



Catoctin News

Newsletter of the Catoctin Group serving
Carroll, Frederick and Washington Counties

Volume 5 Issue 4

Winter 2018

Catoctin Group Accomplishments 2018

Dear Group Members,

I've listed our 2018 Sierra Club, Catoctin Group Eco-Goodness accomplishments for you below. Our local volunteers are very active. Please consider getting involved and have some fun along the way.

Sincerely,

Dan Andrews

Volunteer Catoctin Group Chairman

~ We held 12 Saturday morning monthly Group meetings of both the Group Executive Committee and our general membership. Meeting minutes were kept. (Coordinated by Betty & Bob Law)

~ We had 11 social lunches after each monthly meeting. (Coordinated by our stomachs)

~ Our Group followed Md. Chapter Executive Committee monthly meetings. (Coordinated by David Barrow)

~ Our group tabled and sponsored, with a \$250 donation, the showing of the climate change movie "An Inconvenient Sequel". (Coordinated by Dan Andrews)

~ Several members tabled six other events;

Frederick City Baker Park Earth Day

Middletown Earth Day

Boonsboro Green Festival

Weinberg Theater Conservation Film Night

And the Frederick City "In the Streets" festival

"Tree Virtues" at Lincoln Elementary (Coordinated by several members)

~ Published four quarterly Catoctin Group e-newsletters (See Sierra Club website for posted back issues). (Coordinated and created by Lew Sherman and Dee Dolan)

~ Awarded four \$1,000 "John Muir" scholarships to Frederick County High School students. (Coordinated by Lee Poplin, Director of the Scholarship Program)

~ Conducted Frederick County Zero Waste work for our group. (Coordinated by Betty Law)

~ Conducted 100% Renewable Energy work for our group. (Coordinated by Kathleen Rall)

~ Our group sponsored three showings of the Sierra Club's "Reinventing Power" 100% Renewable Energy Movie (Coordinated by Kathleen Rall & Mike Koob),

~ Led 6 hikes in Frederick County. (Coordinated by Mark Gregory, Paul Walker & Harry George)

~ One of the hikes coordinated by Paul Walker was part of a Sierra Club Tour Trip at Antietam Battlefield.

~ Political Work: Prepared political candidate questionnaires and interviewed Frederick County Executive & Council candidates & State Delegates; endorsed several winners. Several active members canvassed for endorsed candidates. Conducted a candidate postcard party with 13 attendees, for the general election and a similar party for our Primary candidate endorsees at Willow Oaks Barn in Middletown, MD. (Coordinated by Kathleen Rall)

~ Gave gratis calendars to participating scholarship high schools, local environmental group leaders and local politicians. (Coordinated by Lew Sherman)

~ Several members participated in a Ruritan Yard Sale fundraiser. We sold \$80 worth of donated items. (Coordinated by Lew Sherman)

~ Several Climate Change Power Point presentations were made to include Electric Car virtues. (Presentations by Ron Kaltenbaugh)

~ Two SC-CG members, Barb Trader and Harry George, attended the 1000 Friends of Maryland - Frederick County Smarter Growth Alliance monthly meetings to discuss local land development and Monocacy River health and water issues.

~ Several group members participated in opposition to the proposed Rock Wool plant in nearby West Virginia. They attended public hearings to speak against the project and wrote letters to engage some local municipalities. (Coordinated by George Rudy, Ron Kaltenbaugh, Betty & Bob Law)

~ Our group participated in a major tree planting project in Frederick County to support the Stream-Link non-profit. (Coordinated by David Barrow.)



The Hope of Hydrogen

By Bob Law

According to British Petroleum, less than 35% of electric power is produced by non-carbon sources, which includes nuclear power. Continued progress in this area is dependent upon recent breakthroughs in energy storage largely from lithium ion batteries.

Lithium batteries are, of course, the basis for the electric powered automobile, which now accounts for about 2% of the vehicles on the road and promises to surge to larger numbers in the near future.

The future of battery storage is dependent upon cobalt. Cobalt is a byproduct of nickel and copper mining. The largest source is Congo, a very unstable third world country. As a result, the price of cobalt is soaring and could hamper the expansion in the development of modern storage batteries.

Manufacturers such as Tesla are experimenting with using smaller amounts of cobalt in their batteries with some success and others are looking for substitutes to both lithium and cobalt as both elements are rare and found in difficult places to source such as Afghanistan. This situation can lead to the creation of cartels, which might even lead to "gun boat diplomacy" should a crisis of supply arise. Some future may be in sodium anodes, but this technology is still in its infancy.

A still larger concern is getting little attention. Less than half of the carbon dioxide rising into the atmosphere comes from electric power and petroleum fueled vehicles. Residential and commercial building heating, long distance trucks, airplanes, iron and aluminum production, cement production and chemical manufacture combine to create the largest share of carbon dioxide emissions and has largely gone unaddressed.

There is an urgent need for an easily obtainable and abundant non carbon based fuel source. Hydrogen has long been recognized as being the most obvious and promising, yet it has many drawbacks.

Foremost, it requires more energy to produce hydrogen than it produces in use. It requires more storage space than fossil fuels, it cannot be pumped through pipelines and it must be kept under very cold temperatures to keep it liquid. Furthermore, the best way to produce hydrogen is from fossil fuels, which defeats the whole purpose of resorting to hydrogen in the first place. Yet there are growing answers to these problems.

Countries such as Sweden and Norway have a super abundance of clean power (hydro, wind and solar) that would make hydrogen manufacturing possible.

Moreover, Norway is seeking to wean itself from its dependence on petroleum. Mixing hydrogen with methane gas for home heating for instance, has proven to be practical for transport and storage. Carbon capture could prevent the escape of carbon gasses from nullifying hydrogen's benefits.

Still, to be a viable commodity, the cost of hydrogen must become more competitive with fossil fuels and have an infrastructure vast enough to meet the needs of ready customers. Of even greater importance, is the question about the ability of this technology to provide all this before our increasing climate change disaster overtakes us.

Following is link to a series of recent articles in THE ECONOMIST (December 1st-7th) which address these breakthroughs and challenges:

[https://www.economist.com/](https://www.economist.com/technology-quarterly/2018/11/29/what-would-it-take-to-decarbonise-the-global-economy)

[technology-quarterly/2018/11/29/what-would-it-take-to-decarbonise-the-global-economy](https://www.economist.com/technology-quarterly/2018/11/29/what-would-it-take-to-decarbonise-the-global-economy)

I urge readers who require further details to read these articles.

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Lobby Night February 25!

Mark your calendars now for Monday evening, February 25, when we will hold our annual Lobby Night in Annapolis. Join with hundreds of other

Sierra Club volunteers to speak with your legislators about our bold legislative agenda for the 2019 General Assembly session. More detail to follow.

—Mark Posner, Legislative Chair



Having Fun Planting Trees for a Riparian Buffer

By Betty Law

By 11 a.m. nothing was left to do but take pictures and congratulate ourselves on a successful morning helping the environment.

On November 17, 2018, Sierra Club Catoclin Group members joined Stream-Link Education at the "Waterside" subdivision in Frederick County to plant trees for a riparian buffer (see Stream-Link Education web site, www.streamlinkededucation.org).

The mission of Stream-Link Education is to connect community to conservation through educational volunteer tree-planting experiences, to instill environmental stewardship and improve the health of our rivers and streams. With the help from volunteers, we plant native trees and shrubs within the area known as the riparian zone, the land that extends from the banks of a stream, to improve water quality. We conduct 3 years of maintenance on all of our sites and guarantee at least an 85% survival rate.

A healthy forested riparian zone benefits a stream in many ways, including the following:

- *Placing a riparian zone between a pollution source and a stream can greatly improve the quality of the water in the stream. Acting as a filter, the trees remove the sediment and pollutants that flow from surface and subsurface runoff.*
- *Dense vegetation of native plants along the side of a stream supplies shade, which helps maintain a healthy stream temperature.*
- *A healthy riparian zone will slow the flow of water entering a stream. Water has a better chance to soak into the soil, recharging the groundwater as it travels through the layers of sticks and leaves of a forest.*
- *Trees stabilize the soil and prevent erosion, which can cause an excess of sediment entering a stream. Sediment can choke a stream bottom and make it difficult for aquatic organisms to survive. With a healthy riparian zone, aquatic organisms are provided food and habitat.*

Sierra Club members joined many more volunteers at 9 a.m. The event started with a short explanation of

the purpose of the planting and some instruction on proper procedures. The holes for the trees had already been dug. Volunteers needed to take a potted tree from the truck to a hole, remove the tree from its pot, plant it, stake it and attach a protective plastic cone to ward off deer and protect the young tree from the sun. Then each volunteer went back to the truck to get another young tree.

The job was easy and fun. With the spirit of camaraderie and the large number of volunteers, the job of planting several hundred trees was quickly accomplished. By 11 a.m. nothing was left to do but take pictures and congratulate ourselves on a successful morning helping the environment.

Stream-link will have more plantings in the spring, which we will advertise in the Sierra Club Catoclin Group Newsletter. You can sign up for the next planting session anytime by going

to their website. I strongly encourage folks to consider volunteering for this most worthwhile and enjoyable activity.



Officers/Committee Chairs

Chairperson	Outings
Dave Barrow	Harry George
Energy	Paul Walker
Dan Andrews	Mark Gregory
Treasurer	Membership
Betty Law	Patti Fredericks
Secretary	Scholarship
Bob Law	Lee Popkin
Social Media	Political
Amy Andrews	Kathleen Rall
Waste	Newsletter
Dan Andrews	Lew Sherman
Betty Law	

Further Information

<http://www.sierraclub.org/maryland/catoclin-group>

Catoctin Group Initiatives

By Harry George

While the Executive Committee of the Catoctin Group ("Group") are still vetting and prioritizing our local Group initiatives for CY 2019, a couple of things stand out, as follows:

- We'll see a number of carry-over initiatives from CY 2018 that were not resolved.
- There are more items on our candidate list of initiatives than we have the volunteer resources to tackle effectively. (One of our criteria is that each initiative we undertake must have a "champion" who will quarter-back resources and take the lead.)

Note the distinction between local Catoctin Group initiatives involving Frederick, Carroll and Washington Counties, versus MD Chapter initiatives, which are state-wide encompassing and involve legislators in Annapolis.

Catoctin Group Carry-Over Initiatives from 2018 include:

- **Resolving the update of the 1990 Monocacy River Plan ("MRP")**

This has been a very contentious issue for the past two years, including through the mid-term election cycle, pitting property-rights and real estate development interests against environmental and recreational interests.

- **Livable Frederick**

This is effectively a "vision" document that will drive Frederick County's comprehensive planning for the next ten years or more. This will be front-center in 2019 and, yet again, will involve reconciling property rights and the real estate and development communities, against Smart Growth planning principles.

- **Solar Siting Ordinance**

In late 2016 the Frederick County Council passed an ordinance defining where large scale (commercial) power generating solar systems could be placed. Rumor is the Frederick County Council will revisit this again for possible adjustments. Given the MD Chapter's push for transitioning Maryland's energy to 100% renewables by 2040, this will be an item of interest at both the Chapter and Group levels.

- **Forest Resource Ordinance ("FRO")**

Like the solar siting ordinance, it is expected the Frederick County Council will revisit this ordinance in 2019, as political maneuvering during the mid-terms resulted in a less robust outcome than many on the Council, and the

environmental community, had hoped for when it was updated in early 2018. While overly simplistic, this ordinance addresses forest and tree canopy replacement when development occurs.

Other Initiatives Being Considered and Vetted for 2019 include, in no particular order:

- **Ft. Detrick Area "B" Roadway Construction/ Water Quality**

Area "B" was a repository for toxic chemicals and refuse from Ft. Detrick. A new road-way is being considered that would impact this area, with resultant concerns over "unlocking" this contamination, particularly given its close proximity to Carroll Creek, which flows through Frederick City and into the Monocacy River.

•Solid Waste

A continuation of the work by the County Executive appointed "What's Next Committee" that looked into solutions for disposal of our solid waste, given that the Reich's Ford Road landfill is quickly approaching capacity. Near term

focus is on reducing food-waste entering the landfill and redirecting it to composting, with initial targets being our public schools, institutions and businesses, and eventually encompassing residential households.

- **100% Renewable Energy Sourcing by 2040**

While this is a major issue at the MD Chapter and state level, we are looking to promote this initiative at the County and municipal (city) level.

- **Rockwool Plant in Ranson, WV**

We are working with our sister Chapter in WV in opposing the construction of this industrial insulation factory, produced from slag and basalt, resulting in the projected annual emission of 470 tons of volatile organic compounds and 239 tons of nitrogen oxides, as well as other harmful particulate matter. Given the proximity of Ranson to Frederick County and the easterly prevailing winds, this has the potential of significantly affecting our air and water quality.

The aforementioned items are some of the more significant issues we foresee coming before us in 2019.

We rely on volunteers to engage and champion these issues in front of our locally elected officials. As such, please stay-tuned to these issues and consider participating in support of an improved environment and quality of life for all.

2019

Fort Detrick Contamination of Neighboring Properties, Groundwater and Streams

By George C. Rudy

In the early 1940s, the Department of Defense/U. S. Army acquired farmlands on the north side of the City of Frederick, Maryland for the development of biological and chemical weapons research and production facilities. The facilities' campus was named Fort. Detrick. Fort Detrick operated as the Army's primary chemical and biological weapons research and production center within the United States through 1972 when, by international agreement, the development of biological and chemical weapons was banned. Subsequent to 1972, the Fort Detrick campus reverted to a mission as: (a) a research and production center for chemical and biological countermeasures; (b) a contagious disease research center; and (c) a cancer research center.

Throughout Ft. Detrick's operations from the 1940s through this day, its research and production activities have resulted in both biological and chemical wastes. The biological wastes have been either cremated or buried in a large field known as Area B. The chemical wastes have been placed in 55 gallon steel drums and also buried in Area B. Area B is a large land parcel located on the north side of the City of Frederick next to residential and commercial properties. In turn, the northeast sector of Fort Detrick's campus, known as Area A, hosts research laboratories and production facilities.

During the early stages of Area B through 2010, the land parcel was not monitored relative to any presence and/or release of contaminants. However, due to a high incidence of human cancers in properties neighboring the Fort Detrick campus, the community started to question the integrity of Fort Detrick operations from a "public health and safety" perspective. These community inquiries and complaints ultimately resulted in Fort Detrick Areas A and B being declared Federal Government "Super Fund" sites. The "Super Fund" classification meant that these areas would be subject to comprehensive environmental assessments, and as deemed necessary, corrective biological and chemical clean-up programs.

"Super Fund" classification also meant that Fort Detrick had to establish a special Environmental Restoration Advisory Board [RAB] with the assigned mission to monitor and advise relative to environmental assessments and the recommended clean-up programs and operations. A RAB was

established by Fort Detrick in 2014 and consists of Fort Detrick Staff, and several community representatives who are elected to its membership by the base Commander and Staff. RAB meets quarterly to monitor and advise regarding the Area A and Area B environmental contractor's plans, progress, findings, and recommendations. The subject environmental contractors have been conducting comprehensive assessments of both Areas and have found extensive groundwater contamination, which had migrated into neighboring residential properties and their potable water wells, the offsite Robinson Pond and Carroll Creek. It was determined that the Area A contamination sources were the result of laboratory

equipment which had experienced upset failures and leaked contaminants. The Area B contamination sources were the result of the buried 55 gallon barrels which had rusted-out and have been releasing their contents into the Area B groundwater.

Once Fort Detrick environmental management acknowledged the adverse "public health and safety" impact to the Monocacy and Potomac River supported

downstream community water supplies, the Army commissioned its environmental contractors to evaluate three proven water cleanup techniques, which will be installed at the Area A and Area B boundary lines with the neighboring community properties and Carroll Creek.

When operational, the subject cleanup systems will remove contaminants and release contaminate-free water to the offsite properties and Carroll Creek. Likewise, due to the residential well contamination on Kemp Lane, in 2016 the Army Corp of Engineers connected the five adversely impacted residential properties to the City of Frederick water system, and sealed the contaminated wells. The environmental contractors commenced their performance evaluation of the three groundwater contaminate removal techniques in the spring of 2018, and most likely will continue the program performance assessments through early 2019. Fully operational "corrective action" cleanup systems for both Areas A and B likely will be commissioned by mid-2019, resulting in the termination of contaminants from these areas migrating into neighboring properties and Carroll Creek.



Ft. Detrick Aerial Photo:
Bill Green, *Frederick New Post*

ANNOUNCEMENTS

Public Hearing Frederick County Planning Commission

January 16, 7 pm
Winchester Hall

— Draft of the 2018 Monocacy River Plan —

Current draft guts environmental recommendations from the plan. At a minimum, your attendance to show support is needed, and participation by speaking for reinserting deleted environmental requirements is welcomed. Environmental concerns must be addressed in the plan.



2019 Spring Thaw Workshop — Carroll County Forestry Board — Saturday March 23, 2019

Wesley Freedom United Methodist Church
961 Johnsville Road, Sykesville, MD 21784



Proceeds from this Workshop will be used to provide tuition for two Maryland high school students to attend the 2019 Natural Resources Careers Camp in Garrett County.

AGENDA

8:00	Registration, Continental Breakfast, View Exhibits	11:15-11:45	Local Trout Waters
8:30-8:45	Welcome Cheryle Franceschi, Carroll County Forestry Board Chairman; Chris Spaur, Workshop Committee Chairman; Chuck Lewis, Maryland Tree Farm Committee	11:45-12:15	Tree Care for Unusual Times— Repairing damage, recognizing warning signs and treating trees to be more resilient to extreme weather events
8:45-9:15	What Caused the Great Ellicott City Floods? The Role of Watershed Conditions and Storm Event Severity in Flood Risk Management	12:15-1:15	Lunch: Time to mingle and visit exhibits
9:15-9:45	Stormwater Implementation Strategies to Improve Water Quality	1:15-2:00	The Deer & Tick Equation, USDA Areawide Tick Control Project
9:45-10:00	Break	2:00-2:15	Break: Last chance for raffle tickets
10:00-10:45	Homeowner-Scale Stormwater Management Practices	2:15-3:00	Bees Need Trees and Trees Need Bees
10:45-1:15	Do Trees Along Streams Really Matter? Results of Maryland's Long-term Forest Stream Buffer Study	3:00	Closing Remarks, Evaluation and Raffle Results
Continuing Education Professional Credits: MDA Commercial/Public Agency Pesticide: 4 credits in category 2 (forest), 3A (Ornamental-Exterior), 7A (General Pest Control); ISA: TBD; SAF: CFE category 1 credits: TBD; MD DNR Licensed Tree Expert: TBD; UM Master Gardeners: TBD; UM Master Naturalists: TBD			

Workshop Fee: \$50/person; \$75/couple. Includes coffee, snacks, lunch and course materials.

Registration

Call Carroll County Forestry Board: **410-848-9290**; Email Donna Davis:
donnal.davis@maryland.gov

or register on website: www.carrollcountyforestryboard.org, choose "Events"

Deadline: March 15, 2019

The John Muir Scholarship

The John Muir Scholarship was created by the Sierra Club's Catoctin Group in 2015 to support students who's goal is to pursue an environmental or conservation career. To date, our program has awarded almost ten thousand dollars to students in Frederick County assisting them with the financial burden of annual tuition costs.

Our mission is to inspire, encourage, and support the next generation of environmental leaders preparing them for a lifetime of protecting our environment. To connect and stay in touch or learn how you can support our program please follow us on Facebook by searching for the John Muir Scholarship in the Facebook search field. For questions on how to

arrange for a representative to come and speak about our scholarship program at one of your events, please contact us directly at the number below. For instructions on how to make a donation to our program, please visit our website by clicking on the link below.

Lee S. Popkin
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<https://www.sierraclub.org/maryland/catoctingroup>