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ELPR SYMPOSIUM 2015

WHAT'S IN YOUR WATER

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What's In Your Water?

A Discussion of Threats to Virginia's Water Quality

Symposium: Spring 2015

Presented by William and Mary Law School's
Environmental Law and Policy Review
Virginia Coastal Policy Clinic

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What's In Your Water? A Discussion of Threats to Virginia's Water Quality highlighted some of the critical environmental, legal, and policy issues facing the quality and health of Virginia's waters. In spite of much progress from years of pollution prevention and pollution management, the health of the waters of Virginia remain under threat from traditional pollutants such as PCBs and pharmaceuticals and from new practices such as hydraulic fracturing and offshore oil drilling. These threats raise questions about not only water quality, but also public health, economic development, and quality of life. What's In Your Water? brought together The Honorable Robert Wittman, US Representative from District 1, and The Honorable Brian Moran, Virginia Secretary of Public Safety and Homeland Security, along with a host of governmental (both federal and state), academic, industry, and NGO leaders and experts from across Virginia to address these issues.

Congratulations to all on an outstanding educational event!

27.03.2015 - @VACOASTALPOLICY

Welcome to the Environmental Law & Policy Review Symposium ""What's in Your Water? A Discussion of Threats to Virginia's Water Quality"

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Follow along with us today at the [@williamandmary](#) Environmental Law & Policy Review Symposium: "What's In Your Water?" [#VCPC](#) [#WIYW](#)

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We have a very exciting event put together today and tomorrow at [@WMLawSchool](#), featuring Congressman [@RobWittman](#) [#VCPC](#) [#WIYW](#)

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Check out the program for the symposium here: [law.wm.edu/academics/inte...](#) [#VCPC](#) [#WIYW](#)

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The Dean of [@WMLawSchool](#), [@davisonmdouglas](#) opens up the event. [#VCPC](#) [#WIYW](#)

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ELPR is the 9th-most cited Environmental Law Journal, and 1st in Energy Law. [#VCPC](#) [#WIYW](#)

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*@davisonmdouglas discusses the importance of water quality in our rivers in Virginia
#VCPC #WIYW*

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ELPR is celebrating its 40th anniversary with today's symposium. #VCPC #WIYW

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Associate Dean Ron Rosenberg takes the podium. #VCPC #WIYW

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We are honored to have @RobWittman speak at our event today @WMLawSchool #VCPC #WIYW

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Dean Rosenberg commends @RobWittman on his partnership with @MarkWarnerVA on supporting the Chesapeake Bay #VCPC #WIYW



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*@RobWittman at @WMLawSchool ELPR Symposium #VCPC #WIYW
pic.twitter.com/nOLXlpTbCM*

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@RobWittman opens his talk with his concerns about water quality issues in the Chesapeake Bay #VCPC #WIYW

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Our health from seafood is an important indicator of water quality in the Chesapeake Bay @RobWittman #VCPC #WIYW

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@RobWittman discusses his involvement in the groundbreaking legislation, Chesapeake Bay Accountability and Recovery Act #VCPC #WIYW

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@RobWittman's bill is targeted at understanding where the money goes, using adaptive management, and removing bias in evaluation #VCPC #WIYW

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All of this helps ensure that the efforts to improve the Bay are as effective as they can be. #VCPC #WIYW

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@RobWittman worked with @MarkWarnerVA and @timkaine on the bill, who are not strangers at @WMLawSchool #VCPC #WIYW

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Independent evaluation is important to make sure changes are data-driven, to improve efficiency and effectiveness. @RobWittman #VCPC #WIYW

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@RobWittman and @MarkWarnerVA are looking to @VIMS_News to be this lead institution for independent evaluation of accountability #VCPC #WIYW

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Congress and other agencies need to practice adaptive management to target efforts for effectiveness. @RobWittman #VCPC #WIYW

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@RobWittman looks optimistically at Bay recovery efforts, owing to its resistance from human impacts and ability to recover. #VCPC #WIYW

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Evaluations through the bill will cycle every 18 months. @RobWittman notes this as a Herculean task. #VCPC #WIYW

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@RobWittman is going to be working to make sure that Congress allocates a portion of the budget to the independent evaluator #VCPC #WIYW

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*"I believe that we can get there." -
-@RobWittman on a healthy Bay, from top to bottom. #VCPC #WIYW*

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The floor is open for questions. #VCPC #WIYW

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@RobWittman wants to focus on doing the best job we can with the laws we have. #VCPC #WIYW

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"You have to adapt." --@RobWittman on climate change #VCPC #WIYW

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*Efficiency of energy and cleanliness of air may be a better discussion to have than mitigation concerning climate change.
@RobWittman #VCPC*

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TMDL milestones and @RobWittman's bill's accountability cycles will coincide. #VCPC #WIYW

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*There is a law in place that requires an audit of how money is being spent by the Department of Defense in the Bay by 2016
#VCPC #WIYW*

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@RobWittman speaks with the technical knowledge of a scientist but in lay terms. Truly inspiring for @WMLawSchool and #VCPC students. #WIYW

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"We've got to make sure we're building trust with our farmers, and with local governments." - @RobWittman #VCPC #WIYW

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@RobWittman looks to the trust built between the state government, farmers, and local governments to achieve nonpoint pollution progress.

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Thanks for the follow @selc_org!! Thank you for loaning us some of your staff to speak this weekend! #VCPC #WIYW

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Economic arguments can encourage nutrient reduction. @RobWittman #VCPC #WIYW

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Citizen involvement is a critical piece in getting the Bay where it needs to be. @RobWittman #VCPC #WIYW

27.03.2015 - @SELC_ORG

@VACoastalPolicy Of course! Good luck with the rest of your event.

27.03.2015 - @VACOASTALPOLICY

Thanks to @RobWittman for a great talk! #VCPC #WIYW

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Today's first panel is a discussion on Contaminants: PCBs, Mercury, Hormones, Pharmaceuticals, Household Products, and Toxics #VCPC #WIYW

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Panel speakers include Peter deFur, Scott Phillips, Jim Pletl, Mark Richards, and Noah Sachs, and is moderated by Rosemary Hambright #WIYW



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Rosemary Hambright is our first student moderator today. [@WMLawSchool](#) [#VCPC](#) [#WIYW](#) pic.twitter.com/sZ2I58kOS2

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The panel includes speakers from the [@USGS](#) and the [@VirginiaDEQ](#), as well as [@URLawSchool](#)'s Center for Environmental Studies [#VCPC](#) [#WIYW](#)

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You can also read about moderator Rosemary Hambright here: vcpc.blogs.wm.edu/2015/03/04/ros... [#VCPC](#) [#WIYW](#)

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First is Dr. Peter deFur, the President of Environmental Stewardship Concepts [#VCPC](#) [#WIYW](#)

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Dr. deFur is presenting "Emerging Contaminants in our Waterways" [#VCPC](#) [#WIYW](#)

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Contaminants in water, particularly antibiotics, drugs, and hormones, cause negative effects on the ecosystem. [#VCPC](#) [#WIYW](#)

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PCBs bioaccumulate in water organisms and effect them over long periods of time. [#VCPC](#) [#WIYW](#)

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People eating wildlife exposed to these chemicals can see harm to IQ, reproduction, and behavior. [#VCPC](#) [#WIYW](#)

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"What we don't know is clearly what is happening with us." Dr. deFur on biocontaminants. [#VCPC](#) [#WIYW](#)

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Peter deFur just finished his presentation. Up next is Scott Phillips from the [@USGS](#)! [#VCPC](#) [#WIYW](#)

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In addition to working for the [@USGS](#), Phillips is also the Chesapeake Bay Coordinator for the [@chesbayprogram](#) [#VCPC](#) [#WIYW](#)

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Phillips worked with @chesbayprogram in analyzing contaminants in the Chesapeake Bay. @USGS #VCPC #WIYW

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The extent of concentration for many emerging contaminants in the Chesapeake Bay are uncertain. @chesbayprogram @USGS #VCPC #WIYW

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Practically all Virginia waters in the Chesapeake Bay are contaminated with PCBs. #VCPC #WIYW

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Degradation products of DDT still cause issues in wild fowl egg thinning. @chesbayprogram @USGS #VCPC #WIYW

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Contaminants are very difficult to remove from waters. @chesbayprogram @USGS #VCPC #WIYW

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There are five statutory schemes that manage PCBs: TSCA, CWA, RCRA, CERCLA, CAA. @chesbayprogram @USGS #VCPC #WIYW

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There are many stakeholders and regulators in managing PCBs. The challenge is agreement and cooperation.

[@chesbayprogram](#) [@USGS](#) [#VCPC](#) [#WIYW](#)

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Scott Phillips just finished his presentation! Next is Jim Pletl, Director of Water Quality, Hampton Roads Sanitation District! [#VCPC](#) [#WIYW](#)

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Bacteria contamination is a huge problem in water supply in the US. [#VCPC](#) [#WIYW](#)

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Water quality criteria for viruses are going to emerge through [@EPA](#) in the next few years. [#VCPC](#) [#WIYW](#)

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Mercury, another primary water contaminant, is found in a number of products used by people every day. [#VCPC](#) [#WIYW](#)

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Parameters for which standards do not exist: pharmaceuticals, personal care products, nanomaterials, microbeads, viruses. [#VCPC](#) [#WIYW](#)



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Pictured: Jim Pletl and the Contaminants Panel. #VCPC #WIYW
pic.twitter.com/kSPgVdcr1Q

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"It's not whether or detect it or not, it's the dose, it's the exposure." --Jim Pletl, HRSD
[#VCPC #WIYW](#)

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Jim Pletl closes with the Mission and Vision for the HRSD. Next is Mark Richards, from the @VirginiaDEQ. #VCPC #WIYW

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Mark is speaking on PCBs. @VirginiaDEQ
[#VCPC #WIYW](#)



27.03.2015 - @JRAVIRGINIA

*RT @rvanews: Picture of the Day, by
Garritos Photography #rva
pic.twitter.com/CWlNK1dnB*

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*[@MonsantoCo](#) originally produced PCBs. It
was a while versatile substance. [@VirginiaDEQ](#)
[#VCPC](#) [#WIYW](#)*



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Student Moderator Rosemary Hambright soaking in the knowledge of the Contaminants Panel. @WMLawSchool #VCPC #WIYW pic.twitter.com/x80Dsr8tJr

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PCBs cause human health concerns through fish consumption, since the chemicals accumulate at low concentration and biomagnify. #VCPC #WIYW

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Jim is breaking down the complex TMDL process. @VirginiaDEQ #VCPC #WIYW

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Some statutes do not protect the environment from PCB contamination as well as we expect. @VirginiaDEQ #VCPC #WIYW

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Yellow dyes and paints are present in advertant uses of PCBs. @VirginiaDEQ #VCPC #WIYW

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Relatively high levels of PCBs are still permissible in certain statutory schemes. @VirginiaDEQ #VCPC #WIYW

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Mark Richards finishes his talk by suggesting several prospective PCB sources that could be targeted for contaminant reduction. #VCPC #WIYW

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Next is Noah Sachs, Esq., Director of the Robert R. Merhige Jr. Center for Environmental Studies at @URLawSchool! #VCPC #WIYW

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Professor Sachs will be discussing the risks and solutions for toxic chemicals and water. #VCPC #WIYW

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Virginia is the second highest discharger of toxic contaminants. @URLawSchool #VCPC #WIYW

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Almost every major river in Virginia has a fish consumption advisory. #VCPC #WIYW

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Toxic chemical storage near waterways can lead to more frequent contamination. There's a regulatory gap that needs to be closed. [#VCPC](#) [#WIYW](#)

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Virginia has dozens of tanks similar to the tanks that caused the terrible contamination in West Virginia, that can cause a similar crisis.

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We need annual inspections of tanks that can cause terrible chemical accidents. [@URLawSchool](#) [#VCPC](#) [#WIYW](#)

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There needs to be smarted siting and construction standards for the installment of new chemical tanks. [#VCPC](#) [#WIYW](#)

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There should also be mandatory spill and containment plans in place. [#VCPC](#) [#WIYW](#)

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SB 811 was just enacted in 2015 to set up a study commission on these issues. [@URLawSchool](#) [#VCPC](#) [#WIYW](#)

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Almost every month or two, there is an oil train explosion somewhere in the United States, including recent ones in WV and IL. #VCPC #WIYW

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Who benefits and who burdens from oil catastrophes? Localities take the burdens. @URLawSchool #VCPC #WIYW

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Professor Sachs would like to see county-by-county preparedness plans to respond to these train accidents. #VCPC #WIYW



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Striking image of the half mile evacuation zone in this area. @URLawSchool #VCPC #WIYW pic.twitter.com/zGofAxAiaJ

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As Professor Sachs finishes his presentation, the panel is now open for questions! #VCPC #WIYW

27.03.2015 - @VACOASTALPOLICY

Some natural protection for deep aquifers for drinking water exist. The shallow wells are the troubling issues. #VCPC #WIYW

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"No major environmental legislation has been passed by Congress in 20 years." - Noah Sachs @URLawSchool #VCPC #WIYW

27.03.2015 - @VACOASTALPOLICY

"We need smart regulations. . .to protect against emerging issues." -Professor Noah Sachs @URLawSchool #VCPC #WIYW

27.03.2015 - @VACOASTALPOLICY

"We need a national water program. . .it's all the same water." --Jim Pletl, HRSD #VCPC #WIYW

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Thanks to all of our panelists! We'll now take a 15-minute break, and return with David Paylor, Director of the @VirginiaDEQ #VCPC #WIYW



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*#VCPC Director Roy Hoagland introducing David Paylor, Director of @VirginiaDEQ
pic.twitter.com/BKcf9DBcYn*



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*"We take water for granted, and we shouldn't." -David Paylor, @VirginiaDEQ
pic.twitter.com/cMpXj9KU77*

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The water supply plan will look ahead to 2040 and identify potential water supply problems. @VirginiaDEQ #VCPC #WIYW

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Groundwater west of 95 is responsive to precipitation. East of 95 is not responsive to precipitation patterns. #VCPC #WIYW

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We've drained our aquifers, and groundwater management has become an issue that demands attention. #VCPC #WIYW

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50% of observed sea level rise is because of land subsidence. [#VCPC](#) [#WIYW](#)

27.03.2015 - @CHESBAYPROGRAM

48 percent of the [#Chesapeake](#) Bay's freshwater flows from its largest river, the Susquehanna. [#FunFactFriday](#)

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"We have grown up with way more water than we ever needed. Now that time's over." - David Paylor, Director of the [@VirginiaDEQ](#) [#VCPC](#) [#WIYW](#)

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David Paylor has opened the room up for questions. [@VirginiaDEQ](#) [#VCPC](#) [#WIYW](#)

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"The farther west you are, the less time you've got." The aquifer is shallower in the west than the east. -David Paylor [#VCPC](#) [#WIYW](#)

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Thanks to David Paylor for speaking with us today! [@VirginiaDEQ](#) [#VCPC](#) [#WIYW](#)

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Today's second panel will focus on Energy in Virginia: The Challenges of Coal Ash. [#VCPC](#) [#WIYW](#)



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Student Moderator Hannah Fish leading the Coal Ash Panel. @WMLawSchool #VCPC #WIYW pic.twitter.com/Lxoj8QhnQS

27.03.2015 - @VACOASTALPOLICY

Our panelists for the second panel include Cale Jaffe, @JLDaniels1234, and Cathy Taylor! #VCPC #WIYW

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These panelists are joining us from @selc_org, @uncc_, and @DomVAPower. #VCPC #WIYWT

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The moderator for the second panel is @WMLawSchool 2L Hannah Fish. Read more about her here: vcpc.blogs.wm.edu/2014/10/22/han... #VCPC #WIYW

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@JLDaniels1234 begins the panel's discussion by looking at the engineering of coal ash retainment. #VCPC #WIYW



27.03.2015 - @VACOASTALPOLICY

*@jldaniels1234 from @uncc_ speaking on coal ash. #VCPC #WIYW
pic.twitter.com/XlpGLoteHw*

27.03.2015 - @VACOASTALPOLICY

The amount of coal ash produced every year is comparable to the amount of garbage produced every year. #VCPC #WIYW

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Coal ash can be described as a construction material, as it could be used as a component of concrete. #VCPC #WIYW

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Coal flash tends to leach higher amounts than soil but less than garbage. @JLDaniels1234 @uncc_ #VCPC #WIYW

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"Dilution is not the solution to pollution, but it does help." - @JLDaniels1234 #VCPC #WIYW

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If you want to act quickly to improve water quality you need to understand the exposure pathway. @JLDaniels1234 @uncc_ #VCPC #WIYW

27.03.2015 - @VACOASTALPOLICY

@JLDaniels1234 from @uncc_ just finished up a great presentation. Up next is Cale Jaffe, from @selc_org! #VCPC #WIYW

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Coal ash is harmful to both human health and wildlife. #VCPC #WIYW

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The catastrophic spills are not the only issue to be concerned about. Contaminants can leach even without spills. #VCPC #WIYW

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Some sites without failure and catastrophe are leaking. This is common in the southeast. @selc_org #VCPC #WIYW

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Power plants use a lot of water, so they're built near waterways. This leads to coal ash ponds that leach into groundwater. #VCPC #WIYW

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That groundwater then combines with and contaminates surface water. #VCPC #WIYW

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Virginia has potential issues of coal ash leaching in Possum Point and Chesapeake. These are potential CWA violations. @selc_org #VCPC #WIYW



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Cale Jaffe, Senior Attorney and Director of Charlottesville Office, @selc_org #VCPC #WIYW pic.twitter.com/nXGfGLxi2H

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There is good news. Coal ash is being dredged and transferred to lined, dry landfills. @selc_org #VCPC #WIYW

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When power companies do the right thing - dredge materials out and remove contaminants - everybody wins. #VCPC #WIYW

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Thanks to Cale Jaffe for a great talk. Cathy Taylor, Director of Electronic Environmental Services at @DomVAPower has the podium #VCPC #WIYW



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Cathy Taylor, Director of Electric Environmental Services, @DomVAPower #VCPC #WIYW pic.twitter.com/94dbrMfo2f

27.03.2015 - @VAWATERCENTER

Virginia Water-related Government Meetings for Mar. 30-Apr. 13, 2015 wp.me/p1zFTt-2S5

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By 2017, we're going to reduce 323 megawatts of coal generation. @DomVAPower #VCPC #WIYW

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@DomVAPower's renewable energy portfolio includes solar, wind, hydro, and biomass production in states like VA #VCPC #WIYW

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Taylor discusses the difference between coal ash ponds and landfills. [@DomVAPower](#) [#VCPC](#) [#WIYW](#)

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[@DomVAPower](#) was proactive in assuring it did not have problems similar to Tennessee in 2008. [#VCPC](#) [#WIYW](#)

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[@DomVAPower](#) is evaluating its compliance with [@EPA CCR](#) rule. [#VCPC](#) [#WIYW](#)

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[@DomVAPower](#) plans to properly close the Bremo Power Station ash ponds in the near future. [#VCPC](#) [#WIYW](#)

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Cathy Taylor just finished her presentation, and now the panel is opened up for a question and answer period. [#VCPC](#) [#WIYW](#)

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[@JB_Kane](#) asked a question about air quality and dry coal ash landfills. Local air pollution is prevented by permit regulations. [#VCPC](#) [#WIYW](#)

27.03.2015 - @VACOASTALPOLICY

"The mere presence of arsenic and aluminum does not make it a problem." - [@JLDaniels1234](#) [#VCPC](#) [#WIYW](#)

27.03.2015 - @VACOASTALPOLICY

@DomVAPower and @selc_org litigate against each other--great to see collegiality among Ms. Taylor and Mr. Jaffe, especially as law students!

27.03.2015 - @VACOASTALPOLICY

In fact, @selc_org and @DomVAPower frequently work together on beneficial legislation, like solar! #VCPC #WIYW

27.03.2015 - @VACOASTALPOLICY

And with that final question, the second panel and first day of the ELPR "What's In Your Water?" symposium is over. #VCPC #WIYW

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Thanks to ELPR's Symposium Editor Kristen Clark for planning a fantastic first day of the symposium! #VCPC #WIYW

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And thanks to ELPR board members Jacob Testa and Jason Kane for live tweeting the event! #VCPC #WIYW

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The symposium continues tomorrow with The Honorable Brian Moran, panels on offshore oil, algae, the TMDL, fracking, and more! #VCPC #WIYW

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*Welcome to Day 2 of "What's In Your Water?"
Hosted by Virginia Coastal Policy Clinic and
Environmental Law & Policy Review
[@WMLawSchool](#)*

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*To follow along with today's speakers and
events, use the hashtags [#VCPC](#) and [#WIYW](#)*

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*We have a great day ahead featuring the
Honorable Brian Moran, Virginia Secretary of
Public Safety and Homeland Security. [#VCPC](#)
[#WIYW](#)*

28.03.2015 - @VACOASTALPOLICY

*If you are interested in seeing the schedule for
today, it is available here:
[law.wm.edu/academics/prog...](#) [#VCPC](#) [#WIYW](#)*

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*Associate Dean Ron Rosenberg is preparing to
kickoff today's section of the conference.
[#VCPC](#) [#WIYW](#)*

28.03.2015 - @UPPERJAMESRK

*Honored to discuss the risks to water quality
from [#oiltrains](#) to W&M Law this morning
[bit.ly/1GOUfaS](#) [@wmlawacs](#) [#RiverAtRisk](#)*

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*Yesterday, we had the honor of hosting
Congressman Wittman. [@RobWittman](#) [#VCPC](#)
[#WIYW](#)*

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Dean Rosenberg is introducing Secretary Moran. #VCPC #WIYW

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Secretary Moran's presentation is titled "Pursuing Resilience" #VCPC #WIYW

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Secretary Moran's appointment as Chief Resiliency Officer was announced at VCPC's Conference in December, vaseagrant.vims.edu/vcpc-adaptatio... #VCPC #WIYW



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*Pictured: Secretary Brian Moran, VA Secretary of Public Safety and Homeland Security #VCPC #WIYW
pic.twitter.com/0Sx1oMjvz*

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"We can't call it climate change, so we call it recurrent flooding." Secretary Moran [#VCPC](#) [#WIYW](#)

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[@VIMS_News](#) predicts one-and-a-half feet of sea level rise by 2050 [#VCPC](#) [#WIYW](#)

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You don't have to wait until 2050 to see sea level rise, just look at The Hague, Norfolk--if you can get there during a rain event. [#VCPC](#)

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Secretary Moran discusses the [#VCPC](#) Conference in December featuring [@timkaine](#) [#WIYW](#)

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Living shorelines, micro grids, making state government buildings more energy efficient. Steps being taken in Virginia. [#VCPC](#) [#WIYW](#)

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March 24, 2015, Virginia is the first state to receive U.S. Bureau of Ocean Energy Management funds for wind energy research. [#VCPC](#) [#WIYW](#)

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Virginia should get some of the \$1 billion HUD "National Disaster Resilience Competition" grant [#VCPC](#) [#WIYW](#)

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Virginia commits to using "best practices. . . To assist Virginia communities to better address flooding. . ." #VCPC #WIYW

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VCPC Student Question, "Based on the Dillon Rule, can localities address climate change or does it have to be the legislature?" #VCPC #WIYW

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Secretary Moran is optimistic about overcoming the challenges the Dillon Rule poses in recurrent flooding and climate change. #VCPC #WIYW

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State and Federal resources will be needed to help Norfolk #VCPC #WIYW

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Question posed concerning the role of the Commonwealth's federal facilities. #VCPC #WIYW

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Secretary Moran points out that it has been the warmest year on record--even with all of the snow #climatechange #VCPC #WIYW

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The amount of crude oil transported by trains has risen dramatically. Virginia has 3,394 miles of railroad tracks. #VCPC #WIYW

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Virginia's crude oil comes primarily from North Dakota. [#VCPC](#) [#WIYW](#)

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What is it about Bakken crude oil shipments that result in transportation disasters? [#VCPC](#) [#WIYW](#)

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Are you following along on Twitter? Tweet us a question and we'll try to ask it! [#VCPC](#) [#WIYW](#)

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In the past Bakken Crude incidents have been elsewhere. But the incidents in Boomer, WV & Lynchburg, VA were much closer to home [#VCPC](#) [#WIYW](#)

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"We dodged a bullet in Lynchburg. If the train had rolled the other way we would have had fatalities." Secretary Moran [#VCPC](#) [#WIYW](#)

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Bakken crude is more combustible than similar substances. They were using the recommended reinforced cars in the Lynchburg incident. [#VCPC](#)

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Pop quiz for law students: Because of interstate commerce, Virginia can do little when it comes to interstate oil shipments. [@WMLawSchool](#)

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Each tanker car carries just over 30,000 gallons of crude. [#VCPC](#) [#WIYW](#)

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[@USDOT](#) has made emergency orders and safety advisories to try to prevent disaster when oil shipment accidents occur. [#VCPC](#) [#WIYW](#)

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Emergency response issues include lack of information, capability, cooperation, training, and response. [#VCPC](#) [#WIYW](#)

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Question posed concerning the relation between the use of fossil fuels and climate change. [#VCPC](#) [#WIYW](#)

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The audience member describes it as a "contradiction." [#VCPC](#) [#WIYW](#)

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Moran: We're pursuing micro grids and renewables in balance with the use of fossil fuels. A "realistic approach." [#VCPC](#) [#WIYW](#)

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Moran: "Corporations have a financial incentive to maintain their tracks...Tragedies hurt them in a number of ways." [#VCPC](#) [#WIYW](#)

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Train corporations share the same concern for human and product as we do. [#VCPC](#) [#WIYW](#)

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[#VCPC](#) student Matt Hubbard asks: What are your goals for the Railroad Safety Taskforce? [@WMLawSchool](#) [#VCPC](#) [#WIYW](#)

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Moran: Goals include making sure train cars are properly labeled with contents, and knowing where it is at any time. [#VCPC](#) [#WIYW](#)

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Moran: Crude oil trains could be targets for terrorism. We try to balance transparency and homeland security. [#VCPC](#) [#WIYW](#)

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Thank you to Secretary Moran for coming to speak with us today at [@WMLawSchool](#)

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Panel starting, "Oil: Transportation and Offshore Drilling." Moderated by law student Garrett Gee [#VCPC](#) [#WIYW](#)

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Panel members: Pat Calvert [@UpperJamesRK](#), Massoud Tahamtani, Dawone Robinson [@dawonerobinson](#), Michael Ward [@EnergyTomorrow](#) [#VCPC](#) [#WIYW](#)

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Gee was a #VCPC student in the Fall. His experiences and research primarily include train safety. #VCPC #WIYW @WMLawSchool

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First up, Pat Calvert the Upper James Riverkeeper. @UpperJamesRK #VCPC #WIYW



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*Pat Calvert, @UpperJamesRK #VCPC
#WIYW pic.twitter.com/Gp8VgKTILL*

28.03.2015 - @VACOASTALPOLICY

James River watershed is home to 1 in 3 Virginians. #VCPC #WIYW

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*The James River caught on fire in Lynchburg due to the Bakken spill. Bad reminder of when river fires were more common
[#Cuyahoga](#) [#VCPC](#) [#WIYW](#)*



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Calvert shows an intense video of the James River on fire in the Lynchburg catastrophe. [@UpperJamesRK](#) [#VCPC](#) [#WIYW](#) pic.twitter.com/Mptp2Tch7P



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Scorched rock, gravel, and concrete from the extreme heat of Bakken crude oil fires.

@UpperJamesRK #VCPC #WIYW

pic.twitter.com/Rpaq5mBjzV

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"We dodged a bullet in Lynchburg, but do we need to be playing Russian roulette?" Pat Calvert, @UpperJamesRK #VCPC #WIYW



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Gee and panel members stunned concerning the pictures and data Calvert presents. @UpperJamesRK #VCPC #WIYW pic.twitter.com/RupcBOSmtY

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As coal shipments go away, it is understandable why train companies are turning to Bakken crude. #VCPC #WIYW

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North Dakota Sweet Crude Oil is extremely volatile compared to other crude oils. #VCPC #WIYW

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Trains are great for transporting soybean oil, not so great for volatile Bakken Crude. #VCPC #WIYW

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*If pipelines and trains cannot carry crude oil safely, should we be moving it? [#VCPC](#)
[#WIYW](#)*

28.03.2015 - @VACOASTALPOLICY

*Some communities are taking a NIMBY effort against crude oil: Not In My BackYard. [#VCPC](#)
[#WIYW](#)*

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There are a number of federal safety standards, but they are not enough to prevent a catastrophe. [#VCPC](#) [#WIYW](#)

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*Calvert: Part of the issue is that people are not aware of the problem, so how can they respond to it? [@UpperJamesRK](#) [#VCPC](#)
[#WIYW](#)*

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*[RiverAtRisk.org](#) if you're interested in advocacy concerning these issues.
[@UpperJamesRK](#) [#VCPC](#) [#WIYW](#)*

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Toxins in Bakken Crude - N-Hexane, Ethyl Benzene, Xylenes, Benzene, Hydrogen Sulfide, Naphthlene [#VCPC](#) [#WIYW](#)

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Next, Massoud Tahamtani, Director of the Utility and Railroad Safety Division, State Corporation Commission takes the podium. #VCPC #WIYW



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Pictured: Tahamtani of the Utility and Railroad Safety Division of the State Corporation Commission #VCPC #WIYW pic.twitter.com/bTsMdVuCNo

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State authority is preempted by the Federal Railroad Safety Act (1970) #VCPC #WIYW

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State Corporation Commission inspects tracks, cars, and accidents. #VCPC #WIYW

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Railroad has 30 days to fix defects. If not fixed within 30 days, it becomes a violation. #VCPC #WIYW

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The State tries to avoid stepping on the toe's of federal inspections. #VCPC #WIYW

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The Lynchburg incident was not on a state-inspected track--it was a federally inspected track. #VCPC #WIYW

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40 % of Virginia's railroad tracks are considered high risk and high importance for having passengers and/or hazardous materials #VCPC #WIYW

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Track from Richmond to Newport News is inspected by walking it every 30 days. @WilliamsburgGov @CityofNN #VCPC #WIYW

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I drive over that track every day on my way to @WMLawSchool. Thank you for my safety, Mr. Tahamtani! #VCPC #WIYW

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Michael Ward, Executive Director of Virginia Petroleum Council takes the podium. #VCPC #WIYW



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*Ward of the Virginia Petroleum Council.
@EnergyTomorrow #VCPC #WIYW
pic.twitter.com/H4XFZDI4vs*

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*Lynchburg derailment, a picture is worth at
least 140 characters:
jamesriverassociation.org/img/Train-dera...
#VCPC #WIYW*

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*Ward displays the blueprints for better train
cars for crude, currently under evaluation at
the @WhiteHouse. #VCPC #WIYW*

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*Offshore drilling in Virginia will be 50 miles
off the shore. On a clear day at
@CityofVaBeach, you can see maybe 13 miles
out. #VCPC #WIYW*

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American Petroleum Institute safety courses start nationwide this weekend to help first responders with Bakken Crude crashes. [#VCPC](#) [#WIYW](#)

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The technology and safety of drilling and seismic location of oil has greatly evolved throughout time. [#VCPC](#) [#WIYW](#)

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Seismic work affects marine mammals. Marine biologists must be on board these ships to advise engineers of proper implementation. [#VCPC](#) [#WIYW](#)

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Why are we looking offshore of Virginia? Because we are gulf dependent. This can be a problem. [#VCPC](#) [#WIYW](#)

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Hurricanes Rita and Katrina in 2005 shut down oil drilling platforms in the Gulf. [#VCPC](#) [#WIYW](#)

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Disasters like Katrina can result in either no gas or no electricity. Both are awful scenarios. [#VCPC](#) [#WIYW](#)

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We looked at Atlantic offshore in the 1970s. \$2.8 billion went to the DOD for lease sales, but no oil was produced. #VCPC #WIYW

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A joint effort has been made to prevent, intervene, and respond to offshore oil accidents. #VCPC #WIYW

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In lease sale process, we can never try to minimize the Macondo blowout or sweep it under the rug. Ward #VCPC #WIYW

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Ward: This effort for offshore exploration is bipartisan. @MarkWarner @timkaine noted as advocates, among others. #VCPC #WIYW

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Next is @dawonerobinson from Chesapeake Climate Action Network @CCAN #VCPC #WIYW



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*Pictured: @dawonerobinson of @CCAN
#VCPC #WIYW
pic.twitter.com/bYSHre3b2T*

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*"This trend is fastly becoming an epidemic." -
-@dawonerobinson @CCAN #VCPC #WIYW*

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*"In 2013, more oil spill was spilled than any
year since tracking began in 1975. 2014 had
more than 2013." @dawonerobinson #VCPC
#WIYW*

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*2015 has had weekly spills since February.
@dawonerobinson #VCPC #WIYW*



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23.09.2014 - @DAWONEROBINSON

Signing of HB 822. Thanks @GovernorVA and @Lopez4VA for supporting clean energy! flickr.com/photos/governo... pic.twitter.com/1kF8JDLcJl

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The US is experiencing an unprecedented expansion in oil production.

[@dawonerobinson](https://twitter.com/dawonerobinson) #VCPC #WIYW

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"We need to transition to how we power our lives to how we CAN power our lives." -

-[@dawonerobinson](https://twitter.com/dawonerobinson) #VCPC #WIYW

28.03.2015 - @VACOASTALPOLICY

"There has never been a dangerous wind spill." [@dawonerobinson](https://twitter.com/dawonerobinson) #VCPC #WIYW

28.03.2015 - @VACOASTALPOLICY

*Wind is an energy resource that does not need trucks, boats, pipelines, or trains. -
-@dawonerobinson #VCPC #WIYW @CCAN*

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Tourism and military jobs constitute a large portion of our economy in Hampton Roads and @CityofVaBeach. @dawonerobinson #VCPC #WIYW

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Spills pose a risk to Virginia's vibrant tourism industry. @dawonerobinson #VCPC #WIYW

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@CCAN focuses on climate change. To @dawonerobinson, it is tough to reconcile exploring the same causes as climate change. #VCPC #WIYW

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Question to Ward "If US needs to get 62 % of energy from oil and gas. What percent could Atlantic offshore provide?" #VCPC #WIYW

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Ward: Estimates for a recent lease holds oil to power all cars in Virginia for 4 years, or oil to heat all Virginia homes for 11 years.

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There is an export ban on crude oil in United States, we can export refined product but not crude. #VCPC #WIYW

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Question to Ward concerning on the approach of well attainment and contracts. #VCPC #WIYW

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Oil Companies aren't going to be able to step away from liability. Individual companies don't have the expertise, need contractors. Ward

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Question: Is there a pathway to completely safe crude oil trains? #VCPC #WIYW

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@UpperJamesRK is pushing for more crude oil transportation inspectors. #VCPC #WIYW

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A number of the localities that have tried to ban Bakken crude shipping have been sued. #VCPC #WIYW

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Are the risks manageable? We do not have a handle on the risks. --@UpperJamesRK #VCPC #WIYW

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Virginia and its commissions need stronger initiatives to solve these problems. - @UpperJamesRK #VCPC #WIYW

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Answer: The buck needs to stop somewhere. Train companies or oil companies need to be held responsible for spills @UpperJamesRK #VCPC #WIYW

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@UpperJamesRK suggests a #VCPC project on this issue. @WMLawSchool #VCPC #WIYW

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We might not be satisfied with interstate commerce bar to state action, but they exist and won't be easily overcome. #VCPC #WIYW

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There is limited state authority with interstate trains. Focus on the most problematic places. #VCPC #WIYW

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Panel starting, "Algae: Causes and Complications" moderated by law student Jay Kane #VCPC #WIYW

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Algae panel members: Jeff Corbin @EPAregion3, Peter Tango @USGS, Joe Wood @chesapeakebay, Will Hunley, Dr. Paul Bukaveckas @VCU #VCPC #WIYW

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The Chesapeake Bay has a ton of land draining into a small water body. Jeff Corbin #VCPC #WIYW

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Algae is fairly short lived, when it dies it sucks the oxygen out of water and causes big fish kills. #VCPC #WIYW



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*Lets talk about algae with Jeff Corbin
#VCPC #WIYW
pic.twitter.com/tXQzXOms02*

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In Iowa, downstream waterworks is suing over amount of nitrogen in water coming to it. This lawsuit will be worth following. #VCPC #WIYW

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Fortunate in Chesapeake Bay to have a large body of science. So we know where the pollution is coming from. #VCPC #WIYW

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*Now the real work is in deciding how to divide up the 'pollution pie' - Jeff Corbin [#VCPC](#)
[#WIYW](#)*

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Total Maximum Daily Load (TMDL) will help reduce nitrogen, phosphorous, and resultant algal blooms. [#VCPC](#) [#WIYW](#)

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*Where are the nitrogen and phosphorous coming from? Primarily wastewater. [#VCPC](#)
[#WIYW](#)*

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*73% of the nitrogen reductions Virginia is aiming for for the James River Watershed come from wastewater treatment. [#VCPC](#)
[#WIYW](#)*

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*VA has invested heavily in cleaning up point source dischargers of wastewater. [#VCPC](#)
[#WIYW](#)*

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Reductions we need may not look like much on a chart, but it is going to be hard and take a lot of work. [#VCPC](#) [#WIYW](#)

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Jeff Corbin ends by saying we have made progress, but still have a long way to go in improving Chesapeake Bay water quality. #VCPC #WIYW



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*Peter Tongo @USGS #VCPC #WIYW
pic.twitter.com/h9yJOTFDUg*

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Grasses are essential in understanding the health of the Bay. #VCPC #WIYW

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Bloom in 2004 produced miles of algal scum. #VCPC #WIYW

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Chesapeake Bay is like a grocery store, we take some ingredients, and follow a recipe to see how its doing. Monitoring Bay = making a cake

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Either you pass or you fail EPA water quality standards. [#VCPC](#) [#WIYW](#)

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Joe Wood [@chesapeakebay](#) focuses on algal problems in tidal fresh James River. [#VCPC](#) [#WIYW](#)

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Chlorophyll is a proxy for algal abundance -- Wood

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When you move from deep narrow to wide shallow portion of James River, the threat of algae increases. [#VCPC](#) [#WIYW](#)

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Microcystin threat - dead flamingos in Africa, dead otters in San Francisco, Lake Erie threat to Toledo water supply [#VCPC](#) [#WIYW](#)

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Seeing high levels of microcystin in blue crabs. [#VCPC](#) [#WIYW](#)



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*Joe Wood @chesapeakebay #VCPC #WIYW
pic.twitter.com/cPOHT4raol*

28.03.2015 - @VACOASTALPOLICY

*Microcystin can reduce the ability of clams to
filter water. #VCPC #WIYW*



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Will Hunley, Hampton Roads Sanitation District #VCPC #WIYW
pic.twitter.com/4qtQsMo4iK

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(Hamptons Road Sanitation District) HRSD covers 13 treatment facilities serving 1.6 million customers. #VCPC #WIYW

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"The controls are expensive. So we want to get it right." Will Hunley HRSD #VCPC #WIYW

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Discussing differing salinities and dissolved oxygen in the Lower James River System. #VCPC #WIYW

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HRSD has been using a boat to measure water quality along designated routes on a weekly basis since 2005. [#VCPC](#) [#WIYW](#)

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HRSD cruises the James every week to measure chlorophyll and algal concentrations.

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Seasonal algal blooms invade the James in the spring and summer. [#VCPC](#) [#WIYW](#)

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Algae sprouting up in the spring is a yearly inconvenience like weeds sprouting in your yard. [#VCPC](#) [#WIYW](#)

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**Cochlodinium polykrikoides* is the most common summer algal bloom. [#VCPC](#) [#WIYW](#)*



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*Dr. Paul Bukaveckas @VCU #VCPC #WIYW
pic.twitter.com/BJZsV5BsPu*

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*Dr. Bukaveckas' presentation focuses on assessing the risk posed by algal blooms in the James. Most of the risks are indirect.
[#VCPC](#) [#WIYW](#)*

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*What is a safe level of algae? A complicated question, according to Dr. Bukaveckas [#VCPC](#)
[#WIYW](#)*

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James River Algal Blooms Study is a 6 year (2012-2017) study that Dr. Bukaveckas is heading. [#VCPC](#) [#WIYW](#)

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For more information on the study, see wp.vcu.edu/jamesriver/ #VCPC #WIYW

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Modeling team is currently testing a nutrient input model, should be running in a few months. #VCPC #WIYW

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Chlorophyll values are typically above the current standard. #VCPC #WIYW

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Will the system be impaired if we reach our standards? Right now we don't know the answer. #VCPC #WIYW

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What we have found: greater risks of blooms as chlorophyll A increases #VCPC #WIYW

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No questions because [@JB_Kane](#) is hungry. #VCPC #WIYW

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Lunch Presentation-Chesapeake Bay TMDL Litigation: Joe Mueller [@chesapeakebay](#), Brooks Smith [@TStweets](#), Melanie Davenport [@VirginiaDEQ](#) #VCPC

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Melanie Davenport introduced the speakers and spoke about some key factors of how the Bay TMDL functions locally. #VCPC #WIYW



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Jon Mueller, @chesapeakebay Foundation opens up and describes the legal background in detail. #VCPC #WIYW pic.twitter.com/zZueolrPxy

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TMDLs arise from CWA § 3003(d). law.cornell.edu/uscode/text/33... #VCPC #WIYW

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Fowler v. EPA - @chesapeakebay effort to say EPA hadn't complied with CWA § 117(g). EPA settled and agreed to implement a TMDL. #VCPC #WIYW

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The Fowler settlement included Watershed implementation Plans, reasonable assurances, and consequences. TMDL by Dec 31,2010. [#VCPC](#) [#WIYW](#)

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Obama Executive Order 13508 required federal agencies to say how they would reduce their pollution into Chesapeake Bay. [#VCPC](#) [#WIYW](#)

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[@EPA](#) implemented the TMDL on time with the help of Corbin, among others. January 10, 2011 - American Farm Bureau sues EPA. [#VCPC](#) [#WIYW](#)

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[@FarmBureau's](#) complaint: no authority to issue TMDL; Model is flawed; and [@EPA](#) failed to provide sufficient public notice and comment [#VCPC](#)

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Judge Rambo in the Middle District of Pennsylvania heard the case, and took over a year to make her decision. [#AFBFvEPA](#) [#VCPC](#) [#WIYW](#)

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*Judge Rambo's 99 page decision upholding the TMDL as cooperative federalism is available here: epa.gov/reg3wapd/pdf/p...
[#AFBFvEPA](#) [#VCPC](#) [#WIYW](#)*

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*Now, the case has been appealed to the Third Circuit Court of Appeals. [#AFBFvEPA](#) [#VCPC](#)
[#WIYW](#)*

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*The Third Circuit's first question to Joe Mueller [@chesapeakebay](#) at oral argument was "Are the crabs doing better?" [#AFBFvEPA](#) [#VCPC](#)
[#WIYW](#)*

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*Brooks Smith of Troutman Sanders now gives the other side of the argument. [@TStweets](#)
[#AFBFvEPA](#) [#VCPC](#) [#WIYW](#)*

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Finding yourself in the subsections of the CWA is a bit like Alice in Wonderland. - Brooks Smith [#AFBFvEPA](#) [#VCPC](#) [#WIYW](#)

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[#AFBFvEPA](#) [#VCPC](#) [#WIYW](#)*



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*Pictured: Brooks Smith, @TStweets and
Melanie Davenport, @VirginiaDEQ
#AFBFvEPA #VCPC #WIYW
pic.twitter.com/F13yASCDns*

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*Alaska Rule says that the applicable standard
whatever the last standard approved by EPA
was. #AFBFvEPA #VCPC #WIYW*

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*If the standards are invalid, is the TMDL
invalid? When the TMDL was written, the
standards were correct. #AFBFvEPA #VCPC
[#WIYW](#)*

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*Most TMDLs are not perfect, the real question
is are they directionally correct? #VCPC
[#WIYW](#)*

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Virginia is required by state statute to have a Watershed Implementation Plan. #AFBFvEPA #VCPC #WIYW

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*Novel components of Chesapeake BayTMDL
1) schedule 2) implementation planning at
Federal level 3) reasonable assurance
#AFBFvEPA #VCPC #WIYW*

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*"Equity is the touchstones for TMDLs." -Brooks
Smith, @TStweets #AFBFvEPA #VCPC #WIYW*

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*Reasonable assurance is a @EPA construct to
balance reductions for point sources and
nonpoint sources. #AFBFvEPA #VCPC #WIYW*

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*There are no objective standards for
reasonable assurance. That is why it is under
litigation. #AFBFvEPA #VCPC #WIYW*

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*The Appeal has strong supporters on both
sides of the case. #AFBFvEPA #VCPC #WIYW*

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*21 states mostly outside of the watershed has
submitted amici to support @FarmBureau on
appeal. #AFBFvEPA #VCPC #WIYW*

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Brooks wrote a brief on behalf of 8 rural localities within the watershed. Wanted to shine a light on how TMDL might impact them [#VCPC](#) [#WIYW](#)

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Question: Will Troutman Sanders pro bono with local environmental groups to help non-point source solutions? [#AFBFvEPA](#) [#VCPC](#) [#WIYW](#)

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Smith: Likely not. Nutrient markets seem like a better solution. [#AFBFvEPA](#) [#VCPC](#) [#WIYW](#)

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Question: Are localities arguing that they have the right to pollute their local drinking water? [#AFBFvEPA](#) [#VCPC](#) [#WIYW](#)

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Smith: It's more complicated than that. [@EPA](#) models lock in some land use decisions, binding the localities to difficult decisions. [#AFBFvEPA](#)

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Question: Could you explain more about pollution trading markets? #AFBFvEPA #VCPC #WIYW

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Smith: There are point and non-point source trading. We already have stormwater trading. We're building a market for farmers to do more.

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Davenport: Virginia has drafted nonpoint to point source trading. Comment period just closed. @VirginiaDEQ #AFBFvEPA #VCPC #WIYW

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Davenport: Standards must be quantifiable, verifiable, and exist forever. @VirginiaDEQ #AFBFvEPA #VCPC #WIYW

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Mueller: @chesapeakebay supports trading, but will be a watchdog for unverifiable trading. #AFBFvEPA #VCPC #WIYW

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The final panel of today is the Fracking Panel: Who has the Authority to Regulate? #AFBFvEPA #VCPC #WIYW

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This panel consists of Rick Parrish, former Senior Attorney at [@selc_org](#), Michael Skiffington at VA Dept. Of Mines, Minerals, and Energy

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Also on the fracking panel is Kelci Block, an Assistant Attorney General of Virginia. She is a [@WMLawSchool](#) Alum! [#VCPC](#) [#WIYW](#)

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DMME seeks to balance environmental protection with econ development [#fracking](#) [#VCPC](#) [#WIYW](#)

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*Skiffington of DMME [#VCPC](#) [#WIYW](#)
pic.twitter.com/wtRYBLT5GN*

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*Energy resources in VA: Marcellus Shale, Taylorsville Basin, and Southwest VA Coalfield
#fracking #VCPC #WIYW*

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*10,700 active oil drilling permits in VA
#fracking #VCPC #WIYW*

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What is fracking? Use pressurized fluids to stimulate the release of oil and gas. Also sand. #fracking #VCPC #WIYW

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Toren Elsen is the student moderator of this panel. He brings years of experience at Beveridge and Diamond and @EPA to @WMLawSchool #VCPC

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8000 coal-bed methane wells fracked in VA since the 60s #fracking #VCPC #WIYW

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Skiffington: There has been no signs of degredation on surface or ground water in the Commonwealth. #VCPC #WIYW

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*Fracking in coal fields uses much less water than Marcellus because of the geology
#fracking #VCPC #WIYW*

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Over 1 trillion cubic feet (TCF) in the Taylorsville. 2.5 years gas for VA [#fracking](#) [#VCPC](#) [#WIYW](#)

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Casing protects water resources-- 3 layers of steel and concrete [#fracking](#) [#VCPC](#) [#WIYW](#)

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All fracking operators have to comply with a number of state and federal laws. [#VCPC](#) [#WIYW](#)

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Frack permits in VA: governed by Gas and Oil Act. Must inform localities and test water [#fracking](#) [#VCPC](#) [#WIYW](#)

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No drilling in Tidewater permitted [#fracking](#) [#VCPC](#) [#WIYW](#)

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Without appropriate environmental analyses

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DMME entered into a memorandum of agreement to figure out what [@VirginiaDEQ](#)'s role exactly is in this process. [#VCPC](#) [#WIYW](#)

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Regulatory requirements: 4 VAC 25-150 [#fracking](#) [#VCPC](#) [#WIYW](#)

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Fall2013 - DMME initiated a regulatory action to review: chemical disclosure requirements and industry best practices. #VCPC #WIYW

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Regulatory Advisory Panel: transparent, inclusive process to reform regulatory requirements #fracking #VCPC #WIYW

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This week, DMME submitted new proposed, revised regulations for Executive Branch review. #fracking #VCPC #WIYW

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Parrish's focus: what level of government is best to regulate fracking? #fracking #VCPC #WIYW

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Next: Rick Parrish- Former Senior Attorney at @selc_org #fracking #VCPC #WIYW

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No evidence of pollution from fracking, but evidence of pollution from production-- Parrish #fracking #VCPC #WIYW

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Nationally, 7-12% of wells leak near the surface. #fracking #VCPC #WIYW

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Issue: only 1/2 of water comes back as wastewater. Where does the rest go? #fracking #VCPC #WIYW

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There is a general industry assumption that underground wastewater from fracking will not reach aquifers. #fracking #VCPC #WIYW

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Technological innovation: horizontal drilling is now cost effective #fracking #VCPC #WIYW

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Typically not sufficient local water, so must be imported by truck #fracking #VCPC #WIYW

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Hundreds of wells in a concentrated location may cause issues of water supply and transportation. #fracking #VCPC #WIYW

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Wells near homes can create environmental problems, including ongoing noise pollution #fracking #VCPC #WIYW

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Real impact of fracking: industrial nature of fracking, contrast w rural nature of these basins #fracking #VCPC #WIYW

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Most rural roads are not built for industry and construction vehicles. #fracking #VCPC #WIYW

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Pipelines necessary to move oil products from site to refinery #fracking #VCPC #WIYW

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Nitrogen fracking of coal-bed methane likely greener than millions of gallons of water in the Marcellus #fracking #VCPC #WIYW

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Nitrogen fracking of coal-bed methane may endanger workers, dealing with high-pressure gases. #fracking #VCPC #WIYW

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Public lands in VA: fracking allowed only where drilling already permitted #fracking #VCPC #WIYW

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Split estate of national forest in VA: mineral rights owned by various parties. State owns the surface. #fracking #VCPC #WIYW

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@chesapeakebay Thank you for your activism, giving us a separate statute for the Taylorsville basin #fracking #VCPC #WIYW



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Rick Parrish providing a perspective on fracking in Virginia. #fracking #VCPC #WIYW pic.twitter.com/BY1CRd1Am3

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VA Gas and Oil Act does not supersede JXN of local land-use ordinances. Sound governance. #fracking #VCPC #WIYW

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Read the gas and oil act here: leg1.state.va.us/cgi-bin/legp50...

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Act states that local ordinances have the authority to zone. But, the majority of that is overturned by ex.-AG @KenCuccinelli #VCPC

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*Permission of landowner necessary to drill in Tidewater/ Taylorsville (no force-pooling).
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*Gas causes less climate impact than coal when burned. But is it a wash due to leaks?
#fracking #VCPC #WIYW*

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Up next: can localities ban oil and gas drilling in VA?



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*@WMLawSchool alum AAG Kelci Block now takes the podium. #fracking #VCPC
#WIYW pic.twitter.com/4WZ4v4rusP*

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Other stat bans: Denton TX, Longmont CO overturned; Dryden, NY upheld. #fracking #VCPC #WIYW

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Dillon's Rule comes into play in VA - localities have only expressly granted powers. #fracking #VCPC #WIYW

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Fracking issues: Location, road conditions, water use, environmental issue (air, water pollution) #fracking #VCPC #WIYW

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Possible state authorization for local bans? O&G act. Conflicting statutory language #fracking #VCPC #WIYW

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AG Opinion: says no, but not binding law #fracking #VCPC #WIYW

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What counts as a fracking ban? #fracking #VCPC #WIYW

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Washington County refused to permit fracking until @EPA completed its groundwater study. This was considered a ban. #fracking #VCPC #WIYW

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Recent ordinances: King George Cty-- strict zoning; Washington Cty-- special use permit, overlay zone; Rockingham Cty [#fracking](#) [#VCPC](#) [#WIYW](#)

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Rockingham example: no ordinance, but effective ban. Watch this issue [#fracking](#) [#VCPC](#) [#WIYW](#)

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Q for Skiffington: what else is in nitrogen foam?

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Skiffington: I don't know. [Fracfocus.org](#) has voluntary disclosure (100% nitrogen)

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Parrish: hopefully the new rule has disclosure requirements

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Q: Is nitrogen foam a viable alternative for all fracking?

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Skiffington: case by case

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Shout out to Ross Natividad, incoming Editor-in-Chief of ELPR, for handling the audience microphone for questions this weekend. [#Ross](#) [#VCPC](#)

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Q: Millions of gallons of water injected-- where does it come from? Groundwater? The river? #fracking #VCPC #WIYW

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James City County relies on groundwater for its water. #fracking #VCPC #WIYW

ELPR SYMPOSIUM 2015 - What's In Your Water
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