



## VOLUNTEERS NEEDED!

**Fracking** - Anyone interested in helping to educate residents of Caroline County about FRACKING, contact Paula Chow - [paulachow132@gmail.com](mailto:paulachow132@gmail.com).

## Memo From the Chair

**By Linda C. Muller**

"We need the tonic of wildness...At the same time that we are earnest to explore and learn all things, we require that all things be mysterious and unexplorable, that land and sea be indefinitely wild, unsurveyed and unfathomed by us because unfathomable. We can never have enough of nature." **Henry David Thoreau**

### "A Place of Solice, Joy, Recreation: Our National Parks & Wilderness Areas"

Both Thoreau and John Muir wrote extensively about the recreational & spiritual elements of walking and living among the "wild places". Conservationist and Sierra Club founder John Muir led President Theodore Roosevelt on a guided trip through Yosemite in 1903. Roosevelt was so inspired by the experience that it eventual led to the establishment of our first National Park. In 2016, we celebrated the 100th Anniversary of the National Parks, and one short year later in 2017 our National Parks and Wildness Areas face dramatic budget cuts and "fast tracking" for oil and gas drilling and mineral extractions on public lands. But here is something that the current administration is apparently ignoring: our **National Parks had record smashing numbers of attendance in 2016. 330 million people visited** America's National Parks last year, and apparently the trend has continued into 2017 with additional millions visiting National Parks for the special August 21, 2017 totality solar eclipse. America loves their National Parks and wild places and it transcends any political affiliation. Of course it requires citizens to speak up and speak out for our National

## RGSC Email News Group send an email to sign-up

[rappsierragroup@gmail.com](mailto:rappsierragroup@gmail.com)

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## OTHER ORGANIZATIONS/ LINKS

Virginia Conservation Network  
[www.vcnva.org](http://www.vcnva.org)

Virginia League of Conservation  
Voters  
[www.valcv.org](http://www.valcv.org)

Southern Environmental Law Center  
[www.southernenvironment.org](http://www.southernenvironment.org)

Friends of the Rappahannock  
[www.riverfriends.org](http://www.riverfriends.org)

Tree Fredericksburg  
[www.treefredericksburg.org](http://www.treefredericksburg.org)

Treasures, and here in Virginia we enjoy 22 parks managed by the National Park Service. We need to share our joy and love of our National Parks with our elected officials, just recall what happened when John Muir did in 1903.

### Join Us for Our **BAT'TASTIC** Fall Open House September 13, 2017: 6:30-8:30 pm FXBG Central Library

Bat enthusiasts, bat curious, or just have a great "bat costume" Please join the Rappahannock Group for our Fall Open House, Wednesday September 13, 2017 6:30pm at the Central Library 1201 Caroline Street, Fredericksburg. We are very fortunate to have **Nancy Stalik**, Environmental Educator, Friends of the Rappahannock, who will be presenting on BATS! We will have bat "give aways" and special prizes for best bat themed costume (if you dare!) There will be light refreshments, displays, and club updates. Free and Open to the Public so bring a friend or two. More info contact: Linda Muller lcmuller (at) mindspring.com

### Rappahannock Group Executive Committee Needs YOU. Executive Committee Elections 2017

*"No one can whistle a symphony. It takes an orchestra to play it."* H.E Luccock

RGSC's talented and hard working Executive Committee is in search of dedicated volunteers who want to share their experience and enthusiasm in helping our club thrive and grow! Whether its developing club educational programs, public outreach/ tabling, engaging social media, working on political campaigns/elections, there is a place for you. If you are a current member of Sierra Club and want to explore serving as a volunteer on the Rappahannock Group Sierra Club Executive Committee (EXCOM) please contact Linda Muller: lcmuller (at) mindspring.com. In the meantime, you can check out the Sierra Club resource page on all things Sierra Club : <http://clubhouse.sierraclub.org>

Yours in Exploring, Enjoying and Protecting the Planet

Linda C. Muller  
Chair, Rappahannock Group

## RGSC Executive Committee (ExCom) Member Contacts:

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Interns: Kendal McGuire, Chris Meoli, Courtney Fano, Chase Mullins, Maddie Reid and Amanda Gambale

## Links and Resources:

American Wilderness Writing: Henry David Thoreau and John Muir

<http://ala-choice.libguides.com/c.php?g=435377&p=2968323>

"Five Reasons To Protect the Wilderness" Pew Charitable Trust

<http://www.pewtrusts.org/en/research-and-analysis/analysis/2016/09/12/5-reasons-to-protect-wilderness>

"Take It Outside!" Children and Outdoor Play

[http://www.earlychildhoodnews.com/earlychildhood/article\\_view.aspx?ArticleID=275](http://www.earlychildhoodnews.com/earlychildhood/article_view.aspx?ArticleID=275)

"This is Your Brain On Nature" National Geographic

<http://www.nationalgeographic.com/magazine/2016/01/call-to-wild/>

"Zinke Fast Tracks Drilling on Public Lands" EcoWatch

<http://www.ecowatch.com/zinke-fracking-public-lands-2454924861.html>

"National Parks Setting Attendance Records" Vox.com

<http://www.vox.com/2017/8/17/16102984/national-parks-eclipse-chasers>

Who is My Elected Official?? Find out at USA.Gov

<http://www.usa.gov/elected-officials>

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## Rappahannock Group of the Sierra Club (RGSC) Conservation Chair September 2017

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**By Bill Johnson**

### Fracking & Water & Nuclear Power

There have been a few developments regarding fracking that point out the deleterious impact on the Taylorsville Basin that fracking could cause. The most noteworthy is a report on water and the Potomac Aquifer in the August 5<sup>th</sup>, 2017, online edition of the Free Lance-Star. Their reporter,

Pamela A. D'Angelo, published a story about the Potomac Aquifer, the only source of water for counties and cities in the Taylorsville Basin.

While the story did not address fracking, I posted a comment under the story, making the connection.

Here's the problem, in a nutshell: The Potomac Aquifer is being depleted faster than it can regenerate. That means, unless water habits are changed, it will not be able to continue providing clean water to the Taylorsville Basin Counties (King George, Caroline, Westmoreland, Essex, and King and Queen) and Cities (James, Chesapeake, Portsmouth, Newport News, Williamsburg, Franklin, Smithfield, and Norfolk) for drinking, farming, and commerce. It takes thousands of years to regenerate an aquifer, but only a few years to make it unusable. Depleting the aquifer causes salt water to flow into the aquifer, making the water unusable for most purposes.

Who in their right mind would allow fracking to withdraw even more clean water from the aquifer, between 3 and 6 million gallons of water for every frack, and turn that water into toxic waste that cannot be cleaned, nor safely stored? Let's do the math. With over 80,000 acres under lease for fracking in the Taylorsville Basin, if there is one well per every 40 acres, there would be around 2,000 potential wells drilled.  $2,000 \text{ wells} * 3 \text{ million}$ , or  $2,000 \text{ wells} * 6 \text{ million}$  gallons of water withdrawn is 6 to 12 trillion gallons of water. Is it worth turning that part of Virginia into an waterless wasteland for that? We can live without gas, but cannot without water.

The Taylorsville Basin is sandwiched between the North Anna and Calvert Hills nuclear power plants. The May 2011 earthquake was a 5.8 magnitude quake that was felt all the way into New England. The nuke plant was built to withstand a 5.6 magnitude quake. We all know its impact - the Lake Anna plant was shut down for a few months while repairs were made. The Washington Monument and National Cathedral were damaged in DC. That quake even broke the pipe from my house to my drain field. The fracking process itself, not just injection well fluid disposal, has now been definitively linked in several scientific, peer-reviewed studies to increasing the number

and severity of earthquakes. We have had several earthquakes, albeit smaller in magnitude, since 2011. So why would we risk increasing the severity and number of earthquakes when we are sandwiched between 2 nuclear power plants?

See [http://www.fredericksburg.com/news/environment/virginia-tightens-spigot-on-big-water-users-to-stem-potomac/article\\_46dcc766-36f9-5687-a60f-651f97bd6596.html](http://www.fredericksburg.com/news/environment/virginia-tightens-spigot-on-big-water-users-to-stem-potomac/article_46dcc766-36f9-5687-a60f-651f97bd6596.html)

The problems of water depletion and nuclear power plant meltdown are not the only impacts. The rest of the fracking nightmare includes:

- health problems for residents near drilling sights such as asthma and low birth weight for children;
- air pollution including greenhouse gases affecting the world's climate (methane gas escaping during drilling and transportation and CO2 emissions from flaring and burning at power plants);
- turning a bucolic setting into an industrial environment replete with odors, noise, and light pollution;
- road damage paid for by residents, not truckers;
- a boom then bust economic model; and
- pipelines crisscrossing the land, with residents forced to allow that because of eminent domain.

Are we willing to take the risk to recover an estimated 24 days worth of gas? I'm not.

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## Organic Gardening

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**By Bill Johnson**

Organic gardening has reaped a lot of rewards for our family this year in terms of clean, healthy food. Bug killing is starting to pay off!

- Japanese Beetles: in 2015 I began the attack, killing over 10,000 from May to August; in 2016, that number went

down to around 8,000; and this year, the number has gone down to around 6,000. This past week I saw a handful and was able to kill almost all of them. I hold a bucket of water with a drop of soap in it under the leaves where I find them, and reach over them. They then drop off the leaves, hoping to escape, right into the bucket, where they drown. The drop of soap speeds up their demise, as it coats them. The number of beetles I see goes way down in August, as they are returning to the ground, laying the next generation. I think I did a better job this year of eliminating these very destructive pests, so I really expect to see far less next year. Since these beetles are not native to the US, they have very few predators. I was thrilled to see, for the first time, a dragon fly attacking one of them. I have also seen a preying mantis stalking them. But I also saw one kill a smallish spider trying to subdue it in its web. Maybe there is hope that native insects will attack.

➤Stink Bugs: Every year I see lots of stink bugs, but not this year for some reason, making me, and my zucchini very grateful. Historically, they love to destroy zucchini and tomatoes, but there were very few this year. Those I found I pushed into the beetle bucket. They don't drop by themselves; they need to be knocked into the bucket, or crushed. Crushing them, however, leaves a really stinky residue on your fingers.

➤Tomato Hornworms: Yeah, they were around this year, damaging a few of my tomato plants. The easiest way to find them is to look for large-scale damage to tomato plant leaves and stems. Then look around for a fat green creature eating everything. I simply pull them off the plants and throw them where birds can see them, for instance, on my driveway. If they have lots of white things sticking out, nature is providing its own remedy by way of the Braconid wasp. Leave it alone! That wasp has laid its eggs onto the hornworm. As the eggs mature into wasps, they eat and kill the hornworm.

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## A Simple Look at the Complicated "Clean Water Act"

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**By Paula Chow**

Cleveland had been a major industrial city since the 1880s, and the Cuyahoga River had long been a pollution problem. The mayor then called the river “an open sewer through the center of the city.” But when the Cuyahoga River caught fire in Cleveland in 1969, many believe it became the symbol of out-of-control pollution that was needed to get the Clean Water Act passed.

The National Environmental Policy Act of 1969 was signed into law by President Nixon on Jan. 1, 1970, and was considered the starting point for the Clean Water Act. The bill came at a time of rapid growth in environmental awareness, with groups like the **Sierra Club** and the National Audubon Society seeing massive growth in its members. The Sierra Club mounted a major campaign for clean water. Heeding the call of voters, Congress took a 1948 law, reorganized and expanded it and passed it in 1972 as the Federal Water Pollution Control Act. After several major amendments in 1977, the law became more commonly known as the Clean Water Act.

The Act’s basic objective was to “restore and maintain the chemical, physical and biological integrity of the nation’s water,” according to the Federal Wildlife Laws Handbook.

The Clean Water Act tackled every aspect of pollution control, monitoring, policy and funding related to protecting the country’s water systems. Programs such as the Clean Water State Revolving Fund emerged from the act to help states fund water-quality initiatives.

A few of the things the Clean Water Act does include:

- gives states primary rights and responsibilities to control and eliminate pollution;
- authorizes research programs to study pollution prevention, reduction and elimination;
- allows the EPA to enter into agreements with states and Canada to provide special protection for the Great Lakes;
- requires the EPA to monitor the aquatic sediment quality of waters in the U.S.;
- requires plans for waste treatment management before



discharge;

- allows the states to establish revolving loan funds for pollution control;
- sets limits on effluent discharge and requires certain levels of water treatment
- establishes a program by which industries cannot discharge pollutants into navigable waters without a permit;
- requires permits before dredged or fill material is disposed of in waters, including in wetlands
- regulates the disposal and use of sewage sludge;
- prohibits the discharge of oil or hazardous substances, establishes liability for those who violate the rule and creates a national response system in case of a discharge;
- requires the EPA to develop performance standards for water vessels to receive, retain, treat or discharge sewage;
- establishes a clean lakes program by which states must report on their efforts to keep their lakes free of pollution;
- requires the states to monitor non-point source pollution, to make sure pollution from watersheds doesn't damage bodies of water further down the system.

Those rules and regulations continue to change as Congress looks at changes in water treatment technology, booming populations, industry desires, funding needs and new risks to water quality.

On May 24, 2017, H.R. 953 eliminated the EPA's Pesticide General Permit, which requires a permit before spraying a pesticide directly into water. It strips away common-sense measures in place since 2011 requiring straightforward Environmental Protection Agency permits to spray pesticides directly into water for mosquito-control activities, weed and algae control, and forest-canopy pest control. This dangerous loophole benefits pesticide giants like Dow Chemical, and leaving the public unaware of toxic chemicals going into our navigable waters of rivers and lakes. ([https://www.biologicaldiversity.org/news/press\\_releases/2017/pesticides-05-24-2017.php](https://www.biologicaldiversity.org/news/press_releases/2017/pesticides-05-24-2017.php))

On June 28, 2017 President Donald Trump signed an executive order to roll back President Barack Obama's clean water rule. Obama's Clean Water Rule issued in 2015 – also known as the Waters of the U.S., or WOTUS – sought to clarify which wetlands and small, isolate waterways get protected under the landmark 1972 environmental law, the



Clean Water Act. It was meant to expand the federal government's authority to regulate pollution in smaller streams and rivers that flow into larger bodies of water like the Chesapeake Bay, Mississippi River, and Puget Sound. The rule gives protection to 60 percent of the US's bodies of water, including wetlands.

First proposed in 2014, WOTUS expanded protection for two million miles of streams and 20 million acres of wetlands. WOTUS was attacked by oil and gas developers, farmers, pesticide and fertilizer makers, and golf course owners, which claimed the regulation infringes on property owners' rights and is bad for the economy. In 2015, the American Farm Bureau Federation led a lawsuit against the rule, arguing it puts the burden on farmers to get a permit for using fertilizers near ditches and streams. The case has been in the courts ever since, and the rule has never actually been implemented.

President Trump's executive order directs EPA's director Scott Pruitt to initiate the lengthy legal process of rescinding and rewriting WOTUS. That process could take longer than Trump's first term, according to *The New York Times*. The executive order basically puts the legal case on hold, and directs the EPA to rework the rule. When it's completed, the agencies said, they will undergo a broader review of which waters should fall under federal jurisdiction.

The Clean Water Rule had already been put on hold by a federal appeals court in 2015, after 13 states filed a lawsuit against the EPA and Army Corps of Engineers. Since then, it has been on hold while the case works its way through the courts.

Officials expect the Clean Water Act to continue to evolve as technologies - and the risk of more pollution - change the needs of waterway and water source protection. Other laws, such as the Safe Drinking Water Act and the Great Lakes Legacy Act, work in conjunction with the Clean Water Act to maintain the country's waters.

Rappahannock Group has been working for a couple of years on an anti-fracking campaign in the Taylorsville Basin which is in the Chesapeake Bay watershed. Contamination of the region's aquifers is a major concern that cannot be ignored."

Remaining alert and communicating with your legislators about water issues are the most effective means of

protecting our water.

References:

[rcap.org/resource/about-the-clean-water-act/](http://rcap.org/resource/about-the-clean-water-act/)

Ariel Wittenberg, [www.eenews.net](http://www.eenews.net)

[www.centerforbiologicaldiversity.org](http://www.centerforbiologicaldiversity.org)

<https://www.govtrack.us/congress/votes/115-2017/h282>

<https://thinkprogress.org/clean-water-rule-repeal-official-f12e35f5b35/>

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## Tips Column

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### Sunburn and Suffer, Or Not!

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**By Paula Chow**

Summer is almost over but we are still wise to guard against the sun's harmful rays if we spend any time outdoors. Use SUNBLOCK instead of SUNSCREEN. Here's the reason:

There is strong scientific evidence that the Big Island of Hawaii's pristine coastline, home to one of the state's largest coral reefs, a miles-long stretch, is dying at an alarming rate say scientists.

Researchers found that oxybenzone, a UV filtering ingredient commonly found in lotions, harms the coral. Up to 14,000 tons of sunscreen wind up in coral reef areas of the ocean every year, and scientists say that contributes to the ecosystem's damage.

It's not just happening in Hawaii. Coral reefs are dying off around the world. Scientists say it's mostly due to rising ocean temperatures, but new evidence suggests certain types of sunscreens are making it even worse in popular tourist areas. This has encouraged Hawaii lawmakers to propose a statewide ban on the sale of all sunscreens that contain oxybenzone. State Sen. Will Espero says people will have to learn to use sunblocks that contain titanium and zinc instead.

If oxybenzone harms coral, could it also harm fresh water life, such as the Rapahannock River? We can probably deduct that it isn't good for our river. So why not switch now to environmentally friendly sunblock that does not

contain oxybenzone? Even if the data isn't in, what's the harm in being proactive? If we are to protect our river, we need to walk the talk.

<https://www.cbsnews.com/news/hawaii-considers-sunscreen-oxybenzone-ban-to-help-save-coral-reefs/>

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## Zucchini - what to do?

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**By Diana Johnson**

We grew only 4 zucchini plants this summer, but we were overwhelmed with the bounty, especially given that I like to allow the zucchini to grow to more than double the size of store-bought produce. When you pick and use them quickly, they are superb, much tastier than buying produce that crossed the country, a week after being picked. Simply cut out the seeds and you are left with more zucchini, tasting better than the smaller store versions. It only takes only 2 additional growing days to grow a 6 inch zucchini into one twice as long and twice as thick.

I became a slave to cookbooks and Google, testing my own creativity. We did the usual, zucchini bread and muffins; grilled zucchini with olive oil and balsamic vinegar; and baked zucchini. But that didn't give us enough options. So I found recipes for double chocolate zucchini cake, zucchini kraut, pickled zucchini, zucchini cheese squares, and zucchini noodles. We even showed some creativity of our own, creating zucchini caponata.

We loved the double chocolate zucchini cake - it was scrumptious! We were not so enthused with the zucchini kraut but loved the crunchy pickles. Substituting zucchini for eggplant in a caponata recipe resulted in a tasty and interesting variation on the Italian standby. The zucchini cheese squares were much like a quiche, but without the crust. But the grandkids' favorite was using my Spiralizer to turn the zucchini into spaghetti, served in a pasta sauce.

Still looking for more recipes before the tomatoes, peppers, eggplants, and figs come in. Food is great fun!

## Kick the Plastic Bag Habit

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**By Paula Chow**

To preserve strawberries and blueberries, clean them so they can be eaten, but instead, put them on a cookie sheet and freeze them overnight. Next day, separate them into useable amounts and put them in vacuum sealed bags or zipper lock bags and place them in the freezer. You will enjoy them the rest of the year. Freezing them quickly after picking retains their vitamins. Enjoy!