a list of water-related events that occurred between January 14 and March 24, 2005, with contact information 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 on the following water; the DEQ contact person is included.

January

Isle of Wight and Surry counties: Blackwater River basin; contact Chris French.

Lewis Creek in Augusta County and Staunton (Robert Brent).

Louisa, Orange, and Spotsylvania counties: six watersheds; contact Bryant Thomas.

Madison County: Robinson River and Little Dark Run; contact Bryant Thomas.

Orange County: Mountain Run and Mine Run; contact Bryant Thomas.

Sussex and Southampton counties: Raccoon Creek; contact Chris French.

Virginia Beach: Back Bay and North Landing River watersheds; contact Jennifer Howell.

February

Franklin County: Lower Blackwater River basin and its tributaries; contact Jason Hill.

Lee County: Straight Creek and tributaries, Stone Creek, Ely Creek, Puckett Creek, Lick Branch,

Baileys Trace, and Gin Creek; contact Nancy T. Norton.

Middlesex County: Shellfish waters; contact Chester Bigelow.

Virginia Beach: Greater Lynnhaven River watershed; contact Chester Bigelow.

Wise County: Callahan Creek; contact Nancy T. Norton.

March

Accomack County: Onancock Creek and other streams; and seven shellfish-propagation waters; contact Chester Bigelow.

Bedford, Franklin, Montgomery, Pittsylvania, and Roanoke counties and the cities of Roanoke and Salem: Roanoke River; contact Jason Hill.

Charlotte, Campbell, Halifax, and Pittsylvania counties: Roanoke River; contact Kelly Wills.

Fairfax and Prince William counties: Occoquan streams; contact Kimberly Davis.

Northumberland County: Cockrell Creek; contact Chris French.

Page County: Mill Creek; contact Robert Brent.

Southeastern Virginia (several counties):

Blackwater River tributaries and Raccoon Creek; contact Chris French.

Virginia Beach: Lynnhaven, Broad, and Linkhorn bays; contact Chester Bigelow.

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: David Dowling.

Groundwater Protection Steering Committee: Meets third Tuesday of odd-numbered months. More information: Mary Ann Massie.

Marine Resources Commission: Meets monthly. More information: Jane McCroskey.

Soil and Water Conservation Board: Meets bimonthly. More information: David Dowling.

State Water Control Board (SWCB): Meets March, June, September, and December. More information: Cindy Berndt.

Waterworks and Wastewater Works Operators Board: Meets March, June, September, and December. More information: David E. Dick.

Other State Meetings and Hearings

- 1/19, 2/16, and 3/23/05: Meetings of the Soil and Water Conservation Board's Ad Hoc Study **Committee on Dam Safety Issues**. More information: David Dowling.
- 2/11/05, Big Stone Gap: Department of Mines, Minerals and Energy (DMME) public meeting on the FY2005 **Abandoned Mine Land Consolidated Grant Application** to be submitted to the Federal Office of Surface Mining. More information: Roger Williams.
- 2/16/05, St. Paul: DMME's Division of Mined Land Reclamation (DMLR) meeting to discuss issues related to **coal surface-mining reclamation regulation**. More information: Les Vincent.
- 2/23/05, Glen Allen: Public meeting of the SWCB to receive comments on the notice of intent to amend the **Virginia water protection permit regulation**. More information: Scott Kudlas.
- 2/25 and 3/18/05, Glen Allen: Meetings of the DEQ **stream-mitigation workgroup**, to advise the DEQ in developing guidance for assessing stream impacts and compensation requirements related to impacts permitted under the Virginia Water Protection Permit Program. More information: Catherine Harold.
- 3/7/07, Luray: Public hearing to receive comments on proposed **designation of several waters within the Shenandoah National Park as outstanding state resource waters**. More information: Jean Gregory.
- 3/10/05, Glen Allen: Public meeting of the SWCB on the notice of intent to amend the **general discharge permit for ready-mix concrete plants** to include concrete products plants. More information: Lily Choi.
- 3/10/05, Glen Allen: Public meeting on the SWCB's notice of intent to adopt a general permit for **wastewater discharges from coin-operated laundromats**. More information: George E. Cosby.
- 3/17/05, Harrisonburg; 3/22, Woodbridge; and 3/23, Virginia Beach: Public hearings by the SWCB on amendments to the **policy for nutrient-enriched waters**. More information: John Kennedy.
- 3/24/05, Richmond: Meeting of the Soil and Water Conservation Board's Ad Hoc Study Committee on **agricultural program delivery by soil and water conservation districts**. More information: David Dowling.

Help Children Learn Outdoors

The James River Association is seeking volunteers to assist with field trips for 6th and 7th graders to the James River or its tributaries. The

students will learn about water quality and how to monitor it. The field trip days are April 26 and 27 in Charles City; May 5, 9, and 10 in Powhatan; and May 11, 12, and 13 in Powhatan. More information: Kim Hodge at (804) 730-2898, ext. 205 or khodge@jamesriverassociation.org.

Upcoming Conferences and Workshops

In Virginia

•**Rain Barrel and Rain Garden Hands-on Workshops**. April 21 in Nottoway County; May 3 in Amelia County; and June 11 in Prince Edward County. Organized by Clean Virginia Waterways and the Piedmont Soil and Water Conservation District. For more information: Clean Virginia Waterways, (434) 395-2602 or cleanva@longwood.edu.

•**Governor's Conference on Greenways, Blueways, and Trails**. May 1-4, Richmond. Organized by BikeWalk Virginia. More information: Allen Turnbull at (757) 229-0507 or info@bikewalkvirginia.org; Web site: www.bikewalkvirginia.org/.

•**Southeast Regional Community Assistance Project (Southeast RCAP) 35th Anniversary Conference**. May 4-5, Roanoke. More information: Mary C. Terry, (866) 928-3731 or vwp@sercap.org; Web site: www.southeastrcap.org/.

•**Planning of Wetlands Workshop**. May 10, Charlottesville. Organized by the Virginia Association of Soil and Water Conservation Districts. More information: Dana Roberts, (804) 559-0324 or dana.roberts@vaswcd.org.

•**Estuarine Interactions: Biological-Physical Feedbacks and Adaptations**. October 16-21, Norfolk. Organized by the Estuarine Research Federation. More information: (254) 776-3550 or info@sgmett.com; Web site: www.sgmeet.com/erf2005/.

Elsewhere

•**World Water and Environmental Resources Congress**. May 15-19, Anchorage, Alaska. Organized by the American Society of Civil Engineers. More information: (800) 548-2723 or conferences@asce.org; Web site: www.asce.org/conferences/ewri2005/.

•**StormCon '05—North American Surface Water Quality Conference and Exposition**. July 18-21, Orlando, Fla. More information: Steve Di Giorgi, (805) 682-1300 ext. 129 or stevedg@forester.net; Web site: www.stormcon.com/sc.html.

•**13th National Nonpoint Source Monitoring Workshop.** September 19-22, Raleigh, N.C. Organized by North Carolina State University. More information: Jean Spooner at waterquality@ncsu.edu; Web site: www.bae.ncsu.edu/programs/extension/wqg/.

Rappahannock River Atlas

A new and enlarged edition of this guide to the river and its historical features is available for \$12 (\$2.50 for postage and handling) from the Virginia Canals and Navigation Society, 4066 Turnpike Road, Lexington, VA 24450; e-mail: dunoon@intelos.net.

Rockbridge County Groundwater Report

Groundwater Resources of Rockbridge County, published in February 2005, uses well and spring records to update the state of knowledge about this western Virginia county's groundwater. The report is available from the Virginia Department of Mines, Minerals and Energy in Charlottesville, at (434) 951-6341.

Does that Plant Grow in Virginia?

The *Digital Atlas of Virginia Flora* is now available at www.biol.vt.edu/digital_atlas/. For individual species, the *Atlas* maps county locations where the species' occurrence (*outside of cultivation*) has been scientifically documented. More information: Tom Wieboldt, (540) 231-5746 or wieboldtdt@vt.edu.

Also Out There...

From the many water-related publications that arrive in the Water Center's mail, here's a brief description of a recent, detailed article:

"Across the Divide: Sharing Great Lakes Water"—Discusses arrangements between the United States and Canada for managing shared Great Lakes waters; it also includes a section on managing waters shared by the United States and Mexico. *On Tap*, Winter 2005; National Environmental Service Center, Morgantown, W.Va., (800) 624-8301; available online at www.nesc.wvu.edu/ndwc/ndwc_index.htm.

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.

National Water Research Symposium

Researchers, including graduate students, are invited to submit abstracts for inclusion in the National Water Research Symposium, October 10-12, 2005, at Virginia Tech in Blacksburg. This year, we're celebrating the 40th anniversary of the Water Center. Several special panels are planned on the theme of balancing water law and science, but abstracts are solicited on *all areas* of water sciences. The Water Center will give a Graduate Student Best Presentation Award. The deadline to submit abstracts has been extended to May 1. For more details, contact the Water Center or visit www.vwrrc.vt.edu/2005Symposium/index.html.

New TMDL Book

Total Maximum Daily Load: Approaches and Challenges, edited by Water Center Interim Director Tamim Younos, presents concepts, case studies, and applications of technologies used to develop and implement a TMDL program. The book is available for sale from PennWell Press of Tulsa, Oklahoma, www.pennwellbooks.com, phone (800) 752-9764, e-mail sales@pennwell.com.

TMDL Grant Received

The Virginia DEQ has provided \$39,755 for "TMDL Implementation Plan for Stroubles Creek." The project's goal is to develop a comprehensive watershed plan to remedy a benthic impairment in an impaired stream in Blacksburg. For more information, contact Tamim Younos at the Water Center.

New Reports on Biology in Virginia's Rivers and on Nutrients

Two new reports are now available at the Water Center's Web site, at <http://www.vwrrc.vt.edu/publications/recent.htm>.
 • *Biological Integrity and Virginia's Rivers*, by Richard Roth of Radford University (Educational Report 01-2005);
 • *Issues Related to Freshwater Nutrient Criteria for Lakes and Reservoirs in Virginia*, by the Water Quality Academic Advisory Committee (Special Report SR27-2005).

Virginia citizens may request single paper copies for the cost of photocopying. For more information, contact the Water Center.

Virginia Water Central

Published by the Virginia Water Resources Research Center, 23 Agnew Hall (0444), Blacksburg, VA 24061; (540) 231-5624; fax (540) 231-6673; e-mail: water@vt.edu; Tamim Younos, interim director. *Water Central* staff: Alan Raflo, editor; George Wills, illustrator.

Printing and mailing costs for *Water Central* are partially supported by a grant from the Virginia Manufacturers Association's Outreach Group.

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Please notify us at (540) 231-5463 or araflo@vt.edu if your address has changed or if you no longer wish to receive the newsletter.

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