



OUR RIVER AT RISK



OUR RIVER IS AT RISK

- On April 30, 2014, a train carrying crude oil derailed and caught fire in Lynchburg, Virginia. Three rail cars fell into the James River. One caught fire and completely lost its contents, either by burning up or spilling into the river.
- On February 2, 2014, a stormwater pipe burst sending 39,000 tons of coal ash and 24 million gallons of wastewater into the Dan River in Eden, North Carolina.
- On January 9, 2014, a chemical storage tank in Charleston, West Virginia leaked 10,000 gallons of a chemical into the Elk River shutting down access to drinking water for the capital city and nine surrounding counties.

These incidents serve as emphatic illustrations of the risks associated with toxic chemicals being transported and stored in the James River watershed. These incidents should serve as a wake-up call.

We must learn from these events and take immediate action to protect public safety, the environment, the economy that the river supports, and its recreational value. Our safety requirements and procedures need to be up-to-date to address current threats and to prevent a crippling event from happening in the future. Now is the time to begin the conversation on how to protect our waterways and our citizens from the threats posed by the storage and transport of hazardous materials.

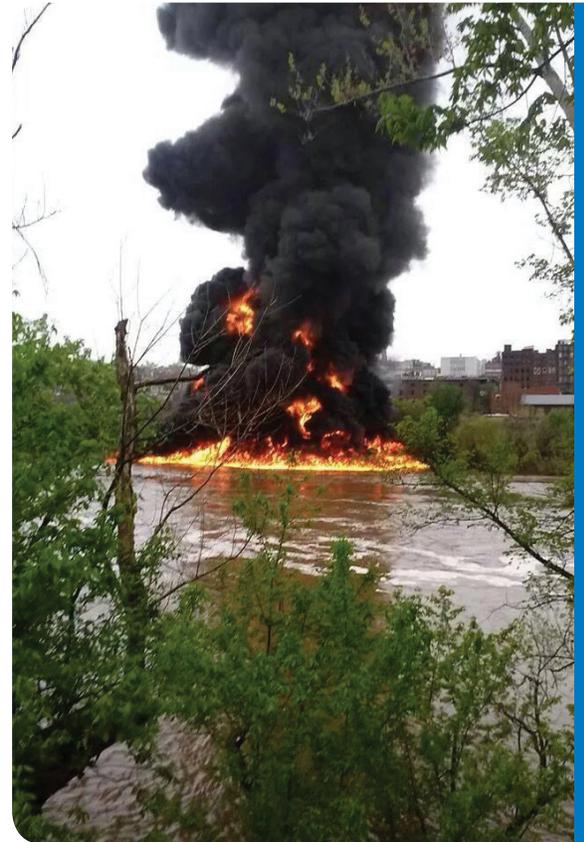


FIGURE 1: The James River on fire after the April 30 train derailment.



FIGURE 2: The aftermath of the Bakken crude oil train derailment into the James River in Lynchburg, Virginia.

CRUDE OIL TRANSPORT BY RAIL

New threat along the James

The history of the James River, the communities that lie along it, and the railroad are largely intertwined. Rail lines hug the banks of the James for almost the entire length of the river. The rails replaced the river as the primary economic engine and mode of transportation in the 19th century. The rails helped river communities experience an economic boom and caused them to thrive.

Today, a new boom is occurring, but this one threatens communities and our river. This boom is due to the rail transport of highly volatile Bakken crude oil from a shale formation in the Midwest. Crude oil by rail transport has increased 450% over the past five years.ⁱ These trains are carrying over a million gallons of crude oil through our watershed two to five times per week.ⁱⁱ And it isn't just your normal, run-of-the-mill crude oil – according to the USDOT, this crude oil has, “a higher gas content, higher vapor pressure, lower flash point and boiling point, and thus a higher degree of volatility than most other crudes in the U.S., which correlates to increased ignitability and flammability.”ⁱⁱⁱ

The community impact of an oil train accident can be devastating. A train derailment in Lac-Mégantic, Quebec, literally incinerated multiple city blocks. Forty-seven residents were killed and forty buildings were destroyed.^{iv} On December 30, 2013, a train carrying Bakken crude derailed in Casselton, North Dakota, forcing evacuations of the nearby town. Twenty cars derailed and eighteen of them ruptured.^v

Despite this highly volatile cargo and a proven track record of dangerous accidents, inadequate tank cars are still carrying Bakken crude, and Virginia's rail inspectors (from the State Corporation Commission) are only surveying the tracks along the James once every 30 days.^{vi} By their own account, the Federal Railroad Administration's inspectors only investigate one percent of the rails that they regulate each year.^{vii} With such highly volatile materials being shipped on a regular basis, stronger tank cars, adequate insurance coverage, and more frequent inspections are necessary to ensure the tracks and the equipment are in safe operating condition.

Current status: Virginia's Governor has convened a Rail Safety task force which will solicit input from industry stakeholders, local governments, and members of the public and produce a report of recommended state and federal actions to prevent railroad accidents. They will also ensure that Virginia is prepared as possible to keep communities safe from a future incident.

Federal regulations are currently proposed which may enhance tank car safety standards, impose speed limits, codify crude oil transport notifications, appropriately classify Bakken crude as highly flammable, and classify trains carrying Bakken crude as high-hazard flammable trains.

Recommendation: The U.S. Department of Transportation is the lead agency in regulating railroads. The federal government must adopt comprehensive new safety standards including strict speed limits, adequate insurance requirements, and tank car standards which will protect the public from future accidents involving Bakken crude trains. The new safety standards should additionally classify Bakken crude oil appropriately based on its volatility and require appropriate notification to state and local governments of the hazardous substances being carried through their borders.



FIGURE 3: The destruction from the Lac-Mégantic derailment.

Virginia must act as well to increase inspections, particularly along the lines hauling Bakken crude oil. New York State and California have proposed to address this issue simply by hiring new inspectors.^{viii ix}

TOXIC CHEMICAL STORAGE

Over 80% of the toxics managed in Virginia are in the James River Watershed – an important source of drinking water for citizens.

The transport of toxics is not the only risk to the James River. There are over 1,100 toxic chemical storage sites within the James River watershed.^x Drinking water is the most vital purpose that the James River serves to the communities along its course. Today, 37 counties and 18 cities rely on the James River as a major source of their water supply.^{xi} Yet, the storage of chemicals in proximity to our drinking water supplies is not adequately considered in the management of toxics - leaving the river at



FIGURE 4: The chemical storage tanks that leaked adjacent to the Elk River.

risk of contamination on a daily basis.^{xii}

The clean-up of chemical accidents – after they occur – is covered by the Comprehensive Environmental Response, Compensation and Liability Act. The disposal of hazardous waste products is overseen by the Federal Resource Conservation and Recovery Act. The storage of petroleum products is controlled by Virginia's Above Ground Storage Tank Regulations. But no program covers the storage of non-petroleum chemicals or aims to prevent spills and accidents.

As the chemical spill into the Elk River has taught us, the improper storage of dangerous chemicals has the significant potential to harm us. In Virginia, there have been over 17,000 releases to the environment reported to the Department of Environmental Quality's Pollution Response Program in the last four years for air, water, and waste pollution.^{xiii}

These incidents are perfect examples of the threats that exist to the James. Our drinking water supply is at risk. We need to act to ensure that such an event does not impact *America's Founding River*.

In order to protect the James River and all of its citizens, the storage of toxic chemicals must be properly managed. Areas that have the potential to contaminate waterways should have stricter standards to ensure that leakage does not occur. The adoption of such standards is vital to the future health of the James River and its citizens. The actions that West Virginia has taken in response to the chemical spill on the Elk River serve as an example of how such protections can be accomplished.^{xiv}

Current Status:

The storage of the majority of chemicals in Virginia is not covered by any regulatory program. While many companies have internal chemical storage tank standards that they adhere to, there is no one industry standard that all 1,100 toxic storage sites have in place for tank construction standards, tank inspection programs, or monitoring programs.

Recommendations: Review current industry practices and determine range of standards. Fill any gaps identified in the existing industry toxic storage policies and procedures with standards that ensure adequate safeguards and inspections for the storage of all chemicals. These should include storage tank construction, labeling, inspection, leak detection, and recordkeeping requirements.



FIGURE 5: Charleston residents wait in line for clean drinking water after the chemical spill.

COAL ASH STORAGE

Billions of gallons of coal ash are stored along the banks of the James.

The James River watershed is home to coal ash ponds capable of holding 5 billion gallons of coal ash stretching from the headwaters to the mouth of the river.^{xv} Coal ash, which is a waste product of the electricity generation process, contains arsenic, lead, and mercury among other toxics.^{xvi} It poses a serious danger to the river's wellbeing and to the citizens that rely on it for drinking water.



FIGURE 6: The coal ash pond that breached and spilled in to the Dan River.

Coal ash is managed by mixing it with water and is then stored in ponds. Each pond within the James River watershed is adjacent to the river or its tributaries, posing daily threats not only from the potential for dam failure, but also from potential groundwater contamination as many of the ponds are not lined. In fact, Dominion's Chesapeake Power Station has a coal ash landfill that has been leaching arsenic into groundwater for over a decade.^{xvii} Every North Carolina coal ash pond that has been tested has been contaminating the surrounding groundwater.^{xviii} Virginia's coal ash ponds at Possum Point and Chesapeake are contaminating the groundwater as well.^{xix} And Virginia's Dam Safety regulations do not require stricter dam safety standards for toxic coal ash ponds. The requirements for a coal ash impoundment are the same as for a dam that holds water.

As electricity generation moves away from being coal based and towards natural gas, it is imperative that we ensure that the leftover coal ash waste is properly managed. The most protective form of long-term management for coal ash is landfilling. In this approach, the coal ash is capped from both above and below, thus preventing any contamination of surface or groundwater. Simply capping coal ash ponds in place, a method used in the past, does not stop the potential of groundwater contamination, as many historical ponds are not lined. For example, this type of approach in Chesapeake and North Carolina has allowed the groundwater contamination to continue.



FIGURE 7: Coal ash in the Dan River.

Current status: Despite being a highly toxic material, Virginia does not regulate coal ash as a solid or hazardous waste product. While new federal regulations are currently being finalized which could increase environmental protection standards for these ponds, several active, unlined coal ash ponds in the James River watershed are nearing retirement. These sites should be studied to determine the best method for closure, which will ensure that they do not violate water quality standards or contaminate our water supply in the future. Unfortunately, the state currently does not have authority to ensure that, post-closure, the ponds are monitored for a sufficient period of time to address any future contamination from the site.

Recommendations: Federal regulations which require proper monitoring to ensure the protection of surface and groundwater must be approved. These protections must be in place during operation and post-closure. Virginia must work to ensure that coal ash is stored long-term in a manner that prevents the contamination of surface or ground water. Given that we know several North Carolina ponds and Virginia's Chesapeake and Possum Point coal ash ponds are leaking, it is important to determine what other contamination is occurring and make sure that it does not occur in the future. Moving forward, Virginia should develop standards for coal ash pond closure that protect surface and groundwater. Dams for coal ash ponds should be classified and treated differently than ponds holding non-toxic substances.

What you can do

The James River is a river at risk. There are clear actions that must be taken to address the threats from oil trains, toxic chemical storage, and coal ash ponds. The damage that can be done by each of these threats is significant. Therefore, action is needed immediately. Please visit www.riveratrisk.org.

Join JRA's *Our River at Risk* campaign and pledge your support for protecting the river from the risk of toxic spills. Through this campaign, you will have

the opportunity to also lend your voice to the following actions:

- Call for Governor McAuliffe's Rail Safety Task Force to recommend increased inspections of Virginia's rail lines carrying Bakken crude oil.
- Urge Senator Warner and Virginia's congressional members to work with the United States Department of Transportation on the adoption of new rail safety standards for speed limits, insurance, classification of crude oil, transparency, and tank cars.
- Ask for industry to adopt safe chemical storage tank construction, inspection, labeling, leak detection, and recordkeeping requirements.
- Encourage your elected officials to support safer standards for coal ash pond closure and dam safety requirements for impoundments holding coal ash.

With your help, we can safeguard America's Founding River and have a healthier, safer James River for generations to come.

ⁱ See <http://fas.org/sgp/crs/misc/R43390.pdf>

ⁱⁱ Bakken Crude Oil Shipment Notification Forwarded from Virginia Emergency Operations Center. June 13, 2014.

ⁱⁱⁱ United States Department of Transportation. Operation Safe Delivery Report. July 21, 2014.

^{iv} See <http://www.montrealgazette.com/news/M%C3%A9gantic+disaster+Where+things+stand+today/9418300/story.html>

^v National Transportation Safety Board Preliminary Report, Casselton Incident. https://www.nts.gov/doclib/reports/2014/Casselton_ND_Preliminary.pdf

^{vi} Personal conversation, Virginia State Corporation Commission, July 28, 2014.

^{vii} Highlights of GAO-14-85, a report to congressional requesters

^{viii} Transporting Crude Oil in New York State: A Review of Incident prevention and Response Capacity. April 30, 2014.

^{ix} Oil by Rail Safety in California. June 10, 2014.

^x Electronic correspondence, Virginia Department of Environmental Quality. June, 19 2014 and July 7, 2014.

^{xi} Virginia DEQ Surface Water Withdrawal Database.

^{xii} The storage of petroleum based oils is regulated by aboveground and underground storage tank regulations in Virginia, which comprises approximately 25% of the toxics stored in the James River watershed.

^{xiii} Virginia DEQ Pollution Response Program Database, September 5, 2014, available at <http://www.deq.virginia.gov/Programs/PollutionResponsePreparedness/PREPDatabaseFiles.aspx>

^{xiv} West Virginia 2014 Senate Bill 373.

^{xv} See <http://earthjustice.org/sites/default/files/va-coal-ash-factsheet-0812.pdf>

^{xvi} See <http://www.psr.org/environment-and-health/code-black/coal-ash-toxic-and-leaking.html>

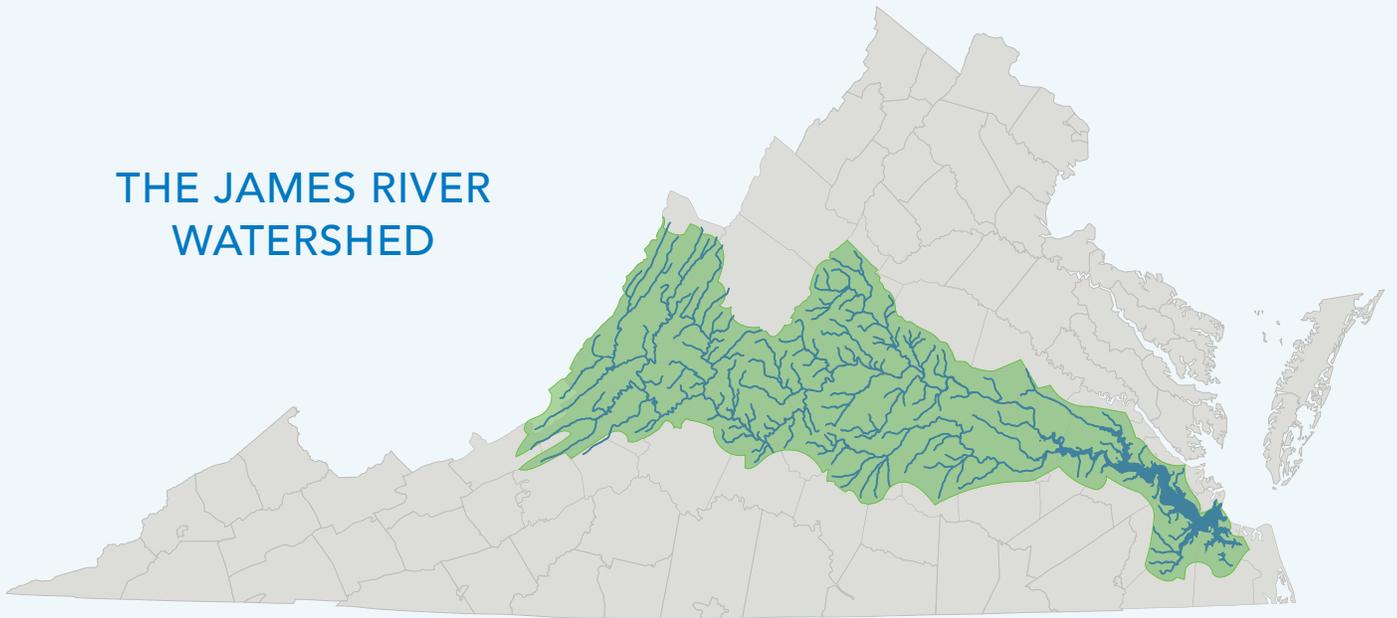
^{xvii} See <http://hamptonroads.com/2010/09/hearing-tonight-flyash-landfill>

^{xviii} See http://www.appvoices.org/ftp/AV_Report_on_NC_Coal_Ash_Pond_Violation_Analysis_Oct_2009.pdf

^{xix} See <http://hamptonroads.com/2010/09/hearing-tonight-flyash-landfill>, <https://www.southernenvironment.org/news-and-press/press-releases/conservation-groups-uncover-decades-of-coal-ash-pollution-into-potomac-river>

^{xx} See <http://earthjustice.org/sites/default/files/va-coal-ash-factsheet-0812.pdf>

THE JAMES RIVER WATERSHED



340 miles long

25% of the state

37 counties

18 cities

About the James River Association

The mission of the James River Association is to be guardians of the James River. We provide a voice for the river and take action to promote conservation and responsible stewardship of its natural resources.

We achieve these goals through five core programs: Watershed Restoration; Education; Outreach; River Advocacy; and our Riverkeeper program.



Additional resources are available at www.thejamesriver.org and www.riveratrisk.org.

For more information on this campaign, please contact Adrienne Kotula at (804) 788-8811 or akotula@thejamesriver.org.

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