

# Virginia Water Central Newsletter

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Middle Fork Holston River at Route 803 in Washington County, Virginia, May 13, 2016.

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## Editor's Comment



### Richmond's Still a Hard Road for the General Assembly

*By Alan Raflo*

An 1863 song, "Richmond is a Hard Road to Travel" by A.E. Blackmar of New Orleans, described and mocked the repeated attempts by the Union army (under several commanding generals) to capture the Confederate capital of Richmond, Virginia, in the early years of the Civil War.<sup>1</sup>

Thankfully, the members of the Virginia General Assembly who gather in Richmond each January in the 21<sup>st</sup> Century don't face the division, strife, and danger that characterized Civil War Virginia. But they do face conflicts, competing interests, hard choices, and the hard work of considering hundreds of bills, a new biennial state budget every other year, and amendments to the current budget—all within 60 or 45 days (depending on whether it's an even year/long session or odd year/short session).

This issue of the *Virginia Water Central Newsletter* presents our annual inventory of water-related legislation in the General Assembly. The inventory includes 140 measures in the categories of Budget; Conservation; Drainage, Soil Conservation, Sanitation, and Public Service Facilities; Eminent Domain; Energy; Fisheries and Habitat of Tidal Waters; Game, Inland Fisheries, and Boating; Health; Highways, Bridges, and Ferries; Water and Sewer Systems; and Waters of the State, Ports, and Harbors. The issue also includes a list of some of this year's measure that received significant media attention, such as the Commonwealth's response to the Clean Power Plan, the tax credit for coal-mining employment, and a \$2.1 billion bond package that includes money for several water-related items, such as wastewater infrastructure and the Port of Virginia.

Citizen opinions are a vital part of the General Assembly road to Richmond, and expressing those opinions is *your* job. If you don't know your representatives or their contact information, you can use the online "Who's My Legislator" service, available at <http://whosmy.virginiageneralassembly.gov/>, or you can find members' contact information at <http://del.state.va.us/dela/MemBios.nsf/MWebsiteTL?OpenView> for the House of Delegate and <http://apps.senate.virginia.gov/Senator/> for the State Senate. If you're not online, but you know the numbers of your legislative districts, you can use the following code to identify your representatives' Capitol phone numbers: for delegates, (804) 698-10 + district number (for example, 698-1003 for the District 3 delegate); for senators, (804) 698-75 + district number (for example, 698-7510 for the District 10 senator).

I hope you find the water-related bill inventory useful.

## TEACHING WATER Especially for Virginia's K-12 teachers

### This Issue of *Water Central* and the Virginia Standards of Learning

Below are suggested Virginia Standards of Learning (SOLs) that may be supported by items in this issue. The SOLs listed are from Virginia's 2010 Science SOLs and 2008 Social Studies SOLs. Abbreviations: CE = civics and economics; ES=earth science; GOV = Va. and U.S. government; LS=life science; WG = world geography.

Newsletter Section	Science SOLs	Social Studies SOLs
Water in 2016 Virginia General Assembly	6.7, 6.9, LS.11, ES.6, ES.10	CE.1, CE.7, CE.9, WG.7, GOV.1, GOV.8, GOV.9, GOV.16

<sup>1</sup> Information on "Richmond is a Hard Road to Travel" was taken from the Library of Congress, online at <https://www.loc.gov/item/ihas.200002583/>; and Smithsonian Folkways, online at <http://www.folkways.si.edu/the-new-lost-city-ramblers/richmond-is-a-hard-road-to-travel/american-folk-historical-song/music/track/smithsonian> (both accessed 5/9/16).



## FEATURE ARTICLE

### Water in the 2016 Virginia General Assembly

*Taylor Richmond, a May 2016 Virginia Tech graduate who served an internship with the Virginia Water Resources Research Center in spring 2016, assisted with this document.*

The 2016 Virginia General Assembly session convened January 13 and adjourned March 11. All bills were to be filed by January 22. The session adjourned on March 11 (one day before the scheduled adjournment date). The reconvened (“veto”) session was held April 20.

In the tables below, the Virginia Water Resources Research Center (the Water Center; online at <http://www.vwrrc.vt.edu/>) lists 151 measures in the 2016 Assembly dealing with water resources directly or indirectly, including four budget bills. (Inventories from previous General Assembly sessions, back to 1998, are available via this link: <http://www.vwrrc.vt.edu/virginia-water-legislation/>.)

The list comes from the Legislative Information System (LIS) Web site at <http://lis.virginia.gov/> (also at <http://leg1.state.va.us> in a slightly different format), in the categories indicated by sub-headings below. In the Energy Conservation and Resources category, however, the list also includes some other bills that were assigned to a [special energy subcommittee of the House Commerce and Labor Committee](#). Bills are listed under only one category, even if LIS listed them more than once. The categories searched and the bills listed include all those with *direct* water relevance (such as bills in the “Water and Sewer Systems” category) as well as those with a *potential or indirect* relevance to water (such as bills dealing with land conservation, energy, or transportation projects). The list below *does not necessarily include all bills* that potentially affect Virginia’s water resources.

Within each category, bills are listed in order of their **bill number**, using the following abbreviations: **HB** = bill started in House of Delegates; **HJ** = joint resolution started in the House; **SB** = bill started in the Senate; and **SJ** = joint resolution started in the Senate. Numbers in the left-hand column have been added by the Water Center for cross-referencing among the bills.

The **bill titles and descriptions** (third column from left) are taken from the LIS site, edited in some cases for clarity, space, or both. The right hand-column lists the **status of bills**—that is, a given bill’s location in House or Senate, the committee currently considering the bill, and whether the bill has passed or failed in those locations. The status given is according to information available on the LIS Web site following the April 20, 2016, reconvened session. **Click on the underlined bill numbers** (for example, [HB 2](#)) to access more detailed bill information at the LIS site. LIS links to information about General Assembly committees (including members and meeting times) are available online at <http://lis.virginia.gov/151/com/COM.HTM>.

A box at the end of the inventory table lists some of the topics in the 2016 General Assembly that received news media attention.

**Frequently used abbreviations in the tables:** House ACNR = House Agriculture, Chesapeake, and Natural Resources committee; Senate ACNR = Senate Agriculture, Conservation, and Natural Resources committee; DCR = Virginia Department of Conservation and Recreation; DEQ = Virginia Department of Environmental Quality; DGIF = Virginia Department of Game and Inland Fisheries; DMME = Virginia Department of Mines, Minerals, and Energy; EPA = U.S. Environmental Protection Agency; SCC = [Virginia] State Corporation Commission; SWCB = [Virginia] State Water Control Board; TMDL = total maximum daily load; VDH = Virginia Department of Health; VDOT = Virginia Department of Transportation; VMRC = Virginia Marine Resources Commission.



## APPROPRIATIONS/BUDGET

Please note that the budget bills many separate proposed amendments, organized by secretariats (for example, the provisions of HB 30 (the budget bill passed in 2016 for the upcoming biennium) for departments under the Secretary of Natural Resources are available online at <http://budget.lis.virginia.gov/secretariat/2016/1/HB30/Enrolled/1/office-of-natural-resources/>.

1.	<a href="#">HB 29</a>	<b>House budget bill for current biennium.</b> Amendments to Chapter 665 of the 2015 General Assembly (which appropriated funds for the 2014-16 Biennium) regarding revenues for the Fiscal Year ending on the thirtieth day of June, 2016.	Passed and approved by governor
2.	<a href="#">HB 30</a>	<b>House budget bill for upcoming biennium.</b> Appropriations to provide a portion of revenues for the two years ending respectively on the thirtieth day of June, 2017, and the thirtieth day of June, 2018.	Passed, recommendations proposed by governor, and then passed by both houses
3.	<a href="#">SB 29</a>	<b>Senate budget bill for current biennium.</b> Amendments to Chapter 665 of the 2015 General Assembly (which appropriated funds for the 2014-16 Biennium) regarding revenues for the Fiscal Year ending on the thirtieth day of June, 2016.	Passed Senate and failed in House Appropriations
4.	<a href="#">SB 30</a>	<b>Senate budget bill for upcoming biennium.</b> Appropriations to provide a portion of revenues for the two years ending respectively on the thirtieth day of June, 2017, and the thirtieth day of June, 2018.	Passed Senate and failed in House Appropriations

### Additional budget note on bond packages:

On December 9, 2015, Va. Governor Terry McAuliffe announced a \$2.43 billion bond package for higher education research and development, the Port of Virginia, Virginia state parks, veterans care, corrections, and wastewater-treatment infrastructure to support Chesapeake Bay restoration goals. The governor offered the bond proposals as part of the Fiscal Year 2017-18 budget that the General Assembly considered in the 2016 session. But both the House of Delegates and the State Senate included the bond proposals in legislation separate from the biennial budget: [HB 477](#) (\$29.3 million for veterans care centers), [HB 1063](#) and [SB 61](#) (\$41 million for higher education capital projects), [HB 1344](#) and [SB 731](#) (\$2.07 billion for various capital projects).

## CONSERVATION

### Land Conservation Policy and Tax-credit Bills

5.	<a href="#">HB 1385</a>	<b>Land preservation tax credit; application for credits prior to any donation.</b> Would have provided that a donor will be given the option to apply to the Department of Taxation for land preservation tax credits prior to making any donation of land.	Failed in House Finance
6.	<a href="#">HB 777</a>	<b>Redevelopment or conservation areas or rehabilitation districts; partial tax exemption (renewal application allowed).</b> Would have permit localities to allow a second application for a partial tax exemption period of up to 15 years beyond the initial exemption period.	Failed in House Finance
7.	<a href="#">SB 486</a>	<b>Land preservation tax credits; certain donations of land allowed to non-resource charitable organizations.</b> Would allow a land holder to donate a fee interest in land to a private,	Carried over to 2017 in Senate Finance

		not-for-profit charitable corporation not established for conservation or preservation purposes and receive land preservation tax credits for the donation.	
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### Other Conservation Bills

8.	<a href="#"><u>HB 2</u></a>	<b>Clean Power Plan; state implementation plan, General Assembly approval.</b> Would have required the Department of Environmental Quality (DEQ) to receive approval from the General Assembly for a state implementation plan to regulate carbon dioxide emissions from existing power plants prior to submitting the plan to the U.S. Environmental Protection Agency (EPA) for approval. The EPA published the Clean Power Plan regulation in August 2015 (see <a href="https://www.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants">https://www.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants</a> ), but in February 2016 the U.S. Supreme Court stayed implementation of the regulation while current litigation proceeds through federal court. Companion bill is SB 21 (#19).	Passed but vetoed by governor; veto sustained in House
9.	<a href="#"><u>HB 200</u></a>	<b>State parks; establishing fee schedule for rentals of cabins and campsites.</b> Directs the Department of Conservation and Recreation (DCR) to develop a plan for a fee structure for rental of campsites and cabins in state parks.	Passed and approved by governor
10.	<a href="#"><u>HB 299</u></a>	<b>Virginia Law Officers' Retirement System; conservation officers in DCR added.</b> Would have added conservation officers of the DCR as members of the Virginia Law Officers' Retirement System. Companion bill is SB 353 (#22).	Failed in House Appropriations
11.	<a href="#"><u>HB 318</u></a>	<b>Phosphorous standards for nutrient management plans; regulations.</b> Would have directed the Virginia Soil and Water Conservation Board to adopt regulations establishing a standard for the acceptable rate of phosphorus application to lands from the use of fertilizer, manure, sewage sludge, and industrial sludge, for the purpose of protecting water quality.	Failed in House ACNR (stricken from docket)
12.	<a href="#"><u>HB 466</u></a>	<b>Environmental permits; limiting amendment or review solely on basis of proximity to greenways.</b> Would have prohibited the State Air Pollution Control Board, the State Water Control Board (SWCB), and the Virginia Waste Management Board from reviewing or amending a permit or certificate solely on the basis of the proximity of the permitted operation to a public greenway, defined in the bill as any system of hiking, biking, or horseback trails established by a locality or other political subdivision.	Failed in House ACNR
13.	<a href="#"><u>HB 647</u></a>	<b>Tree conservation ordinances; allowing localities to post signs on private property that is proposed to be redeveloped.</b> Provides that local tree-conservation ordinances may allow localities to post—on private property that is proposed to be redeveloped with one single-family home—signs that notify the public that an infill lot grading plan is pending for review before the locality. Companion bill is SB 361 (#23).	Passed and approved by governor
14.	<a href="#"><u>HB 976</u></a>	<b>Environmental boards; special orders, increases penalties for violations.</b> Would have increased the maximum civil penalties assessed under special orders issued by the State Air Pollution Control Board, the Solid Waste Management Board, and the SWCB or by a court. Currently, the boards may assess	Failed in House ACNR

		up to \$32,500 for a single violation, not to exceed \$100,000 per order. The bill would have allowed the boards to assess up to \$50,000 per violation, not to exceed \$1 million per order. Also would have increased—from \$32,500 to \$50,000—the amount a court may assess for each violation; and would have increased—from \$10,000 to \$50,000—the maximum civil penalty that the Director of the Department of Environmental Quality can assess under a special order. See similar SB 228 (#21).	
15.	<a href="#">HB 1127</a>	<b>Forest fire protection compacts; codification.</b> Codifies the text of the Southeastern Interstate Forest Fire Protection Compact (the SIFFPC) and the Middle Atlantic Interstate Forest Fire Protection Compact, originally incorporated into the Code of Virginia by reference in 1956 and 1966, respectively. The bill also repeals an obsolete section of the 1956 act that originally provided for the appointment of members to a compact advisory committee; the committee no longer exists.	Passed and approved by governor
16.	<a href="#">HB 1249</a>	<b>York River; scenic and historic designations.</b> Would have designated as a state Scenic River and historic river a 20-mile portion of the York River from the border of York and James City counties to the Chesapeake Bay.	Failed in House ACNR (stricken from docket)
17.	<a href="#">HB 1250</a>	<b>Virginia Erosion and Stormwater Management Act; consolidation of programs, opt-out for localities.</b> Combines existing statutory programs relating to soil erosion and stormwater management, directing the SWCB to permit, regulate, and control both erosion and stormwater runoff. The bill requires any locality that operates a municipal separate storm sewer system (MS4) or a Virginia Stormwater Management Program (VSMP) to adopt a Virginia Erosion and Stormwater Management Program (VESMP) that regulates any land-disturbing activity that disturbs an area of 10,000 square feet or more, or 2,500 square feet or more if in a Chesapeake Bay Preservation Area. A locality that lacks an MS4 and for which the DEQ is currently administering a VSMP is required to adopt such a VESMP; adopt such a VESMP with DEQ conducting plan review and making recommendations on the compliance of each plan with technical criteria; or continue to operate a separate Virginia Erosion and Sediment Control Program (VESCP) that regulates any disturbance of 10,000 square feet or more and, in a Preservation Area, regulates a disturbance of 2,500 square feet or more and meets certain other requirements. Towns are afforded additional options in relation to the counties in which they are located. The bill directs certain charges or penalties to the Stormwater Local Assistance Fund, which provides matching grants to local governments for stormwater best management practices. The effective date of the bill is July 1, 2017, or 30 days after the adoption of implementing regulations, whichever is later. Companion bill is SB 673 (#28).	Passed and approved by governor
18.	<a href="#">HB 1290</a>	<b>Timber cutting; unlawful removal, determination of damages.</b> Clarifies that any person found liable for the unauthorized removal of timber from another's land must also pay reasonable attorney fees incurred by the owner of the timber, in addition to other payments already required by current law. Companion bill is SB 687 (#29).	Passed and approved by governor
19.	<a href="#">SB 21</a>	<b>Clean Power Plan; state implementation plan, General</b>	Passed but vetoed by

		<b>Assembly approval.</b> Companion bill is HB 2 (#8); please see that bill for summary.	governor; veto sustained in Senate
20.	<a href="#"><u>SB 80</u></a>	<b>Tree conservation; adoption of ordinances in Planning District 8.</b> Would have authorized <i>any</i> locality in Planning District 8 (covering several northern Virginia localities) to adopt certain ordinances providing for the conservation of trees during the land development process. Current law places population-density and air-quality restrictions on which District 8 localities may pass such ordinances.	Failed in Senate Local Government (stricken at request of patron)
21.	<a href="#"><u>SB 228</u></a>	<b>DEQ; raises civil penalty that may be included with a special order.</b> Would have raised the civil penalty that may be included with a special order from \$10,000 to \$25,000. See similar HB 976 (#14).	Failed in Senate ACNR
22.	<a href="#"><u>SB 353</u></a>	<b>Virginia Law Officers' Retirement System; conservation officers in DCR added.</b> Companion bill is HB 299 (#10); please see that bill for summary.	Carried over to 2017 in Senate Finance
23.	<a href="#"><u>SB 361</u></a>	<b>Tree conservation ordinances; allow localities to post signs on private property that is proposed to be redeveloped.</b> Companion bill is HB 647 (#13); please see that bill for summary.	Passed and approved by governor
24.	<a href="#"><u>SB 469</u></a>	<b>Local stormwater utility; payment to best management practice (BMP) operator accepting stormwater runoff from upstream property.</b> Would have required any locality that operates a local stormwater-management program to pay the private operator of a nutrient-reducing best management practice (BMP) if it requires such operator to accept stormwater runoff from an upstream property.	Failed in Senate Local Government (stricken at request of patron)
25.	<a href="#"><u>SB 484</u></a>	<b>Stormwater management regulations; water quality and quantity design criteria.</b> Would have prohibited the enforcement of any design criterion concerning water quality or quantity contained in Part II B of the stormwater-management regulations until the SWCB updates the design criteria, correcting any errors and coordinating them with other stormwater-management regulations.	Failed in Senate ACNR
26.	<a href="#"><u>SB 537</u></a>	<b>Coal combustion by-product impoundments; closure requirements.</b> Would have directed the DEQ to require the closure of surface impoundments of coal-combustion by-products, commonly called coal ash ponds, by July 1, 2020. The bill also would have required that the coal-combustion by-products be removed for disposal in a permitted landfill meeting federal criteria, and that the impoundment site be reclaimed in a manner consistent with federal mine reclamation standards, for closure to be deemed complete.	Failed in Senate ACNR
27.	<a href="#"><u>SB 598</u></a>	<b>Erosion and sediment control; compliance with stormwater management program.</b> Clarifies that certain flow-rate capacity and velocity requirements for plans approved on and after July 1, 2014, shall be satisfied by compliance with Virginia Stormwater Management Program (VSMP) Permit Regulations wherever the land-disturbing activity is conducted in accordance with extended permit coverage regulations.	Passed and approved by governor
28.	<a href="#"><u>SB 673</u></a>	<b>Virginia Erosion and Stormwater Management Act; consolidation of programs.</b> Companion bill is HB 1250 (#17);	Passed and approved by governor



		please see that bill for summary.	
29.	<a href="#">SB 687</a>	<b>Timber cutting; unlawful removal, determination of damages.</b> Companion bill is HB 1290 (#18); please see that bill for summary.	Passed and approved by governor
30.	<a href="#">SB 720</a>	<b>Environmental cleanup programs; localities may by ordinance establish [regarding reusable plastic bags].</b> Allows localities to establish a voluntary environmental cleanup program to provide recognition to retailers that establish practices such as credit to consumers who use reusable bags or the recycling of plastic bags.	Failed in Senate Local Government
31.	<a href="#">SB 726</a>	<b>Erosion and sediment control plans; utility company projects.</b> Would have clarified that the permission given to utility companies to file annually general erosion and sediment control standards and specifications with the Department of Environmental Quality does not apply to a project that disturbs 50 acres of land or more in any one locality.	Failed in Senate ACNR

## EMINENT DOMAIN

32.	<a href="#">SB 109</a>	<b>Eminent domain proceedings; commissioners to be summoned at least 30 days prior to service.</b>	Passed and approved by governor
33.	<a href="#">SB 237</a>	<b>Virginia Property Owners' Association Act; condemnation of common area, valuation.</b> Provides that, for the purposes of condemnation only (and not for reassessment), the value of a portion of a common area of a property owners' association shall be based on the common area's highest and best use as though it were free from restriction to sole use as a common area.	Passed and approved by governor
34.	<a href="#">SB 478</a>	<b>Reimbursement of costs.</b> Provides that costs and fees may be awarded in compensation actions initiated by public service companies, public service corporations, railroads that have been delegated the power of eminent domain, or by government utility corporations, where the amount that the property owner is awarded at trial as compensation for the taking of or damage to his real property is 30 percent or more greater than the amount of the petitioner's final written offer. The bill further provides that, for owners whose property is taken by condemnation under Title 25.1 or Title 33.2, costs and fees may be awarded where such compensation is 25 percent or more greater than the amount of the condemnor's initial written offer.	Passed and approved by governor
35.	<a href="#">SB 543</a>	<b>Inverse condemnation proceeding; reimbursement of owner's costs.</b> Directs the court to reimburse a plaintiff for the costs of an inverse condemnation proceeding for "damaging" property if a judgment is entered for the plaintiff. Under current law, the court is directed to award costs only for the "taking" of property. The change made in this bill corresponds with the language of amendments to Article 1, Sec. 11 of the <i>Constitution of Virginia</i> , which became effective on January 1, 2013.	Passed and approved by governor (governor recommendation not approved)



## ENERGY CONSERVATION AND RESOURCES

36.	<a href="#">HB 283</a>	<b>Electrical transmission line siting; SCC to hold local hearing if requested by locality.</b> Requires the State Corporation Commission (SCC) to hold at least one hearing in the area that would be affected by construction of an electrical transmission line of 138 kV or more, upon the request of the governing body of any county or municipality through which the line is proposed to be built. Currently the SCC is required to conduct a hearing in the affected area if requested by 20 or more interested parties. The measure also provides that affected localities are given the same protections whenever a significantly different route is deemed desirable by the SCC. Same as HB 533 (#42), which failed. Companion bill is SB 136 (#49).	Passed and approved by governor
37.	<a href="#">HB 351</a>	<b>Virginia Alternative Energy and Coastal Protection Act; created.</b> Would have required the governor to seek to join the Regional Greenhouse Gas Initiative or other carbon-trading program with an open auction of carbon allowances; directed the DEQ to establish a carbon dioxide cap-and-trade program to reduce emissions released by electric generation stations; and deposited the revenues from the sale of carbon allowances in a new Commonwealth Resilience Fund, a revolving fund established by this measure to assist localities with the implementation of adaptation efforts to combat sea level rise and recurrent flooding, as well as to provide funding for energy efficiency and conservation programs; economic assistance for families and businesses in Southwest Virginia; renewable energy generation programs; and the costs of administering the program. Companion bill is SB 571 (#52).	Failed in House Commerce and Labor
38.	<a href="#">HB 445</a>	<b>Clean fuel vehicle and advanced cellulosic biofuels job creation tax credit.</b> Would have re-established this tax credit, which is set to expire Jan. 1, 2019.	Failed in House Finance
39.	<a href="#">HB 452</a>	<b>Virginia Energy Storage Consortium; created, report.</b> Would establish the Consortium as a political subdivision of the Commonwealth for the purpose of positioning the Commonwealth as a leader in research, development, commercialization, manufacturing, and deployment of energy storage technology. Companion bill is SB 403 (#51).	Carried over to 2017 in House Commerce and Labor
40.	<a href="#">HB 480</a>	<b>Renewable energy property; tax credit established for placing into service.</b> Would have established, beginning in 2016, a tax credit of 35 percent of the cost of placing renewable energy property into service, defining renewable energy property as certain biomass equipment that uses renewable biomass resources, combined heat and power systems using waste heat to produce electricity or thermal or mechanical energy, certain geothermal equipment, hydroelectric generators located at existing dams or in free-flowing waterways, solar energy equipment, and wind equipment that is required to capture and convert wind energy into electricity or mechanical power. The credit would have expired in 2021.	Failed in House Finance
41.	<a href="#">HB 493</a>	<b>Virginia Energy Efficiency Revolving Fund; created.</b> Would have created the Fund to provide no-interest loans to any locality, school division, or public institution of higher education;	Failed in House Appropriations

		to be funded by 40 percent of annual revenues over \$325 million from certain state recordation taxes.	
42.	<a href="#">HB 533</a>	<b>Electrical transmission line siting; SCC to hold local hearing if requested by locality.</b> Same as HB 283 (#36), which passed; please see that bill for summary.	Failed in House Commerce and Labor
43.	<a href="#">HB 618</a>	<b>Distributed electric generation; establishment of community solar gardens.</b> Would authorize the establishment of community solar gardens, which are required to be owned by a subscriber organization that has at least 10 subscribers. Subscribers would receive credits on their utility bills from energy generated at the solar facility in proportion to the size of their subscription. The output and renewable energy credits from a solar garden would be purchased by the utility in the form of net-metering credits allocated to the subscribers.	Carried over to 2017 in House Commerce and Labor
44.	<a href="#">HB 638</a>	<b>Higher educational institutions; public-private partnerships, wind and solar power.</b> Would have allowed public institutions of higher education to enter into a public-private partnership with any private entity whereby such entity is permitted to use—at no cost—higher education institution property for the generation of wind or solar power, in exchange for offering educational programs for high school and college students on the construction, operations, and maintenance of its wind or solar power generators.	Failed in House Education
45.	<a href="#">HB 762</a>	<b>Electric Transmission Line Planning Association; political subdivisions to form and maintain.</b> Would have authorized three or more political subdivisions to form and maintain an Electric Transmission Line Planning Association for the purpose of representing member localities in planning activities, hearings, meetings, or discussions conducted by or involving a regional electric transmission entity.	Failed in House Commerce and Labor
46.	<a href="#">HB 941</a>	<b>Clean energy programs; expands scope by including certain residential properties.</b> Would have expands the scope of clean energy programs by including certain residential properties that are currently excluded from the voluntary special lien assessment provisions.	Failed in House Counties, Cities, and Towns
47.	<a href="#">HB 1285</a>	<b>Community energy programs; investor-owned electric utilities and electric cooperatives authorized to establish.</b> Would authorize investor-owned electric utilities and electric cooperatives to establish a community energy program with a community subscriber organization. Under a community energy program, community subscribers and community subscriber organizations may participate in community net-energy metering with mutually agreed community subscriber payment rates and community subscriber credit rates.	Carried over to 2017 in House Commerce and Labor
48.	<a href="#">HB 1286</a>	<b>Distributed and renewable generation of electric energy; net energy metering.</b> Would exempt from being defined as a public utility or a supplier those electricity generators that are not organized as a public service company and that provide electric energy from renewable energy to retail customers under certain power purchase agreements; would authorize retail customers to purchase electric energy from such generators provided that the renewable energy electricity generation source is located on property owned, leased, or otherwise controlled by	Carried over to 2017 in House Commerce and Labor

		the retail customer or any affiliated person; would amend net energy-metering programs to remove the one-percent cap relative to total utility sales for net metered facilities; would direct the SCC to establish separate net energy-metering programs for eligible multi-meter customer-generators; and would amend the Commonwealth's energy policy by adding the goals of encouraging private sector distributed renewable energy, increasing security of the electricity grid by supporting distributed renewable energy projects, and augmenting the exercise of private property rights by landowners desiring to generate their own energy from renewable energy sources.	
49.	<a href="#">SB 136</a>	<b>Electrical transmission line siting; SCC to hold local hearing if requested by locality.</b> Companion bill is HB 136 (#49); please see that bill for summary.	Passed and approved by governor
50.	<a href="#">SB 142</a>	<b>Solar thermal system; tax credit.</b> Would establish an individual and corporate income tax credit for solar energy space heating, water heating, space cooling, and industrial or commercial process heating systems placed in service, equal to 30 percent of the installed cost of the system; only the ultimate consumer or user of the system would be allowed to claim the credit (not to exceed \$500,000 for solar energy systems placed in service for any purpose other than use for a single-family dwelling or placed in service and having in excess of 120 square feet of collector area; or \$2,500 for every other solar energy system placed in service).	Carried over to 2017 in Senate Finance
51.	<a href="#">SB 403</a>	<b>Virginia Energy Storage Consortium, created, terms of Board members, report.</b> Companion bill is HB 452 (#39); please see that bill for summary.	Carried over to 2017 in Senate Commerce and Labor
52.	<a href="#">SB 571</a>	<b>Commonwealth Resilience Fund established, and Regional Greenhouse Gas Initiative.</b> Companion bill is HB 351 (#37); please see that bill for summary.	Failed in Senate ACNR
53.	<a href="#">SJ 87</a>	<b>Multifamily residential dwellings; Virginia Housing Commission to study mandatory recycling programs.</b> Would have directed the Virginia Housing Commission to study the feasibility of requiring the owner of every multifamily residential dwelling and the executive organ or common interest community manager for every condominium to develop and implement a plan for recycling solid waste generated by the multifamily residential dwelling or condominium.	Passed Senate; failed in House Rules

## FISHERIES AND HABITAT OF TIDAL WATERS

54.	<a href="#">HB 150</a>	<b>Menhaden fishery; VMRC to adopt regulations to implement Interstate Fishery Management Plan.</b> Would have placed management of the Virginia's Atlantic Menhaden fishery under the control of the Virginia Marine Resources Commission (VMRC), without General Assembly review except for any moratorium on the fishery.	Failed in House ACNR
55.	<a href="#">HB 151</a>	<b>Purse nets; prohibits fishing for Menhaden in certain waters.</b> Would have prohibited fishing for Atlantic Menhaden with purse nets in the Chesapeake Bay and its tributaries within one mile of mean low water, and within three miles of shoreline	Failed in House ACNR

		of Virginia Beach extending to the North Carolina border.	
56.	<a href="#">HB 204</a>	<b>Marine Resources Commission; increases membership.</b> Would have increased the membership of the VMRC by adding a member who is a recreational user of water and owns property that abuts the waters in Virginia Beach.	Failed in House ACNR
57.	<a href="#">HB 285</a>	<b>Oyster grounds; dredging projects in waters of Lynnhaven River.</b> Would have allowed dredging projects to improve, deepen, or restore navigation channels in the Lynnhaven River and its tributaries in specific areas approved by the VMRC, so long as the projects were designed to minimize the impact on oyster-producing beds.	Failed in House ACNR
58.	<a href="#">HB 327</a>	<b>Beach restoration; expedited permit.</b> Directs the VMRC to develop an expedited process for issuing a permit for emergency sand-restoration activities to any publicly owned beach when the erosion is caused by a discrete, identifiable weather event that was the subject of a local or state declaration of emergency. The bill exempts the permit process from certain provisions of the Administrative Process Act.	Passed and approved by governor
59.	<a href="#">HB 526</a>	<b>Living shorelines; tax exemption from local property taxes.</b> Provides that any living shoreline project approved by the VMRC or the applicable local wetlands board—and not prohibited by local ordinance—shall qualify for full exemption from local property taxes.	Passed and approved by governor
60.	<a href="#">HB 640</a>	<b>Oyster leases; moratorium in Broad Bay and Linkhorn Bay in Virginia Beach.</b> Would have directed the VMRC to place a six-month moratorium on oyster leases in Broad Bay and Linkhorn Bay in Virginia Beach. The VMRC would have been required during that period to notify riparian landowners in the two bays of their statutory right to lease oyster grounds located in waters abutting their land; and to notify recreational users of waters and riparian landowners of the laws governing the leasing of oyster planting grounds.	Failed in House ACNR
61.	<a href="#">HJ 94</a>	<b>Oyster shell reclamation; VCU's Rice Rivers Center to study.</b> Would have requested Virginia Commonwealth University's Rice Rivers Center, in consultation with stakeholders, to study and identify incentives to increase participation in oyster shell reclamation.	Failed in House Rules
62.	<a href="#">SB 254</a>	<b>Oyster grounds; assignment or transfer by VMRC of grounds in Lynnhaven River.</b> Would have suspended until July 1, 2017, the assignment or transfer by the VMRC of general oyster grounds in the Lynnhaven River or its tributaries.	Failed in Senate ACNR (stricken at request of Patron)
63.	<a href="#">SB 283</a>	<b>Crab pots; recreational gear license, turtle excluder device.</b> Directs the VMRC to charge less for recreational licenses for crab pots that have turtle-reduction devices than for those that do not.	Passed and approved by governor
64.	<a href="#">SB 282</a>	<b>Virginia Shoreline Resiliency Fund.</b> Establishes the Fund for the purpose of creating a low-interest loan program to help residents and businesses that are subject to recurrent flooding. Moneys from the Fund may be used to mitigate future flood damage.	Passed and approved by governor
65.	<a href="#">SB 284</a>	<b>Oysters; exemptions for taking for recreational use.</b> Modifies the exemption from licensing requirements allowed for	Passed and approved by governor



		taking up to one bushel of oysters in any one day for personal use by hand or with ordinary tongs, and the exemption for such taking on Sundays, by requiring that such takings are done <i>during the legally prescribed oyster season on public oyster grounds open for harvest or unleased bottom open for harvest.</i>	
66.	<a href="#">SB 397</a>	<b>Oyster grounds; navigation rights in Lynnhaven River.</b> Would have required that any person who seeks to open a channel that is necessary for waterfront property owners to be able to navigate the waters of the Lynnhaven River and its tributaries, and who is not a lessee or riparian holder of oyster or clam grounds, to give 12 months' notice of his intention; and that any person constructing a channel compensate the lessee of oyster grounds for all losses of commercially productive oyster beds within the affected area.	Failed in Senate ACNR
67.	<a href="#">SB 529</a>	<b>Menhaden; increases total allowable landings.</b> Increases the total allowable landings for menhaden from 144,272.84 metric tons per year to 158,700.12 metric tons per year. The bill also repeals the sunset provision that would have removed the Virginia Marine Resources Commission's authority to establish the annual harvest cap for the purse seine fishery for Atlantic menhaden.	Passed and approved by governor

## GAME, INLAND FISHERIES, AND BOATING

68.	<a href="#">HB 117</a>	<b>Boats or other watercraft; excess width permits for transporting vehicles.</b> Authorizes the Commissioner of the Department of Motor Vehicles to issue permits for vehicles transporting boats or other watercraft that exceed an outside width of 102 inches but do not exceed an outside width of 108 inches; under current law, no such vehicle shall exceed an outside width of 102 inches. Companion bill is SB 719 (#83).	Passed and approved by governor
69.	<a href="#">HB 136</a>	<b>Duck blinds; damaged stationary blinds in Virginia Beach, notification to DGIF.</b> Requires a person who holds a duck blind license for a stationary blind located in the City of Virginia Beach to immediately notify the Department of Game and Inland Fisheries (DGIF) when his blind has been abandoned, is in a state of disrepair, or does not meet the duck blind standards. The bill provides for a civil penalty if that any owner of such blind fails to place a PVC pipe marker with reflecting tape into the water six feet above mean low water at the site of the blind.	Passed and approved by governor
70.	<a href="#">HB 137</a>	<b>Feral hogs; employees of DGIF &amp; federal agencies allowed to hunt or kill from aircraft, etc.</b> Allows employees of the DGIF and federal agencies having responsibility for fisheries and wildlife management to hunt or kill, from aircraft and with the permission of the landowner, feral hogs in False Cape State Park and Back Bay National Wildlife Refuge, except during waterfowl season.	Passed and approved by governor
71.	<a href="#">HB 160</a>	<b>Motorboats; minimum age requirement for operating.</b> Would have required a person to be at least 14 years of age and to complete successfully a boating safety education course in order to operate a motorboat of 10 horsepower or greater.	Failed in House ACNR

72.	<a href="#">HB 262</a>	<b>Wildlife; manufacture and sale of products made from parts.</b> Authorizes the Board of Game and Inland Fisheries to adopt regulations that allow licensed hunters or trappers to manufacture and sell products made from wildlife that they have legally harvested, except when the manufacturing or sale of such products is detrimental to public health or sound wildlife management.	Passed and approved by governor
73.	<a href="#">HB 315</a>	<b>Conservation police officers retirement status.</b> Provides that any conservation police officer who has at least 20 years of service as a conservation police officer, is a full-time sworn conservation police officer prior to January 1, 2016, and was transitioned to a civilian position on January 1, 2016, shall be considered a retired law-enforcement officer for the purposes of obtaining a photo identification card, being excluded from the prohibition on carrying concealed weapons and the fee for a concealed handgun permit, and purchasing a service weapon.	Passed and approved by governor
74.	<a href="#">HB 1115</a>	<b>Zebra mussels and other non-indigenous aquatic organisms; education program.</b> Requires the Director of the DGIF to establish a program of education in methods of preventing zebra mussels, quagga mussels, or other nonindigenous, aquatic nuisance species from infesting Virginia waters. The bill requires the program to include cleaning and draining guidelines, designated dry times, a standard boat inspection form, and public outreach. The bill allows the Board of Game and Inland Fisheries to deliver the education program through the mandatory boating safety education program.	Passed and approved by governor
75.	<a href="#">HB 1139</a>	<b>Hunting from a waterfowl blind; penalty.</b> Would have required any person who is applying for a blind license to possess a valid hunting license, and made violation of this requirement a Class 4 misdemeanor.	Failed in House ACNR
76.	<a href="#">HB 1311</a>	<b>Killing or trapping of snakes by public utilities.</b> Authorizes the DGIF to allow public utilities to use snake-exclusion devices at their transmission or distribution facilities.	Passed and approved by governor
77.	<a href="#">SB 37</a>	<b>Black Vultures; control of those that pose danger to agricultural animals.</b> Adds Black Vultures ( <i>Coragyps atratus</i> ) and "other wildlife" to the law allowing the Commissioner of Game and Inland Fisheries to enter into agreements under the Wildlife Damage Management Program to control wildlife that "pose a danger to agricultural animals"; previously the law listed only coyotes.	Passed and approved by governor
78.	<a href="#">SB 152</a>	<b>Sale of furs and animal parts; adoption of regulations.</b> Authorizes the Board of Game and Inland Fisheries to adopt additional exemptions to regulations controlling the sale of furs or furbearer products. The bill also authorizes the Board to allow the possession, manufacture, or sale of parts of, or implements made from parts of, wild birds or animals. Current law provides only for the manufacture or sale of implements from deer skeletal parts or turkey callers from turkey parts, as well as the possession of shed antlers.	Passed and approved by governor
79.	<a href="#">SB 344</a>	<b>Hunting rails (Rallidae) or other wetland birds.</b> Exempts from the prohibition on hunting on Sunday the hunting of Rallidae, the family of birds that includes rails and other wetland birds, subject to geographical limitations established by	Passed and approved by governor

		the director of the DGIF.	
80.	<a href="#">SB 349</a>	<b>Free fishing days; removes certain prohibition against fishing without license on such days.</b> Removes the prohibition against fishing without a license in waters stocked with trout by the Department of Game and Inland Fisheries or other public body on days designated by the Department as “free fishing days.”	Passed and approved by governor
81.	<a href="#">SB 367</a>	<b>Coyotes.</b> Adds hunting of coyotes with a rifle of a caliber larger than .22 rimfire to the list of firearm-hunting topics about which a county or city is authorized to adopt ordinances. Current law allows the governing body of a county or city to adopt ordinances prohibiting hunting with certain types of shotguns, permitting groundhog hunting under certain conditions, permitting hunting with muzzleloaders, and specifying permissible ammunition types. The bill also requires the Board of Game and Inland Fisheries to adopt regulations establishing model local ordinances for hunting groundhogs and coyotes.	Passed and approved by governor
82.	<a href="#">SB 557</a>	<b>Reformulated gasoline; sale by marina.</b> Directs the DEQ to seek an exemption from the federal reformulated gasoline (RFG) program for conventional ethanol-free gasoline sold by a marina for marine use.	Passed and approved by governor
83.	<a href="#">SB 719</a>	<b>Boats or other watercraft; excess width permits for transporting vehicles.</b> Companion bill is HB 117 (#68); please see that bill for summary.	Passed and approved by governor

## HEALTH

84.	<a href="#">HB 1123</a>	<b>Restrooms at retail establishments and customers with certain medical conditions.</b> Would have required retail establishments with a toilet facility for its employees to allow a customer who suffers from Crohn's disease, ulcerative colitis, or other medical condition and who requires immediate access to a toilet facility to use that facility during normal business hours if certain conditions are met.	Failed in House Commerce and Labor
85.	<a href="#">HB 1284</a>	<b>Lyme disease; patient treatment.</b> Would have provided that, when a patient elects treatment in accordance with a clinical practice guideline maintained by the National Guideline Clearinghouse for the treatment of Lyme or other tick-borne disease and has been informed of the risks and benefits of such treatment, no health care provider shall be the subject of an investigation or hearing by the Board of Medicine for such treatment, absent gross negligence or willful misconduct. Companion bill is SB 671 (#90).	Failed in House Health, Welfare, and Institutions
86.	<a href="#">HB 354</a>	<b>Lyme disease; prevention pilot program.</b> Would have directed the Department of Health (VDH), assisted by DGIF, to conduct a two-year point of disease Lyme disease prevention pilot program, including monitoring, surveying, and testing of ticks.	Failed in House Appropriations
87.	<a href="#">HB 465</a>	<b>Private well permits.</b> Would have provided that permits for the construction of private wells, other than express well-construction permits, shall be valid for the same time period and	Failed in House Health, Welfare, and Institutions

		subject to the same limitations as permits for septic tanks.	
88.	<a href="#">HB 566</a>	<b>Licensed onsite soil evaluators; changes references in terminology.</b> Changes references in several <i>Code of Virginia</i> sections from “authorized” onsite soil evaluators to the more accurate term “licensed” onsite soil evaluators.	Passed and approved by governor
89.	<a href="#">HB 962</a>	<b>Lyme disease: testing disclosure, sunset repeal, educational signage, civil penalty.</b> Would have created a civil penalty for individuals licensed by the Board of Medicine who violate the requirement to disclose certain information to a patient when the licensee orders a laboratory test for the presence of Lyme disease; and would have created the Lyme Disease Educational Signage Fund for the purpose of providing Lyme disease educational signage in Virginia State Parks.	Failed in House Health, Welfare, and Institutions
90.	<a href="#">SB 671</a>	<b>Lyme disease; patient treatment.</b> Companion bill is HB 1284 (#85); please see that bill for summary.	Passed Senate; carried over to 2017 in House Health, Welfare, and Institutions

## MINES AND MINING

91.	<a href="#">HB 298</a>	<b>Coal tax; limits aggregate amount of credits that may be allocated or claimed for employment, etc.</b> Would have extended the sunset date of the coalfield employment enhancement tax credit through taxable years beginning before January 1, 2022; and limited the aggregate amount of credits for the coal employment and production incentive tax credit to \$7.3 million. Companion bill is SB 44 (#93).	Passed, but vetoed by governor; veto overridden in House but sustained in Senate
92.	<a href="#">HB 1169</a>	<b>Mineral mining; bonding program, reclamation.</b> Would have granted the Commonwealth a lien on land reclaimed by the director of the Department of Mines, Minerals and Energy (DMME) for the amount of the increase in the value of former mining land that results from reclamation of the land; increased the amount of reclamation bond that a mine operator must pay from a range of between \$200 and \$1,000 per acre to \$3,000 per acre; provided procedures related to the operation of the lien; and modified the existing Minerals Reclamation Fund, establishing it as a non-lapsing revolving fund with a minimum size of \$2 million (current law sets the Fund's floor at \$250,000 and does not prevent money in the Fund from reverting to the general fund at the end of each biennium).	Failed in House ACNR
93.	<a href="#">SB 44</a>	<b>Coal tax; limits aggregate amount of credits that may be allocated or claimed for employment, etc.</b> Companion bill is HB 298 (#91); please see that bill for summary.	Passed, but vetoed by governor; veto sustained in Senate
94.	<a href="#">SB 475</a>	<b>Clean Fuel Fleet Voucher Program; established.</b> Would have directed the DMME to establish a rebate program to subsidize the cost of the purchase or conversion of a medium-duty or heavy-duty alternative-fuel vehicle by an operator of a fleet of vehicles in Virginia.	Failed in Senate ACNR (stricken at request of Patron)
95.	<a href="#">SB 563</a>	<b>Sales and use tax exemption for materials and equipment used to drill natural gas and oil; extension.</b> Extends the	Passed and approved by governor



		<p>sunset from July 1, 2016, to July 1, 2022, for the sales and use tax exemption for machinery and tools, materials, and supplies used to drill, extract, or process natural gas or oil.</p>	
96.	<a href="#">SB 706</a>	<p><b>Virginia Freedom of Information Act (FOIA); record exclusion for trade secrets submitted to Department of Mines, Minerals and Energy.</b> Would have excluded, from the mandatory disclosure provisions of the Virginia FOIA, <b>trade secrets</b> (as defined in the Uniform Trade Secrets Act) submitted to the DMME as part of the required permit or permit modification to commence ground-disturbing activities, subject to certain requirements upon the submitting party.</p>	<p>Failed in Senate General Laws and Technology (stricken at request of patron)</p>
97.	<a href="#">SB 718</a>	<p><b>Coal tax; limits aggregate amount of credits.</b> Would have extended the sunset date of the coalfield employment enhancement tax credit through taxable years beginning before January 1, 2021, and limited the aggregate amount of credits that may be allocated or claimed for the coal employment and production incentive tax credit to \$7.5 million.</p>	<p>Incorporated by Senate Finance into SB 44 (#93)</p>

## PUBLIC SERVICE COMPANIES

98.	<a href="#">HB 352</a>	<p><b>Electric utilities energy efficiency programs; criteria for SCC to determine public interest.</b> Would require the SCC to determine that an energy-efficiency program proposed by an electric utility is in the public interest, if the net present value of the benefits exceeds the net present value of the costs as determined by not less than three of four possible tests defined in the law. The measure would delete the current requirement that the SCC analyze all four tests and delete a provision prohibiting the SCC from rejecting an energy-efficiency program solely on the basis of the results of a single test.</p>	<p>Carried over to 2017 in House Commerce and Labor</p>
99.	<a href="#">HB 444</a>	<p><b>Electric utilities; notice of renewable power options.</b> Requires the SCC to post on its Web site the names, telephone numbers, and available hyperlinks of suppliers of electric energy (those licensed to sell retail electric energy pursuant to <i>Va. Code</i> Section 56-587) that expressly state in their applications for licensure, or for any renewal thereof, that they offer electric energy supplied from renewable energy to retail customers in the Commonwealth; and that request in any such applications that they be identified on the Commission's Web site as making such offers. Companion bill is SB 745 (#110).</p>	<p>Passed and approved by governor</p>
100.	<a href="#">HB 575</a>	<p><b>Energy-efficiency programs; total resource cost test.</b> Would define the "total resource cost test" as a test to determine if the benefit-cost ratio of a proposed energy-efficiency program or measure is greater than one, and define "benefit-cost ratio" as the ratio of the net present value of the total benefits of a program or measure, including savings and non-energy benefits, to the net present value of the total incremental costs of implementing that program or measure as calculated over the lifetime of the measures implemented thereunder. An energy-efficiency program or measure that meets the total resource cost test would be declared to be in the public interest.</p>	<p>Carried over to 2017 in House Commerce and Labor</p>
101.	<a href="#">HB 576</a>	<p><b>Electric and natural gas utilities; energy-efficiency goals</b></p>	<p>Carried over to 2017</p>

		<b>established, report.</b> Would require investor-owned electric utilities, cooperative electric utilities, and investor-owned natural gas distribution utilities to meet incremental, annual energy-efficiency goals. Electric utilities would be required to implement measures to achieve the goal of two percent savings by 2031 and thereafter; gas utilities would be required to achieve the goal of one percent savings by 2031 and thereafter; both would have to meet interim goals, as well. The utilities would be required to submit energy-efficiency plans and annual progress reports to the SCC.	in House Commerce and Labor
102.	<a href="#">HB 973</a>	<b>Renewable energy; efficient biomass.</b> Would have excluded “inefficient” biomass from the definition of renewable energy, with “efficient” biomass defined as thermal or electric energy or combined heat and power from biomass generating units with an overall efficiency of 50 percent or greater on an annual basis.	Failed in House Commerce and Labor
103.	<a href="#">HB 1053</a>	<b>Investor-owned electric utilities; energy efficiency performance incentive; report.</b> Directs the SCC to submit to the governor and General Assembly by December 2016 a report evaluating the establishment of uniform protocols for measuring, verifying, validating, and reporting the impacts of energy-efficiency measures implemented by investor-owned electric utilities and the establishment of a methodology for estimating annual kilowatt savings for such energy-efficiency measures. Companion bill is SB 395 (#109).	Passed and approved by governor
104.	<a href="#">HB 1118</a>	<b>Natural gas companies; right of entry upon property.</b> Would have repealed the measure enacted in 2004 that allows interstate natural gas companies to enter upon property to make tests and surveys without the written consent of the owner, if the companies seek the landowner’s permission to inspect and give notice of intent to enter. The repealed provision has granted to <i>interstate</i> natural gas companies the same limited right of entry for survey and study purposes that is granted to <i>intrastate</i> natural gas companies.	Failed in House Commerce and Labor
105.	<a href="#">HB 1137</a>	<b>Electric utilities; energy balancing devices.</b> Would have directed the SCC to establish a program for crediting eligible commercial or industrial customers that own an <b>energy-balancing device</b> , meaning either a grid-integrated electric vehicle or an electric battery that absorbs and returns energy to the electric grid, either on a second-to-second response basis that provides frequency regulation, or on a longer-term daily response basis that returns that energy to the electric grid during peak periods of demand. The bill also would have directed the SCC to conduct a study of the effectiveness of, and benefits achieved from, the deployment of energy balancing devices.	Failed in House Commerce and Labor
106.	<a href="#">HB 1174</a>	<b>Electric energy; Commonwealth consumption-reduction goal report.</b> Would have directed the DMME, in consultation with the staff of the SCC, to report annually, commencing no later than December 15, 2017, on the progress the Commonwealth is making toward meeting the goal adopted in 2007 of reducing the consumption of electric energy by retail customers by the year 2022 by an amount equal to 10 percent of the amount of electric energy consumed in 2006.	Passed House; Failed in Senate Commerce and Labor
107.	<a href="#">HB 1220</a>	<b>Electric utility rate-making; recovery of cost of</b>	Passed and approved

		<b>purchasing certain solar energy facilities.</b> Authorizes an investor-owned electric utility that purchases a generation facility consisting of at least one megawatt of generating capacity using energy derived from sunlight and located in the Commonwealth, and that utilizes goods or services sourced, in whole or in part, from one or more Virginia businesses, to recover the costs of acquiring the facility, with an enhanced rate of return on equity, through a rate-adjustment clause. The measure also states that the following are in the public interest: (i) the construction or purchase by a utility of one or more generation facilities with at least one megawatt of generating capacity, and with an aggregate rated capacity that does not exceed 500 megawatts, that use energy derived from sunlight and are located in the Commonwealth, regardless of whether any of such facilities are located within or without the utility's service territory, and (ii) planning and development activities for a new utility-owned and utility-operated generating facility or facilities utilizing energy derived from sunlight with an aggregate capacity of 500 megawatts.	by governor
108.	<a href="#">HB 1261</a>	<b>State Corporation Commission; interstate gas pipeline safety program.</b> Authorizes the SCC to seek delegation from the U.S. Secretary of Transportation of authority to implement the safety-inspection provisions of the federal Natural Gas Pipeline Safety Act of 1968.	Passed and approved by governor
109.	<a href="#">SB 395</a>	<b>Investor-owned electric utilities; energy efficiency performance incentive; report.</b> Companion bill is HB 1053 (#103); please see that bill for summary.	Passed and approved by governor
110.	<a href="#">SB 745</a>	<b>Electric utilities; notice of renewable power options.</b> Companion bill is HB 444 (#99); please see that bill for summary.	Passed and approved by governor

## WASTE DISPOSAL (INCLUDING HAZARDOUS MATERIALS)

111.	<a href="#">HB 17</a>	<b>Industrial waste and sewage sludge; disclosure of storage or land application on property.</b> Would have required the owner of land upon which industrial waste or sewage sludge has been stored, or to which such waste or sludge has been applied pursuant to a permit issued by the DEQ, to disclose such storage or application to any prospective purchaser or lessee of the land.	Failed in House ACNR
112.	<a href="#">SB 227</a>	<b>Toxic waste site inventory by DEQ.</b> Would have directed the DEQ to inventory by July 1, 2017, non-federally managed toxic waste sites in the Commonwealth and publish the inventory at that time and annually thereafter.	Passed Senate; failed in House ACNR
113.	<a href="#">HB 447</a>	<b>Industrial wastes and biosolids; regulation of land application.</b> Would have required that permits issued for the land application of industrial wastes and biosolids (treated sewage sludge) include monitoring and testing of those pharmaceuticals, pathogens, personal care products, and prions for which concentration limits have been incorporated in federal regulations or standards for land application; also would have directed the SWCB to establish requirements in Virginia Pollution Abatement permits that a nutrient-management plan	Failed in House ACNR

		be developed for the land application of industrial wastes (currently, nutrient-management plans are required for the land application of biosolids); and would have increased, from 10 feet to 100 feet, the current minimum setback from an improved roadway to the land application of biosolids.	
114.	<a href="#">HB 790</a>	<b>Solid waste disposal fee; removes Pittsylvania County from list of counties authorized to levy.</b> Would remove Pittsylvania County from the list of counties authorized to levy certain fees for the disposal of solid waste.	Passed House; carried over to 2017 in Senate Local Government
115.	<a href="#">HB 1358</a>	<b>Gas emissions; control systems for certain landfills.</b> Would require all active sanitary landfills that hold a Title V operating permit issued by the Virginia Air Pollution Control Board, and which are located within one-half mile of any residence or residentially zoned property, to install a landfill-gas collection and control system by July 1, 2018, whether or not the Title V operating permit requires such installation. The bill also would require any application for expansion of any such landfill to include certification from the governing body of the locality where the facility is located that the expansion of the facility has been approved; and would prohibit the DEQ from issuing a Certificate to Operate for any expansion of an area within such a facility before that agency receives the local certification.	Carried over to 2017 in House ACNR
116.	<a href="#">HJ 56</a>	<b>Biosolids and industrial wastes storage and land application; short-term and long-term effects, report.</b> Would have requested the secretaries of Natural Resources and of Health and Human Resources to study the short-term and long-term effects of storage and land application of industrial wastes and treated sewage sludge (biosolids) on public health, residential wells, and surface water and groundwater.	Failed in House Rules
117.	<a href="#">HJ 120</a>	<b>Biosolids and industrial residuals in Virginia; JLARC to study.</b> Directs the Joint Legislative Audit and Review Commission to analyze scientific literature on the health effects of biosolids (treated sewage sludge) and industrial residuals (wastes resulting from industrial processes); evaluate the feasibility of requiring municipal utilities that are currently permitted to generate "Class B" material to upgrade their facilities to generate "Class A" material; and undertake other analyses. This is a two-year study.	Passed

## WATER AND SEWER SYSTEMS

118.	<a href="#">HB 558</a>	<b>Onsite sewage systems and private wells; evaluation and design.</b> Directs the State Health Commissioner to develop a plan for the orderly reduction and elimination of evaluation and design services by the VDH for onsite sewage systems and private wells, as the VDH transitions to accepting only applications that are supported with private site evaluations and designs from a licensed professional engineer or licensed onsite soil evaluator; or, for any work subject to regulations governing private wells in the Commonwealth, by a licensed water well system provider.	Passed and approved by governor
119.	<a href="#">HB 611</a>	<b>Water and sewer utilities; subject to rules of SCC</b>	Passed and approved



		<b>regarding communications.</b> Makes water and sewer companies subject to the rules of the SCC regarding meetings and communications between SCC commissioners and any party, or between commissioners and staff, concerning any fact or issue arising out of a proceeding involving the regulation of rates, charges, services, or facilities of a utility. The bill requires a public utility to send notice of a proposed rate increase electronically to customers who receive bills electronically. Water or sewer utilities are required to publish notice of changes in rates, tolls, charges, rules, and regulations at least once in one or more newspapers in circulation in its franchise area. The measure bars the SCC from dispensing with notice requirements applicable to water and sewer companies. Companion bill is SB 85 (#125).	by the governor
120.	<a href="#">HB 648</a>	<b>Sewage system or nonconforming system; development of procedure for processing requests.</b> Provides for the State Health Commissioner to develop a procedure for processing requests to approve installed wastewater treatment works. The bill authorizes the Commissioner or his agent to approve a nonconforming treatment works under certain conditions and for an owner of real property to accept a voluntary upgrade as a condition for the approval of a nonconforming treatment works. The bill designates persons who may certify that the sewage treatment available for a building is safe, adequate, and proper.	Passed and approved by governor
121.	<a href="#">HB 745</a>	<b>Virginia Residential Property Disclosure Act; required disclosures, septic tanks.</b> Would have added to the mandatory disclosure for wastewater systems the provision that purchasers are advised to exercise whatever due diligence they deem necessary to determine the <i>costs associated with any pump-out of septic tanks, annual inspection, and repair.</i>	Failed in House General Laws
122.	<a href="#">HB 919</a>	<b>Water and sewer service; canceling service for nonpayment of charges; changes to waiting periods.</b> Shortens from two months to 30 days the period after which a locality providing water or sewer service may shut off service for unpaid charges; and requires that at least ten business days prior to ceasing the supply of water or sewage disposal services, the locality or person supplying such services shall provide the owner, lessee, or tenant with written notice of such cessation.	Passed and approved by governor
123.	<a href="#">HB 1080</a>	<b>Onsite sewage systems; designs for treatment works from professional engineers.</b> Would clarify that designs for treatment works from individuals licensed as professional engineers shall comply with horizontal setback requirements <i>applicable to public and private drinking water sources, lakes and other impounded waters, streams and rivers, shellfish waters, and karst-related surface features</i> in order to protect public health and the environment. The bill also would provide that effluent and groundwater sampling requirements of the Board of Health shall not apply to alternative onsite sewage systems sized at 1,000 gallons per day or smaller unless a Notice of Violation has been issued.	Carried over to 2017 in House Health, Welfare, and Institutions
124.	<a href="#">HB 1152</a>	<b>Local gas road improvement and Coalfield Economic Development Authority tax; use of revenues.</b> Authorizes localities that comprise the Virginia Coalfield Economic Development Authority to use a portion of the revenues	Passed approved by governor

		collected from the local gas road improvement and Virginia Coalfield Economic Development Authority tax for the repair or enhancement of existing water or sewer systems and lines; previously the law only authorized construction of new lines. Companion bill is SB 182 (#126).	
125.	<a href="#">SB 85</a>	<b>Water and sewer utilities; subject to rules of SCC regarding communications.</b> Companion bill is HB 611 (#119); please see that bill for summary.	Passed and approved by governor
126.	<a href="#">SB 182</a>	<b>Local gas road improvement and Coalfield Economic Development Authority tax; use of revenues.</b> Companion bill is HB 1152 (#124); please see that bill for summary.	Passed and approved by governor
127.	<a href="#">SB 407</a>	<b>Onsite sewage systems; conventional and alternative discharging systems, civil penalties.</b> Provides that any locality that has a record of the location of <i>conventional</i> onsite sewage systems and <i>alternative discharging</i> systems, and which meets certain other criteria, may adopt an ordinance establishing a uniform schedule of civil penalties for violations of specified provisions for the operation and maintenance of such systems; currently, the provisions apply only to <i>alternative</i> onsite sewage systems.	Passed and approved by governor
128.	<a href="#">SB 542</a>	<b>Delinquent sewer charges; lien on property, unlimited time.</b> Allows a locality that provides water or sewer service to a <i>property owner</i> to place a lien on the property receiving the service in the amount of the total number of months of delinquent charges, but restricts such a lien to the amount for three months of delinquent service in the case of a <i>tenant</i> . Previous law allowed liens in the amount of up to three months of delinquent water and sewer charges with no distinction between tenant or property owner.	Passed and approved by governor
129.	<a href="#">SB 547</a>	<b>Water and sewer service; certain liens for delinquent charges.</b> Would have provided that certain liens for the unpaid fees and charges of a lessee or tenant shall be placed only if the owner of the property has agreed (in writing at the time service is initiated) to be responsible for such unpaid fees and charges.	Failed in Senate Local Government

## WATERS OF THE STATE, PORTS AND HARBORS

130.	<a href="#">HB 186</a>	<b>Port-related tax credits; extends expiration date.</b> Extends from January 1, 2017, to January 1, 2022, the expiration date of the tax credits for international trade facilities, barge and rail usage, and port volume increases. See related HB 320 (#131).	Passed and approved by governor
131.	<a href="#">HB 320</a>	<b>Port-related tax credits; sunset extension.</b> Would have extended, from 2017 to 2020, the sunset date of the tax credits for international trade facilities, barge and rail usage, and port volume increases. See related HB 186 (#132).	Failed in House Finance
132.	<a href="#">HB 394</a>	<b>Port Opportunity Fund; transfers to Fund, exception.</b> Would have created an exception to an annually determined transfer to the Port Opportunity Fund for the case where the Secretary of Transportation determines that the transfer is not in the long-term interest of the Virginia Port Authority.	Failed in House Appropriations
133.	<a href="#">HB 438</a>	<b>Sediment-reduction credits; use by Municipal Separate</b>	Passed and approved

		<b>Storm Sewer Systems (MS4) permittees.</b> Authorizes Municipal Separate Storm Sewer System (MS4) permittees to acquire and use sediment-reduction credits as part of a compliance strategy for implementing the Chesapeake Bay Total Maximum Daily Load (TMDL). Currently, MS4s have similar authority for nitrogen and phosphorous; the bill adds a third pollutant, sediment. Companion bill is SB 292 (#146).	by governor
134.	<a href="#">HB 440</a>	<b>Impaired waters clean-up plan; progress report, annual submission (instead of semi-annual).</b> Reduces from semi-annual to annual the requirement in the Chesapeake Bay and Virginia Waters Clean-Up and Oversight Act that the Secretary of Natural Resources submit a progress report to several legislative oversight committees on the implementation of impaired waters clean-up plans.	Passed and approved by Governor
135.	<a href="#">HB 448</a>	<b>Nutrient offset credits; allows new and expanding wastewater discharge facilities to acquire.</b> Allows a new or expanding facility registered under the Watershed General Permit to acquire nutrient offset credits, on land located in the same tributary as the facility, on which best management practices have been implemented that would achieve reductions greater than those currently required by federal or state law or the Chesapeake Bay TMDL Watershed Implementation Plan. The bill also allows the acquisition of credits or the allocation of credits under the general permit for a period longer than the current five-year restriction, subject to the approval of the SWCB. Companion bill is SB 314 (#147).	Passed and approved by governor
136.	<a href="#">HB 479</a>	<b>Waterway pollution; public signage notice required at access points.</b> Would have required a locality—upon receipt of notification from the DEQ that a water-quality violation has occurred that poses an imminent threat to public health, safety, or welfare—to post signage at public access points to affected waters warning residents that the water body may be polluted.	Failed in House ACNR
137.	<a href="#">HB 787</a>	<b>Nutrient credits for construction activities; acquisition of credits from outside the watershed of the activity.</b> Would have allowed persons applying for a stormwater permit to acquire nutrient credits for construction activities from credit providers located anywhere within the Commonwealth; currently, the acquisition of such credits is generally limited to the same or adjacent eight-digit hydrologic code, as defined by the U.S. Geological Survey, where the construction is occurring.	Failed in House ACNR
138.	<a href="#">HB 813</a>	<b>Offshore waters and submerged lands; Commonwealth jurisdiction of three geographical miles.</b> Updates the description of the offshore waters over which the Commonwealth has jurisdiction. In place of a reference to certain seas claimed in the Virginia Constitution of 1776, the bill provides for jurisdiction for a distance of three geographical miles as determined by metes and bounds surveys. The bill also directs the Virginia secretary of natural resources to conduct surveys of the boundary and to request that the Virginia attorney general file the surveys in the U.S. Supreme Court.	Passed and approved by governor
139.	<a href="#">HB 977</a>	<b>Discharge of deleterious substance into state waters; notice required.</b> Would have changed from 24 hours to 12 hours the time within which any person who unlawfully	Failed in House

		discharges any deleterious substance into state waters must notify the SWCB, the DEQ, or the coordinator of emergency services of the affected locality; and would have changed the public notice requirement for the SWCB and DEQ to “as soon as practicable” after receipt of information about a discharge that may be detrimental to public health or may impair beneficial uses of state waters.	
140.	<a href="#">HB 1085</a>	<b>Stormwater Local Assistance Fund; established.</b> Would have established the Stormwater Local Assistance Fund to provide matching grants to local governments for the planning, design, and implementation of stormwater best management practices that address cost efficiency and commitments related to reducing water quality pollutant loads. [A Stormwater Local Assistance Fund is also part of HB 1250 (#17).]	Failed in House ACNR
141.	<a href="#">HB 1212</a>	<b>Chesapeake Bay Watershed Implementation Plan; excludes Chesapeake Bay coastal watershed from York or James basins.</b> Would have directed state agencies to remove the Chesapeake Bay coastal watershed from inclusion in the York or James River basins for purposes of the Chesapeake Bay Watershed Implementation Plan.	Failed in House ACNR (stricken from docket)
142.	<a href="#">HB 1320</a>	<b>Port Opportunity Fund; transfers to Fund.</b> Would have removed the requirement that, if the Virginia Port Authority's revenues exceed expenditures by at least five percent, the Authority transfer five percent of that year's revenues from terminal operations to the Port Opportunity Fund.	Failed in House Appropriations
143.	<a href="#">HB 1340</a>	<b>Stormwater management programs; DEQ to operate.</b> Would have required the DEQ to operate stormwater-management programs that regulate land-disturbing activities that disturb from 2,500 square feet to up to one acre in localities east of Interstate 95 that fall under the provisions of the Chesapeake Bay Preservation Act and that elect not to operate such a program. See similar HB 1250 (#17).	Reported from House ACNR; failed in House Appropriations
144.	<a href="#">SB 114</a>	<b>Plastic bag; tax imposed in Chesapeake Bay Watershed.</b> Would have imposed a five-cent per bag tax on plastic bags provided to customers by certain retailers in localities located wholly within the Chesapeake Bay Watershed and directed revenues to be used to support the Chesapeake Bay Watershed Implementation Plan. The bill would have allowed every retailer that collects the tax to retain one cent of tax.	Failed in Senate Finance
145.	<a href="#">SB 118</a>	<b>Groundwater conservation incentive program established.</b> Would have directed the SWCB to establish a voluntary groundwater conservation-incentive program, with incentives to groundwater permittees who agree to adopt measures that would (i) substantially reduce their reliance on ground water, (ii) transition to alternative water sources, or (iii) develop necessary infrastructure. The permittee would have had to agree to either a 50-percent reduction in the amount authorized by its permit or certificate that is in effect on January 1, 2015, or achieve a comparable level of conservation by alternate means.	Failed in Senate ACNR (stricken at request of Patron)
146.	<a href="#">SB 292</a>	<b>Sediment-reduction credits; use by Municipal Separate Storm Sewer Systems (MS4) permittees.</b> Companion bill is HB 438 (#133); please see that bill for summary.	Passed and approved by governor



147.	<a href="#">SB 314</a>	<b>Nutrient offset credits; allows new and expanding wastewater discharge facilities to acquire.</b> Companion bill is HB 448 (#135); please see that bill for summary.	
148.	<a href="#">SB 443</a>	<b>Nutrient credit certification; priority consideration.</b> Directs the SWCB to establish a system for priority consideration of an application for a land-conversion project, with a \$10,000 fee. The DEQ will be required to deny, approve, or approve with conditions, such a priority application ahead of normal applications within 30 days of receipt of the application. The bill also directs the SWCB to certify credits that are located in tributaries outside the Chesapeake Bay Watershed.	Passed and approved by governor
149.	<a href="#">SB 558</a>	<b>Dredging; TMDL credits, request for assignment of credits equivalent to street sweeping.</b> Would request that the Chesapeake Bay Program approve—as a creditable practice for pollutant removal—the dredging from a direct stormwater outfall to the main channel of a stream in the Chesapeake Bay Watershed, where such dredging and the disposal of dredged material are conducted in compliance with all applicable local, state, and federal laws and regulations; and to assign to such dredging total maximum daily load (TMDL) credits equivalent to those assigned to the removal of pollutants by street sweeping.	Carried over to 2017 in Senate ACNR
150.	<a href="#">SB 698</a>	<b>Dam Safety, Flood Prevention and Protection Assistance Fund; disbursement of moneys.</b> Would authorize the director of the DCR to disburse moneys from this fund in the form of grants to private entities that own dams in order to protect public safety and welfare. The grants can be used for the design, repair, and the safety modifications of dams identified in safety reports. The bill specifies homeowners' associations and planned unit developments among those private entities owning dams that are eligible to receive grants and loans from the fund.	Reported from Senate ACNR; carried over to 2017 in Senate Finance

## MISCELLANEOUS OTHER CATEGORIES

151.	<a href="#">SB 468</a>	<b>Local stormwater utility; public-private partnership; waiver of charges to railroad right-of-way.</b> ( <i>Listed under Railroads category.</i> ) Authorizes the creation of public-private stormwater management programs, to be known as stormwater management private property programs, and adds contracting for the construction and operation of stormwater management facilities to the list of activities for which a local stormwater utility is authorized to recover charges. As passed by the Senate, the bill also would have provided a waiver from local stormwater-utility fees for the part of railroad right-of-way that is covered by rail and ballast (large gravel). That waiver was rejected by the House, and the final bill did not include the waiver. (See <a href="#">Roanoke repels NS attempt to influence storm water standards—The railroad had asked for a legal amendment that would have exempted its railway beds</a> , <i>Roanoke Times</i> , 3/17/16.)	Passed and approved by governor
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## Some 2016 General Assembly Issues and Bills Covered by News Media

Following is a list of some of the topics in the 2016 General Assembly that received attention in the media, along with one or more bills related to the topic. Bill numbers are hyperlinked to their respective entry at the Virginia Legislative Information System Web site, and the numbers in parenthesis refer to Water Central's bill inventory table in this article; **please see either the online information or this article's inventory for details and fates** of the bills mentioned.

**Media Sources** (each *issue* listed, but not necessarily each *bill*, was mentioned by one or more of the following sources): *Augusta Free Press*; *Bay Journal*; *Bristol Herald Courier*; *Charlottesville Daily Progress*; *Fredericksburg Free Lance-Star*; *Lynchburg News & Advance*; *Richmond Times-Dispatch*; *Roanoke Times*; *Virginian-Pilot*; WAVY TV-Norfolk; WTKR TV-Hampton Roads, 12/9/15; WTVR TV-Richmond; WVIR TV-Charlottesville.

### BUDGET

**Agricultural Best Management Practices Cost-share Funds** - \$61.7 million for agricultural BMPs and technical assistance for the upcoming two years.

**Bond Package** - \$2.1 billion package (in bills separate from the Budget Bills), for higher education research and development, the Port of Virginia, Virginia state parks, veterans care, corrections, and wastewater-treatment infrastructure to support Chesapeake Bay restoration goals.

### CLIMATE CHANGE/CARBON REGULATION

[HB 2](#) (#8) and [SB 21](#) (#19) – regarding Virginia's implementation of the U.S. EPA's Clean Power Plan.

[HB 351](#) (#37) and [SB 571](#) (#52) – requiring Virginia to develop a carbon-trading program, join the Regional Greenhouse Gas Initiative (RGGI, an existing interstate carbon-trading organization), and create a revolving fund for adaptation efforts to combat sea level rise and recurrent flooding.

[SB 282](#) (#64) - establishing the Virginia Shoreline Resiliency Fund.

### EROSION AND SEDIMENT CONTROL

[SB 726](#) (#31) – requiring project-specific erosion/sediment plans for utility projects that disturb 50 or more acres.

### GROUNDWATER

[SB 118](#) (#145) - voluntary groundwater conservation program.

### FISH AND FISHERIES

[HB 150](#) (#54) – VMRC regulation of the Menhaden fishery without having to get General Assembly approval.

[SB 254](#) (#62) and [SB 397](#) (#66) – regarding general oyster grounds in the Lynnhaven River and its tributaries.

### INVASIVE SPECIES

[HB 137](#) (#70) – regarding control of feral hogs in False Cape State Park and Back Bay National Wildlife Refuge.

### MINING/COAL TAX CREDIT

[HB 298](#) (#91) and [SB 44](#) (#93) - extending sunset date of the coalfield employment enhancement tax credit through 2022 and limiting the aggregate amount of credits to \$7.5 million annually.

### NATURAL GAS PIPELINES

[HB 1118](#) (#104) - repealing the 2004 Virginia law that allows interstate natural gas companies to enter upon property to make surveys without the owner consent.

[HB 1261](#) (#108) - authorizing the SCC to seek authority to implement the safety inspection provisions of the federal Natural Gas Pipeline Safety Act of 1968.

### STORMWATER MANAGEMENT

[HB 438](#) (#133) and [SB 292](#) (#146) - authorizing acquisition of sediment-reduction credits by Municipal Separate Storm Sewer Systems (MS4) permittees as part of a compliance strategy for implementing the Chesapeake Bay TMDL.

[HB 1250](#) (#17) and [SB 673](#) (#28) - **Virginia Erosion and Stormwater Management Act**, regarding state-level and local programs and funding relating to soil erosion and stormwater management.

[SB 468](#) (#151) – regarding local public-private stormwater-management programs.

### WASTE MANAGEMENT

#### Coal Ash

[SB 537](#) (#26) - regarding the closure of surface impoundments of coal combustion by-products and landfilling of the materials.

#### Industrial Sludge

[HB 17](#) (#111) regarding land application of industrial waste or sewage sludge.

## NOTICES

If you would like to receive **regular e-mail notifications** about meetings, reports, and other items related to water quality and water monitoring, you may do so by joining the **Virginia Water Monitoring Council**; contact Jane Walker at (540) 231-4159 or [janewalk@vt.edu](mailto:janewalk@vt.edu).

For an online list of Virginia water-related **government meetings** (updated weekly), please see the Virginia Water Central News Grouper posts at <https://vawatercentralnewsgrouper.wordpress.com/?s=Virginia+Water-related+Government+Meetings>.

For an online list of Virginia water-related **conferences and other events** (updated at least monthly), please see the Virginia Water Central News Grouper's "Quick Guide to Virginia Water Events," at <http://vawatercentralnewsgrouper.wordpress.com/?s=Quick+Guide>.

For an online list of water-related **conferences and meetings outside of Virginia** (updated quarterly), please see the Virginia Water Central News Grouper's "Water Conference Sampler from around the United States and Elsewhere," at <http://vawatercentralnewsgrouper.wordpress.com/?s=Water+Conference+Sampler>.

All Web sites listed in this section were functional as of 5/23/16.

### Microplastics in the Chesapeake Bay and Many Other Aquatic Systems

On April 18, 2016, the Chesapeake Bay Program's Scientific and Technical Advisory Committee published "**Technical Review of Microbeads/Microplastics in the Chesapeake Bay.**" The 27-page report (STAC Publication 16-002) is available online at [http://www.chesapeake.org/stac/stac\\_pubs.php](http://www.chesapeake.org/stac/stac_pubs.php). Following is an excerpt from the report's Executive Summary: "Recent estimates indicate that there are trillions of pieces of plastic floating at or near the surface of the world's oceans, and that the majority of this pollution is microplastic (less than 5 mm in size). Like larger items of plastic debris, microplastic has been reported in nearly all aquatic habitats, from the surface to the depths of every major open ocean and in freshwater lakes and rivers. The small size of microplastic makes it bioavailable to a wide range of species of aquatic animals, across nearly all sizes and trophic levels. Recently, one source of microplastic debris has received much attention in the media and from policy makers: synthetic plastic microbeads. This review panel was originally tasked to write a report describing the scientific evidence regarding plastic microbeads as it relates to microplastic contamination in general and in the Chesapeake Bay in particular. In the interim, federal legislation to ban microbeads, the Microbead-Free Waters Act, was signed by President Obama on December 28, 2015. While laudable in its intent, the Act leaves much to be desired for microplastic mitigation. The Microbead-Free Waters Act (i) does not mitigate all sources of microbeads to aquatic habitats (i.e., only applies to rinse-off personal care products), and (ii) is restrictive when it comes to potential innovative technological solutions (i.e., may prevent use of any new types of plastic microbeads in some applications, even if they are environmentally benign). Accordingly, future legislation and regulation, whether concerning microbeads or other sources of microplastics, should more carefully address these issues. Due to the original tasking, this report emphasizes microbeads. However, because microbeads are not the only source of microplastic contaminating local habitats, this report's scope has been broadened to include information regarding microplastic in general."

### Trees in Virginia Beach

In early May 2016, the City of Virginia Beach released "**How Do Trees Benefit Virginia Beach? - State of the Urban Forest 2016/2017.**" The eight-page asserts that currently an estimated 3.2 million trees in Virginia Beach provide over \$263 million annually in five areas of benefits: stormwater-runoff reduction, energy conservation, air-quality improvement, property value, and carbon dioxide reduction. The report is available online at <http://www.vbgov.com/urbanforest>, or phone the City at (757) 385-3111.

### Fishes of Fairfax County

A "**Fishes of Fairfax County**" poster is available from the Fairfax County Department of Public Works and Environmental Services/Stormwater Planning Division. The poster, sized to print 35 inches long by 19.5 inches high, has color photos of 60 fish species (native and non-native) found in the county; it also identifies each species' fish family. The poster is available online at [http://www.fairfaxcounty.gov/dpwes/stormwater/fish/fishes\\_of\\_fx.htm](http://www.fairfaxcounty.gov/dpwes/stormwater/fish/fishes_of_fx.htm), or you may request a hard copy by contacting the Stormwater Planning Division by phone at (703) 324-5500, TTY 711; or e-mailing the Division via the Web site listed.

## Bacteria-monitoring Guide Published in May 2016 by Center for Watershed Protection

In May 2016, the non-profit Center for Watershed Protection (headquartered in Ellicott City, Md., and with an office in Charlottesville, Va.; online at <http://www.cwp.org/>) announced publication of *Safe Waters, Healthy Waters: A Guide for Citizen Groups on Bacteria Monitoring in Local Waterways*. The 54-page guide is designed to help citizen water-monitoring groups identify water areas with high bacteria, identify potential sources, and communicate findings to the public. According to the Center's May 23, 2016, news release (online at <http://www.cwp.org/wp-content/uploads/2016/05/Safe-Waters-Press-Release-Final.pdf>), the guide "provides step-by-step instructions to create a customized bacteria monitoring program, methods to investigate potential pollutant sources, and resources for putting collected data to use. It focuses especially on human sewage sources and monitoring techniques that are simple, reliable and low-cost." The guide is available (in PDF format) online at <http://www.cwp.org/wp-content/uploads/2016/05/SAFE-WATERS-Guide-Final.pdf>. For more information, contact Laurel Williamson at the Center's Charlottesville office, email: [lw@cwp.org](mailto:lw@cwp.org); or phone the Center's main office at (410) 461-8323.

## March 2016 Daily Press Update on Intersex in Bass in the Shenandoah River and Other Chesapeake Tributaries

"Sexual oddities plague bass in Chesapeake Bay tributaries," by Tamara Dietrich in the March 8, 2016, edition of [Newport News] *Daily Press*, gives an update on the occurrence of intersex conditions in Smallmouth Bass in the Shenandoah River, the Potomac River, the upper James River watershed, and other waterways in the Chesapeake Bay watershed. Intersex refers to the existence of male and female characteristics within a single individual fish. Higher than normal occurrences of the condition in bass in Bay tributaries, their possible links to various water contaminants, and the implications of the condition for fish populations have been under study by scientists with the U.S. Geological Survey and other agencies since the early 2000s, when high rates of the condition showed up in dead fish examined as part of fish kills in the Shenandoah/Potomac basin. The article is available online at <http://www.dailypress.com/news/science/dp-nws-sex-change-smallmouth-bass-20160308-story.html> (as of 3/21/16), or contact the newspaper at (757) 247-4600 or [customerservice@dailypress.com](mailto:customerservice@dailypress.com).

## A Brief Look at the Long History of Soil and Water Conservation in Northern Virginia

In 2015, the Northern Virginia Soil and Water Conservation District (SWCD), located in Fairfax, celebrated its 70<sup>th</sup> anniversary of responding to northern Virginia's various soil and water issues, particularly those caused by the area's widespread and intensive growth and development over the past several decades. "70 Years of Conservation Leadership," in the Fall 2015 issue of the District's newsletter, *Conservation Currents*, takes a brief look back at the history of the District, which originally served not only Fairfax County but also Loudoun and Prince William counties, both of which established their own SWCDs in 1971. The article is available online at <http://www.fairfaxcounty.gov/nvswcd/newsletter/seventy-years-conservation.htm>; or contact the District at 12055 Government Center Parkway, Suite 905, Fairfax, VA 22035; phone (703) 324-1460, TTY 711; e-mail: [conservationdistrict@fairfaxcounty.gov](mailto:conservationdistrict@fairfaxcounty.gov).

## Past and Present of Oystering in the Chesapeake Bay

"Mud, Shuck, and Spat," by Andrew David Thayer, in *Hakai Magazine* (Victoria, British Columbia, Canada), 3/15/16, offers information on the history of oystering in the Chesapeake Bay (including the official end of Virginia's and Maryland's Oyster Wars with the Potomac River Compact of 1958); problems that developed in the industry in the 20<sup>th</sup> Century; recent efforts and conflicts over restoration; and an account of developments at the February 18-19, 2016, Chesapeake Bay Oyster Summit, held in Fredericksburg. The article is available online at <http://www.hakaimagazine.com/article-short/mud-shuck-and-spat>. For more information on the summit, including access to the presentations, visit the Chesapeake Bay Program Web site at <http://www.chesapeakebay.net/calendar/event/23465/>. More information on the Potomac River Compact is available online at [https://ballotpedia.org/Potomac\\_River\\_Compact\\_of\\_1958](https://ballotpedia.org/Potomac_River_Compact_of_1958), or <http://ssl.csg.org/compactlaws/potomacriverof1958.html>. And for an audio take on the cultural and biological importance of Chesapeake Bay oysters, have a listen to Virginia Water Radio Episode 279 (week of 8-24-15; 4 min./23 sec.), online at <http://www.virginiawaterradio.org/2015/08/episode-279-8-24-15-oysters-nitrogen.html>.



## An Introduction to Living Shorelines

“Reshaping the Chesapeake Bay, one living shoreline at a time,” by Gabriel Popkin, in *The Washington Post*, 3/14/16, gives an introduction to the history and growth in the Chesapeake region of the practice of reducing shoreline erosion by using “living shorelines”—areas of living marsh plants and other biological material, instead of, or in addition to, traditional hard structures. The article is available online at [https://www.washingtonpost.com/national/health-science/reshaping-the-chesapeake-bay-one-living-shoreline-at-a-time/2016/03/14/9c223a4c-c51d-11e5-8965-0607e0e265ce\\_story.html](https://www.washingtonpost.com/national/health-science/reshaping-the-chesapeake-bay-one-living-shoreline-at-a-time/2016/03/14/9c223a4c-c51d-11e5-8965-0607e0e265ce_story.html), or contact the *Post*’s reprint contractor, PARS, at 253 West 35th Street-7th Floor, New York, NY 10001; Email: [info@parsintl.com](mailto:info@parsintl.com); phone (212) 221-9595. More information about living shorelines is available from the National Oceanic and Atmospheric Administration (NOAA), online at <http://www.habitat.noaa.gov/restoration/techniques/livingshorelines.html>; the Virginia Institute of Marine Science (VIMS) Center for Coastal Resources Management, online at <http://ccrm.vims.edu/livingshorelines/>; and many other organizations.

## Happy (Belated) 75<sup>th</sup> Anniversary to the Virginia Institute of Marine Science

In 2015, the Virginia Institute of Marine Science, or VIMS, celebrated its 75<sup>th</sup> anniversary. VIMS started out in 1940 as the Virginia Fisheries Laboratory in Yorktown, moved to its present location in Gloucester Point in 1950, and took on its current name in 1962. According to the VIMS Web site, the Institute “has a three-part mission to conduct interdisciplinary research in coastal ocean and estuarine science, educate students and citizens, and provide advisory service to policy makers, industry, and the public. VIMS provides these services to Virginia, the nation, and the world. The School of Marine Science (SMS) at VIMS is the graduate school in marine science for the College of William & Mary. Chartered in 1940, VIMS is currently among the largest marine research and education centers in the United States.” The VIMS Web site on the anniversary is <http://75th.vims.edu/>, and an overview of the anniversary is available in “VIMS Begins Yearlong Celebration of 75th Anniversary,” *Williamsburg Yorktown (Va.) Daily*, 1/22/15, online at <http://wydaily.com/2015/01/22/vims-begins-yearlong-celebration-of-75th-anniversary?cat=localnews/>. The main VIMS Web site is <http://www.vims.edu/>, and you can contact the Institute at P. O. Box 1346, Gloucester Point, VA 23062-1346; phone (804) 684-7000.

## Water Resources Issues for Native Americans Explored in July 2015 *Water Resources Impact*

“First Peoples and Water” is the theme of the July 2015 issue of *Water Resources Impact*, the newsletter of the American Water Resources Association (AWRA), which is headquartered in Middleburg, Va. The articles focus on the special issues of water history, rights, and use by Native American tribes and on lands owned by those tribes. The articles focus more on issues in the western United States, but they nevertheless provide interesting and valuable background relevant to tribes throughout the country. The publication is available online at <http://www.awra.org/impact/>, or contact AWRA at P.O. Box 1626, Middleburg, VA 20118-1626; (540) 687-8390; or [info@awra.org](mailto:info@awra.org).

## PBS NewsHour Story on Invasive Crayfish in Oregon’s Crater Lake

“Boom of invasive crayfish threaten species in Oregon’s Crater Lake,” broadcast on the Public Broadcasting System’s (PBS) “NewsHour” on January 2, 2016, explores the impacts of the invasive Signal Crayfish (*Pacifastacus leniusculus*) on the aquatic ecosystem in Crater Lake in Oregon, particularly the effects on the rare Mazama Newt (*Taricha granulosa mazamae*), an amphibian found only in Crater Lake. The story provides an informative case study of how invasive aquatic species get introduced and become established and problematic in new water bodies. The 5 minute/30 second video report is available online at <http://www.pbs.org/newshour/bb/boom-of-invasive-crayfish-threaten-species-in-oregons-crater-lake/>. More information on the Mazama Newt is available from the National Park Service online at <http://www.nps.gov/crla/learn/nature/craterlakenewt.htm>. More information on the Signal Crayfish is available from the U.S. Fish and Wildlife Service online (as PDF) at <http://www.fws.gov/fisheries/ANS/erss/highrisk/Pacifastacus-leniusculus-ERSS-revision-June2015.pdf>.

## Gulf of Mexico Deepwater Horizon Restoration Projects Database and Map

As of May 2016, over six years had passed since the April 20, 2010, Deepwater Horizon Gulf of Mexico oil rig explosion, fire, and sinking that led to a three-month release of millions of barrels of oil that contaminated some 1000 miles of coastlines of Texas, Louisiana, Mississippi, Alabama, and Florida. Billions of dollars have been committed to current and future efforts to try to restore the Gulf Coast areas and organisms that were affected by the spill. The **Environmental Law Institute (ELI)** provides an online database and map of Gulf restoration projects related to the 2010 spill. The map and database are available online at <http://eli-ocean.org/gulf/restoration-projects/>; an overview of Gulf recovery processes and funding sources is available at <http://eli-ocean.org/gulf/intro-gulf-recovery/>. For more information, contact ELI at 1730 M Street NW, Washington, DC 20036; (202) 939-3800; or [law@eli.org](mailto:law@eli.org).

## Sustainable Sites Initiative for Rating Landscape Sustainability

On June 10, 2015, Green Business Certification, Inc. (GBCI) released the Sustainable Sites Initiative (SITES) system for rating the sustainability of landscape-development designs and landscape-management practices. The SITES Web site defines a “sustainable site” as “a healthy functioning landscape that provides ecosystem services to a diverse group of site users,” and “ecosystem services” are defined as “goods and services of direct or indirect benefit to humans that are produced by ecosystem processes that involve the interactions of living elements, such as vegetation and soil organisms, and non-living elements such as bedrock, water, and air.” More information about SITES is available online at <http://www.sustainablesites.org/>. For the role of Virginia Tech Associate Professor Susan Day (Department of Forest Resources and Environmental Conservation) in helping develop SITES guidelines for soil management, see “Virginia Tech professor helps develop new landscape sustainability ratings,” by Tonia Moxley, *Roanoke Times*, 6/19/15, online at [http://www.roanoke.com/news/education/higher\\_education/virginia\\_tech/virginia-tech-professor-helps-develop-new-landscape-sustainability-ratings/article\\_45c2ee02-f508-5bdb-a35c-0ead4b5cfef7.html](http://www.roanoke.com/news/education/higher_education/virginia_tech/virginia-tech-professor-helps-develop-new-landscape-sustainability-ratings/article_45c2ee02-f508-5bdb-a35c-0ead4b5cfef7.html).

## “State of the Trout” Report Released by Trout Unlimited in June 2015

On June 23, 2015, Trout Unlimited released “The State of the Trout,” a 80-page report on the status of 28 native trout species and their habitats in 38 states within 10 large “ecoregions”; those species’ and habitats’ outlook in response to impacts from land uses and development, water use, water pollution, invasive species, fishing, and climate change; and the results of various protection and restoration efforts. In Virginia, the native species is the Brook Trout; that species status in Virginia is discussed in the Mid-Atlantic and Southeast ecoregion sections. The organization’s 6/23/15 news release on the report is available online at <http://www.tu.org/press-releases/tu-unveils-state-of-the-trout-report>, and the report is available online at <http://www.tu.org/stateofthetrout>; or contact Trout Unlimited at 1777 N. Kent Street Suite 100, Arlington, VA 22209; phone (800) 834-2419.

## Water-Energy-Food Nexus Analysis Tool and Other Information Sources

In 2013, researchers at Texas A&M University, Purdue University in Indiana, and the Persian Gulf country of Qatar developed **WEF Nexus 2.0**, a computer-based modeling tool of analyzing how changes in any one of energy use, agriculture, or water use within a region can affect the other two. The modeling tool was one of the first of its kind to be developed, but others now exist, according to Dr. Rabi Mohtar, the lead researcher on the project at Texas A&M. The tool is available online at <http://www.wefnexus tool.org>. For more information, see “Quantifying Connections” in the Summer 2015 issue of Texas H2O, from the Texas Water Resources Institute, located at Texas A&M, available online at <http://twri.tamu.edu/publications/txh2o/summer-2015/quantifying-connections/>; or contact the Institute at 2260 TAMU, College Station, TX 77843-2260; phone (979) 845-1851; e-mail: [twri@tamu.edu](mailto:twri@tamu.edu).

## Also Out There...

(Brief descriptions of some interesting articles)

• **“Technology to Make Clean Energy from Coal Is Stumbling in Practice,”** by Ian Austen in *The New York Times*, 3/29/16, reports on the progress and setbacks so far of implementing carbon capture and storage at the Boundary Dam Power Station in Saskatchewan, Canada. Owned by SaskPower, the Boundary Dam station was the first commercial-scale attempt at carbon capture and storage when the station opened in 2014, according to the *Times* article. The article is online at

<http://www.nytimes.com/2016/03/30/business/energy-environment/technology-to-make-clean-energy-from-coal-is-stumbling-in-practice.html>; or contact *The New York Times* Back Copy Department, P.O. Box 8042 Davenport, IA 52808-8042; e-mail: [customercare@nytimes.com](mailto:customercare@nytimes.com). Information from SaskPower on the Boundary Dam carbon capture project is available online at <http://www.saskpower.com/our-power-future/innovating-today-to-power-tomorrow/capturing-carbon-and-the-worlds-attention/>.

•“It’s prime time for ‘muskie madness,’” by Bill Cochran, *Roanoke Times*, 12/15/15. The article by veteran outdoors writer Bill Cochran colorfully describes muskies and muskie fishing in Virginia, particularly in the New River—which Mr. Cochran describes as the center of muskie fishing in the Commonwealth—as along with the James and Shenandoah rivers. The article is online at [http://www.roanoke.com/sports/outdoors/cochran-muskie-madness-describes-the-fish-and-fisherman/article\\_f8d54f56-5dc9-5e95-ae2c-ee04d47e7999.html](http://www.roanoke.com/sports/outdoors/cochran-muskie-madness-describes-the-fish-and-fisherman/article_f8d54f56-5dc9-5e95-ae2c-ee04d47e7999.html), or contact the newspaper at 201 West Campbell Avenue, Roanoke, VA 24011; phone (800) 346-1234. “Muskie” is the nickname for the Muskellunge (*Esox masquinongy*), a member of the pike family of fishes. According to the Virginia Department of Game and Inland Fisheries (at <http://www.dgif.virginia.gov/wildlife/fish/details.asp?fish=010365>), muskies are not believed to be native to Virginia but have become established in the Clinch, Holston, James, New, and Shenandoah rivers, where they prefer “long pool areas of rivers near fallen trees and other submerged structures,” as well as several impoundments with lots of vegetation, such as Smith Mountain Lake and Claytor Lake.

## AT THE WATER CENTER

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

### Water Center Internship Program Started in Spring 2016

In December 2016, the Water Center selected Virginia Tech senior **Taylor Richmond** for its new semester-long, paid internship, which Taylor served in the spring 2016 semester. The internship Taylor with opportunities to learn about national and state-level water policy, laboratory techniques, field research being conducted by graduate students working under Water Center faculty, and various methods of communicating water information to different audiences. Part of her work was to assist with the General Assembly water-bill inventory that appears in this newsletter issue. Taylor graduated from Virginia Tech in May 2016 with a B.S. degree in Forest Resources and Environmental Conservation, majoring in Environmental Resources Management. Taylor’s article describing her internship will appear in the next issue of *Virginia Water Central Newsletter*. For a Virginia Water Radio episode written by Taylor and introducing the Water Center’s internship, have a listen (for 3 minutes, 33 seconds) online at <http://www.virginiawaterradio.org/2016/01/episode-301-2-1-16-new-student.html>.

The Water Center plans to continue offering one internship per year.



Taylor Richmond, the Virginia Water Resources Research Center’s Spring 2016 intern.

## Virginia Water Central Newsletter

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*Virginia Water Central Newsletter* is available online at <http://www.vwrrc.vt.edu/water-central-news/>. If you would like an e-mail notification when new issues are posted, please notify us at (540) 231-5463 or [araflo@vt.edu](mailto:araflo@vt.edu). Also, please let us know if your e-mail address has changed or if you no longer wish to receive the e-mail notification.

Thank you!

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