

JANUARY 2024

# THE RAPPAHANNOCK REPORT

*The Rappahannock Group Sierra Club Newsletter*



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## TRANSITIONING FROM THE CHAIR

*by Bill Johnson*

As of January 2024, I have stepped down as RGSC Chair, to make way for a new wave of activists, Cindy Hodges and Natalie Loeffler. Both Cindy and Natalie have been working on environmental issues with RGSC for the past few years and are ready to take on this challenge. Please welcome them aboard and help them be successful in this. I will continue to work tirelessly to fight against climate change, environmental issues, and the loss of habitat and food sources for local wildlife. There are still many issues that must be addressed to ensure that our children and grandchildren can enjoy a world similar to the one we live in now.

## CHEMICAL CONVERSION (“ADVANCED RECYCLING”)

by Bill Johnson

In 2021, the Virginia legislature passed a so-called “advance recycling” piece of legislation, backed by the American Chemical Council and the fossil fuel industry. It would, supposedly, facilitate the recycling of plastics into other plastics, via a pyrolysis-based incinerator. Instead of waste management regulations, the plants would be governed by “manufacturing” regulations which are less strict than waste management regulations.

So what does this “advanced” technology really do? It turns plastics into a burnable fuel that has to be shipped via truck and/or pipeline to its ultimate destination. That exacerbates climate change by releasing greenhouse gases (GHGs) into the atmosphere at every stage. A double whammy, as massive amounts of GHGs are released during extraction; and refining; and transportation; and use; etc. It is in no way “recycling”; it’s just another way to burn fossil fuels.

That legislation was passed with a provision to ban styrofoam in Virginia, in 2023. However, in 2022, the Virginia legislature backed away from the ban, pushing it out 5 years. So, Virginia can now build these “plastic recycling” incinerators, while allowing styrofoam to continue to be used.

The “recycling” label was used to make it seem like the plastics would be recycled into new plastic. However, no such capability exists yet. No advanced recycling capability has been shown to work anywhere in the world to economically convert plastics into new plastic. It is significantly cheaper and easier to use raw fossil fuels.

## COAL ASH

Coal ash is a highly toxic residue from burning coal in power plants, containing heavy metals like boron, arsenic, lead, molybdenum, cobalt, mercury, and lithium, all of which pollute the air, ground, and water around us. Many coal-fired plants, like Possum Point and Bremono Bluff, dumped toxic coal ash into unlined ponds. That has contaminated the surrounding lands and waters, to the detriment of residents living nearby.

RGSC and the University of Mary Washington co-hosted a session on coal ash in March 2023. University of Mary Washington (UMW) professor, Dr. Frankel, and some of his students have been investigating the impacts of coal ash leachates from Possum Point. While previous studies have mainly focused on the impacts of these contaminants on freshwater ray-finned fishes, little is known about their effects on non-model aquatic invertebrate species. As such, this study will assess the exposure effects of two coal ash-associated trace metals, cadmium and arsenic, on the viability, locomotor behavior, and embryonic development of the Seminole ramshorn snail.

## REGIONAL GREENHOUSE GAS INITIATIVE (RGGI)

Virginia officially entered into the RGGI program in 2021 via legislation signed into law by our previous Governor. Now, Governor Youngkin is attempting to pull Virginia out of that agreement, in a potentially illegal method.

RGGI is designed to lower energy costs, reduce pollution, bolster Virginia's clean energy economy, and provide funds for climate-related problems, like flooding. The initiative seeks to reduce health problems, reduce the cost to build energy efficient buildings, create clean energy jobs, and motivate electricity producers to migrate towards clean energy sources.

The Southern Environmental Law Center is suing the Youngkin government to stop him from pulling us out of RGGI. The University of Virginia Law Clinic is filing an amicus brief to support that lawsuit.

## FRACKING

A few years ago thousands and thousands of acres of land in the RGSC region was leased for extracting gas, via a process called fracking. That process relies on drilling down to gas deposits and using pipes to collect the gases and bring them to the surface where they are shipped to processing locations. We fought this for a plethora of reasons:

Pipes would need to be drilled through the only water aquifer to get the gas, putting the water supply for the entire region at certain risk from contamination. Pipelines would be needed to collect the gas from every well drilled and so eminent domain would be used to take people's property, even if they refused to allow fracking on their property. Small companies post bonds to cover potential damage, but the amounts required are trivial compared to the actual costs. Remember: everything humans build will eventually break, so it's not a question of whether the catastrophe will occur, but when it will occur.

## NUCLEAR POWER

Dominion has recently created an Environmental Impact Statement to allow the North Anna Nuclear Power plants to continue to operate until they are 80 years old. That document is being reviewed currently. The results of that review will help the Sierra Club and Beyond Nuclear to determine whether we should pursue the lawsuit to stop the license from being extended. The issue is critical for Virginians, as the nuclear power plants sit atop an earthquake fault line. In 2011, a 5.8R earthquake struck 12 miles from those plants. That quake exceeded the design specs for that plant and a thorough analysis of its impact is needed to ensure that the plants can remain safe to operate. An additional issue is the fact that there is no safe place to store the spent nuclear rods; they will have to be stored on a site prone to earthquakes forever.

Additionally, the Younkin administration is backing building small nuclear reactors in Virginia, despite the fact that the technology has not been implemented successfully anywhere in the world yet.

## POLYFLUOROALKYL SUBSTANCES (PFAS), MICROPLASTICS, HEAVY METALS, MERCURY, AND OTHER TOXINS

PFAS has a more insidious name: “forever chemicals”. Sewage sludge is a by-product of separating human and industrial waste from water in treatment plants. Per the Sierra Club, sludge is “the most pollutant-rich manmade substance on Earth”. So, it’s in your water and in the air. What about your food and your body? Yes, there too.

Acres and acres of farmland are being covered with sewage sludge. Virginia does not test or regulate the spread of sewage sludge, but it does prevent anyone from objecting to the spreading of this material. Virginia’s DEQ is not doing anything to regulate it, waiting for EPA to analyze risks associated with PFAS-infused sludge.

So what can you do? Eat organically grown vegetables and meat. Why meat also? Because non-organic meat can be grazed on lands from farms where sludge has been applied. What about wild-caught meat you hunted? Wherever sludge is applied, signs are posted warning people not to walk on the fields or graze animals for at least 30-days after applying sludge. Too bad deer, rabbits, and bees can’t read.

As a member of the Stafford/Fredericksburg Landfill Advisory Board, the landfill will soon be creating “compost” using biosolids. They have stated that they do not intend to do what Spotsylvania does, sell to individuals and companies. The “compost” is for use at the landfill only.

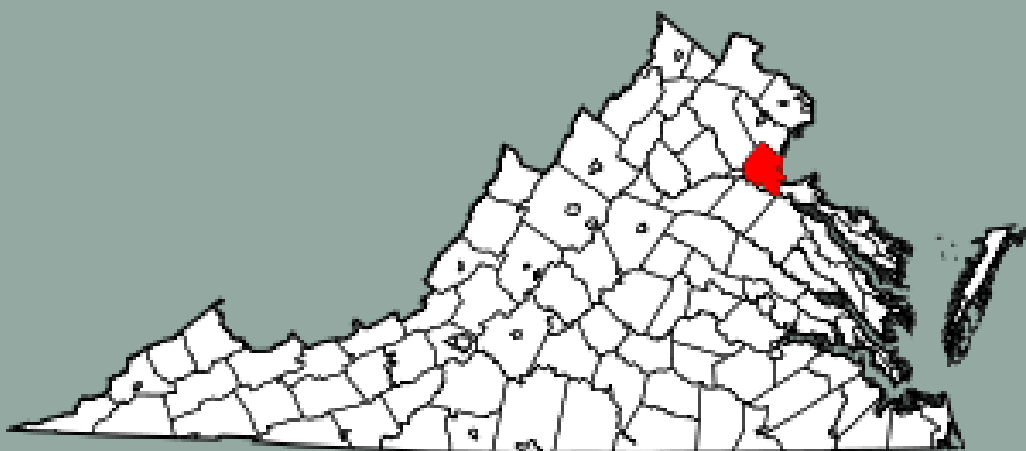


## CO<sub>2</sub> EMISSIONS IN STAFFORD COUNTY

Take a drive on Centreport Parkway off Exit 136 and see the development going on there. UPS, Amazon, etc. warehouses are everywhere. They are being built there because they have convenient access to I95. It is said that there could be more than 7,000 trucks going in and out of there every day when the warehouses are completed. I-95 in Stafford was rated an “F” in ozone pollution a few years ago by the American Lung Association, long before these warehouses started operations. It won’t get better.

And, I’m sorry to say, when they first started clearing the land there, I drove into one of the warehouse parking lots and was horrified to see what I saw. There were a few hundred wild turkeys huddled into a very small wooded area not yet destroyed. Neither the trees nor the flock are there anymore.

We need to keep fighting, for the future, for our kids.



# DATA CENTERS

*by Victoria Gallaway*

Virginia is the data center capital of the world, with more and more being proposed and built, with huge increases needed for energy. Dominion, as the sole provider of power, will increase costs to all residents to build new power plants and transmission lines to supply the huge quantity of power needed by these data centers.

Data centers are large buildings that store computing data. They are the backdrop to the electronics that individuals and businesses use on a regular basis. For example, whenever you store images on the cloud, that data is stored in a physical data center building. The rise of new technologies, such as artificial intelligence, is creating a surge in the need for data centers, and the Fredericksburg Region has been identified as an ideal place for them. As these proposals stack up, it is important to consider the environmental concerns that data centers can pose for individual counties and Virginia as a whole.

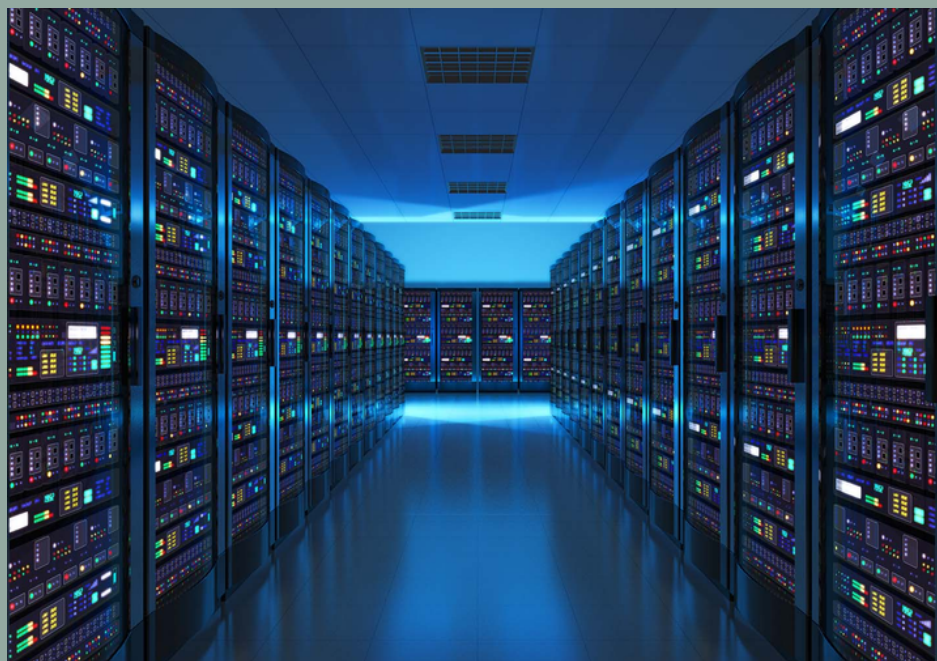
One concern is the location of data centers. They are large, resource-intensive structures, and should be sited in a way where they are connected to the water and energy resources needed to keep them running without a need for substantial construction. At the same time, they should be located in an industrial sector so as not to interfere with people. They can visually impede on a landscape, which is problematic when they are located near populous areas or national parks. They can also create a certain amount of sound which can be disruptive.

Another concern that data centers pose is that they require a substantial amount of water to cool the equipment. The source of this water is important because it can take away from existing drinking water sources. When locating the water source for a data center, planners should account for both current drinking water needs and the needs that would arise in the event of a drought.

Data centers are extremely energy-intensive, which can be an issue if they are not planned properly. They can require the creation of new power lines which are a large undertaking and may not provide the data center with clean energy. Additionally, at times when there is not adequate energy available, such as during the summer months, diesel generators have been used to keep data centers running. These diesel generators, as well as the trucks that are used to transport their fuel, create air pollution.

The creation of additional data centers will create broader energy concerns for the state of Virginia. Dominion Energy plans to extend the life cycle of existing fossil fuel plants and create additional plants to meet data center energy demands. The continued reliance on fossil fuels produces harmful greenhouse gas emissions and delays the shift to clean energy sources. These greenhouse gas emissions exacerbate climate change and contribute to the warming of the entire planet.

There are additional challenges that these data centers can bring, and it's important to keep in mind that these challenges will look different by county. The influx of data centers will be a change for the region that will be seen in the coming years, and their impact will largely depend on the planning that goes in prior to data center construction.





# REFLECTIONS AFTER A TRIP TO JAPAN

*by Paula Chow*

A trip to Japan left me in awe about how a society functions when everyone is respectful. This article is not based on research but rather my reflection of impressions from spending 3 weeks in Tokyo, Kyoto and rural villages in between.

Japan is a respectful, orderly, clean and safe society. Crowded streets pose no problems when each person respects the other person's space and order.

Public transportation, biking and walking are the preferred modes of getting around in the urban and suburban areas. Of note is the punctuality of the trains, to the minute. The buses, subway cars and trains were spotless.

The Japanese people are expected to be responsible for their own trash, respecting societal norms. The streets were completely free of litter, including cigarette butts, which was my three week experience. Five pieces of litter is truly all I saw. Yet, I could not find trash cans anywhere on the streets except at train stations and airports and at food establishments which are specifically for their customers' trash. I was thrilled to find sidewalks without the infamous black dots of discarded gum stains. It is an unwritten expectation that eating and drinking while walking is inappropriate.

The willingness to follow instructions regarding societal expectations was probably (in my opinion) a significant reason behind the recent success that all 367 passengers and 12 crew members were able to get out within 90 seconds without loss of life with the Japan AirLines crash at Haneda Airport in Tokyo. I suspect that the people followed the instructions of the flight attendants in an orderly manner as they have usually done as Japanese citizens rather than grabbing their belongings to take with them (instructed not to do so) and rushing the exits.

Food is respected as a product not to be wasted. "Mottainai" is the concept of respecting resources and not wasting them, inherently recognizing their value, that objects don't exist in isolation. When I did observe food waste, it was on a non-Japanese person's plate. The Japanese people are proud of their farm products and preserve many vegetables and seafood in various ways for the winter months. "Washoku" is the concept of seasonality when each season has its valued offerings.

Conversely, there are many wasteful practices, some of which are traditional and cultural and others are an obvious result of the Covid-19 pandemic. The packaging of finer food products such as cookies, savory snacks and the like are individually packaged with clear plastic, lined up like soldiers for a perfect presentation in a sturdy box that is gift-ready. Single-use disposable chopsticks are ubiquitous. Only one restaurant offered chopsticks that were instead destined for the dishwasher. I carried my reusable chopsticks in a case made for a fan - the retailer who sold it to me giggled about my alternate use of it but nodded in approval. The napkins offered at all restaurants where I dined were moist napkins encased in plastic. And reusable bags did not seem to be popular.

It is known that Japan incinerates their waste as biofuel. While they do recycle, I could not find bins anywhere to recycle paper, plastic, aluminum nor glass. I left these on the floor in a tidy pile next to the trash can in the hotel in hopes of their being recycled.

Out of Japan's 125.7 million people, 8.6 million of them consider hiking as their hobby. Seniors are frequently seen on moderate and even difficult trails. Nature is revered. In the 1980s, "Shinrin-yoku" or forest bathing was embraced as a form of ecotherapy. This is a concept accepted around the world and especially promoted by the Sierra Club.

As we start a new year, I imagine Americans embracing respect for each other, for all things and for the environment. Readers of this article most likely embrace these values. But how can and do we influence others to do so, too?

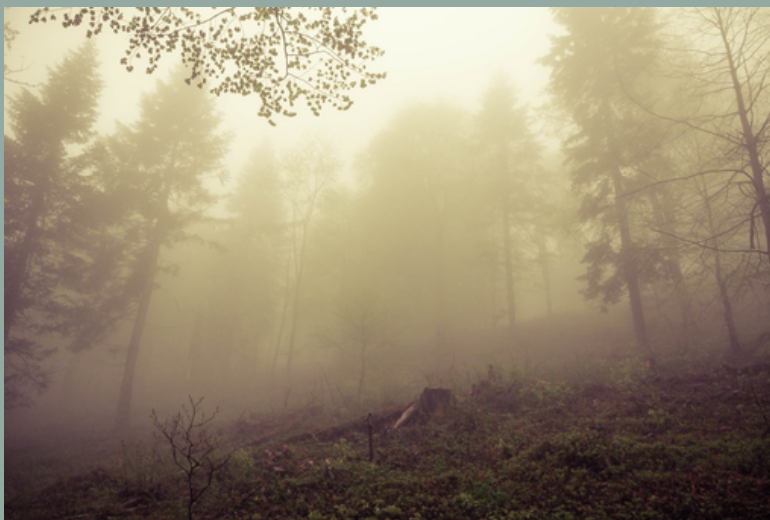
## RGSC OUTINGS REPORT

*by Geoff Johnson*

In celebration of National Public Lands Day, the Rappahannock Group Sierra Club volunteered for a River Cleanup at Caledon State Park in King George County this past September, 2023. Park staff led the way with a wagon ride down to the Caledon Marsh beach to clean up the shoreline. Then we rode up to the Jones Pond beach to clean up there before heading back to the Visitor Center. The event was organized with Lucia Craven, Park Interpreter, and was led by Karl Schwartz Park volunteer. Afterward, the group had lunch at a local King George Mexican restaurant. Also in September, we took a 3.5-mile hike through Chancellorsville Battlefield Park. Park Ranger Tre Doyle provided an overview of the park and the major civil war battle that occurred there. After our hike through the park, we had lunch at the Battlefield Country Store on Route 3 in Spotsylvania.

In November the RGSC was invited to tour the St. Clare Brooks Stream Restoration Project that has been developing over the past year. John Saunders, Stafford County Environmental Programs Administrator, provided the tour and an overview of the project. Friends of the Rappahannock were hosting a tree-planting event at the park that same day.

If you would like to be on the email list for all future RGSC Outings, please email Geoff Johnson at [geoffwithrgsc@gmail.com](mailto:geoffwithrgsc@gmail.com)



# UPCOMING YOUTH CLIMATE ACTION SUMMIT

by Victoria Gallaway

The Fredericksburg-Area Climate Action Summit is an annual event that highlights the interests of local high school and college students as well as young professionals in environmental issues. This year, the event will be held at the University of Mary Washington University Center “UC” on Sunday, February 25th from 10 am to 3:30 pm. Last year, it was referred to as a Conference, and as it has grown, it has morphed into a Summit. This event began as a partnership between Fossil-Free Fredericksburg and a handful of high schoolers and has gained more interest and support through each iteration.

This year, the hosts include the Virginia League of Conservation Voters, The Climate Reality Project, and the Office of Sustainability at the University of Mary Washington. The Rappahannock Group Sierra Club hopes to sponsor the Summit as it has done previously by providing food during the break session, and this sponsorship is contingent on the University caterer providing sustainable dining materials. The group also anticipates participating in reusable t-shirt bag and reusable net produce bag demonstrations.

This year, there will be a wide array of presentations, such as PowerPoints, videos, and art. The Fredericksburg-Area Climate Action Summit is free of charge and open to everyone. It is a great opportunity to learn more about environmental issues and their various solutions.

**OUR ACTIONS = OUR FUTURE**

**YOUTH CLIMATE ACTION SUMMIT**

VIRGINIA LEAGUE OF CONSERVATION VOTERS

The Climate Reality Project

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**WHERE: UNIVERSITY OF MARY WASHINGTON UNIVERSITY CENTER**

**WHEN: SUNDAY FEBRUARY 25th 10:00am to 3:30pm**