



Valley Views

Volume 39, Issue 5

April/May 2021

President's Note

By Jim Cummins, PVAS President



I find it especially wonderful to welcome Spring this year, and I am betting that many of you feel the same way. Spring has long been my favorite season, but this year, with “Covid-housebound syndrome,” getting outside and seeing bright, mating-plumed birds flittering amongst the kaleidoscope of fresh green colors, hearing their songs, and smelling freshly tilled earth while working in the garden, are all especially rewarding, renewing, and revitalizing. The rebounding helps with our various levels of recovery as well, welcome relief from stress and sorrow.

Winter had its own “Rs.” The snows of February were remarkable, in no small way because I was inside more than I wanted to be. I watched a lot of television, and thereby saw some of the best and most inspirational Black History Month programs that I can remember! They caused me to reflect.

PVAS’s Christmas bird count was good news: an increase in bird diversity! Yay! However, PVAS, along with the National Audubon Society, is not increasing the human diversity of colors, cultures, and conventions in our membership as richly as we desire. PVAS management and staff have been working hard to reach out and strengthen our diversity, with some improvements. But much, much more needs to be done. A significant factor is ensuring that everyone feels welcome, familiar, and safe when communing with the out of doors. While PVAS management and staff actions are important, this is a situation where broader involvement is the key, where a lot of small individual actions can lead to big changes. Therefore, I am asking all PVAS members and friends for your help. Let us all reach out to our friends and family of diverse backgrounds who are not yet familiar with PVAS. Invite them to join you/us on hikes, bird watches, and other PVAS activities and programs. We can all welcome, familiarize, keep each other safe, and jointly explore the exciting range of outdoor resources and activities that PVAS has to offer. In this time of safety through small groups, it makes good sense. Go even farther and sponsor a membership or two, gifts that will likely never be forgotten.

While on the subject of diversity, I am going to digress a bit -- this time about wildlife. A couple of articles in this issue are about beavers, and long being a fan, I need to add my two

cents. Beavers were almost completely trapped out of our eastern streams -- their homes for hundreds of thousands of years -- where they were important components of the ecosystem. Beavers provide critical habitats for many birds, plants, and other species such as freshwater mussels and amphibians, thereby increasing natural diversity and resilience. Now they are making comebacks! We often associate beaver with the American northwest and the fur-trade of the early 1800s, but beavers also existed in great numbers in the east. Indeed, beaver fur trading was the economic driver in the founding of Maryland. In 1633 Cecilius Calvert (son and heir of Lord Baltimore, who died in 1632) learned that on the Potomac alone “there is such a lucrative trade with the Indians, that a certain merchant in the last year exported beaver skins to the value of 40,000 gold crowns [roughly \$6 million in 2021 dollars], and the profit of the traffic is estimated at thirty fold.” Lord Calvert saw the fur trade as the key to creating the new Maryland colony. He organized a joint-stock fur-trading company, that with ‘furs alone’ would ‘largely requite’ the ‘adventure.’ The Ark and Dove sailed in 1634, and thus Maryland was founded upon an Island in the Potomac River. Beaver should be Maryland’s “Heritage Animal.” A Maryland favorite, the diamondback terrapin, is a great animal, but beaver are more ecologically important to a many more species, and they have this compelling history. Welcome back, beaver!

None of us are without our problems, but when we work together we can increase diversity, function, understanding, resilience, and beauty.

The Monarch Alliance Spring Native Plant Sale!



Online pre-order April 21-May 8
Pick-up & in-person sale May 22, 10am to 2pm
Sunny Meadows Garden Center
Boonsboro, MD

Potomac Valley Audubon Society is dedicated to preserving, restoring, and enjoying the natural world through education and action.

Elegant Ephemerals

By Wil Hershberger, Nature Images & Sounds LLC

Our sojourn with the spring ephemerals is far too brief. The flush of green and sprinkling of vivid colors across the forest floor brings joy to all that seek their beauty. Racing to complete their cycles before the lofty trees unfurl their leaves and absorb most of the life-giving sunlight, the wildflowers of early spring brace against morning frosts and afternoon heat.

In our area, among the very first to emerge above the weathered leaves is Round-lobed Hepatica (*Hepatica americana*). The flowers, dancing delicately on the slightest breeze, are often a pleasing, soft purple with green centers and white anthers. More rarely, white petaled flowers are found. The underside of the three-lobed leaves is deep maroon — the color of liver, from whence the flower gets its name. Forested areas with rich leaf-litter at Sleepy Creek WMA and Shannondale Springs WMA are good places to search for this early bloomer.

Coltsfoot's (*Tussilago farara*) yellow flowers follow shortly on sunny roadsides and forested south-facing hills. These early daisies, looking very much like Dandelions, sport golden-yellow ray flowers surrounding a cluster of disc flowers. Inspection with a hand lens will reveal the wonderful, miniature beauty hidden in these blossoms. The persistent leaves remind some of the hoof-print of a young horse. This European transplant was used in herbal teas to treat a number of ailments.



Spring wouldn't be spring without the Spring Beauty. Two species occur in our area: the Carolina Spring Beauty (*Claytonia caroliniana*) and Spring Beauty (*Claytonia virginica*). The former has ovate leaves and the latter more linear leaves. Both species infuse the faded, weathered leaves of the forest floor of mountainous areas with a mist of pink. Most flowers are pink with darker pink veins; some flowers are white in color. The pink pigment betalain is unique to this order of plants, which includes a diverse range of flowering plants from cacti to beets.

Bloodroot (*Sanguinaria canadensis*) is a poppy and the only member of its genus. The sap that comes from a broken rhizome is blood-red. The flowers appear first wrapped in a curled leaf, which expands slowly. Heavy rains or strong winds easily displace the bright, white petals. Even then, they are only on the flower for a short time. Yankauer preserve is a great place to search for and enjoy this most ephemeral of flowers.

Twinleaf (*Jeffersonia diphylla*) is an uncommon spring ephemeral of the barberry family in our area. Yankauer preserve is noted for the outstanding displays of this species. Search the Kingfisher trail for the bright-white petals of this gorgeous plant. The leaves of Twinleaf are unique, being divided nearly in two, which makes the plant very easy to identify. As with Bloodroot, the petals of Twinleaf are short-lived and easily displaced.



Fast on the former's heels comes Dutchman's Breeches (*Dicentra cucullaria*) and Squirrel Corn (*Dicentra canadensis*). Named for the prominent white flowers that look like up-side-down breeches, Dutchman's Breeches is the first of this pair to flower. This species, found in rich woodlands and riparian habitats, often grows in lush mats covering many square feet. The rich green leaves of Dutchman's Breeches contrast with the bluer, more finely divided leaves of Squirrel Corn, which are often found growing in the same area. This species' flowers are bleeding heart-like (as suspected from the genus *Dicentra*), suffused with purple-pink hues, and start to appear once the Dutchman's Breeches are in full bloom. Squirrel Corn is named for the small, yellow corn-like bulblets from which the plants grow. The Potomac and Shenandoah Rivers' forested banks are rich with both of these species of spring ephemerals. Native bumblebees pollinate both species, as they are strong enough to open the flowers to expose the nectary, stigma, and stamens.

More conspicuous than the former is the Virginia Bluebells (*Mertensia virginica*). This species is also found in rich, bottomland hardwoods in wet areas. Locations that support the two former species are often rich with large displays of Virginia Bluebells. Large, rounded, bright green leaves subtend a stem that terminates in a cyme of gorgeous sky-blue tubular flowers. Butterflies often pollinate bluebells as they can reach the nectar deep within the corolla.

I certainly hope that you will peruse the preserves and the parklands in our area for the potent pallet of perfuse colors and shapes that our spring ephemerals have to offer.



PVAS Events

Annual Appeal Successful. **THANK YOU!**

By Kristin Alexander, Executive Director

Spring is in the air! The sun is warm and shining, bulbs are popping, tree sap is flowing...

As grateful as I am for spring sun and wildflowers, I am even more grateful to the incredible generosity of our members, friends and donors. Thanks to you, not only did we meet our budgeted goal for our annual appeal (which was bigger than ever before) but we surpassed it by \$5,000. In all, we received over \$60,000 by our deadline of February 28th. I am humbled and awed and grateful. **THANK YOU!**

This funding is used for our general operating expenses for the year. It's what allows staff and volunteers to do educational programs, manage 500+ acres of nature preserves, and take on conservation projects in support of our mission: *preserving, restoring and enjoying the natural world through education and action*. So *thank you* for your generosity. I am so glad that you, too, find value in preserved green space for both wildlife and people; the educational programs we provide for youth and adults, whether in-person or virtual; and the conservation initiatives we take on and promote. And, that you care deeply enough about those activities that you support them with such generosity, is truly awe-inspiring.

Thank you so much for your amazing support. With your generosity we will enter the season with resilience, confidence, and positivity.

A Virtual Walk in the Woods with Wine

By Kristin Alexander

Thank you so much to all those who joined us for our first ever "Virtual Walk in the Woods with Wine!" This was a great opportunity for the PVAS staff to share some of their favorite spots with folks, to spark people's curiosity about PVAS preserves, and perhaps to allow guests to access places they may not otherwise see!

Through pre-recorded videos compiled and edited by PVAS's newest staff-person, Hannah Donnelly, Kristin Alexander shared some of her favorite places at Yankauer Preserve and the impact that preserve has had on PVAS as an organization. Krista Hawley explained the importance of the varied habitats found at Stauffer's Marsh for migrating birds and other wildlife. Amy Moore provided a sneak peek at "Muskrat Pond" at Cool Spring, to which the public does not normally have access, as well as the beauty of the marsh and Bullskin Run. And KC Walters shared the vistas and history found at Eidolon. Zoom provided participants opportunities to ask staff and volunteers questions about each site while enjoying wine, savories and sweets from their goody bag in the comfort of their own homes.

An enormous thank you goes out to several groups for their help with the fundraiser:

Reid's Distributor for donating ALL of the wine for this event. Kim Reid was such a pleasure to work with, and so gracious and generous with his contributions. **Insurance Outfitters** in Shepherdstown, for letting us use their parking lot and "drive through" capacity to provide wine and goody bags in a safe, contact-free way. The wonderful **PVAS "Events Committee:"** Susan Brookreson, Gretchen Meadows, Diana Mullis, and Jane Vanderhook who provided all of the edible goodies in the bags and made them so attractive for the enjoyment of our guests. **Wil Hershberger** for allowing us to use his photos and sounds for the videos, and **Dan Dalton** for his drone footage of the preserves. And **Maria Parisi and Melissa Gonzalez** for their technical support of the event.

Thank you to all who made this fun and engaging event a success. We so appreciate your support.

Volunteer Spotlight

Have You Met Maria Parisi?

Maria is a Master Naturalist who recently joined the Master Naturalist Coordinating Committee as the Recognition Chair. Maria also happens to be very familiar with Zoom, so in her role on the Coordinating Committee she helped organize the Annual Meeting via Zoom with breakout rooms, trivia questions and other methods to engage with the Master Naturalist Community virtually.

While her job with the US-Fish & Wildlife Service keeps her very busy, she doesn't hesitate to jump in when a call for volunteers goes out. Her organizational skills are highly valued and her friendly laugh is always welcome. We want to say **thank you** to Maria for her above-and-beyond efforts in everything she does. All our volunteers are great! If you'd like to nominate someone you know for a shout-out, get in touch with Hannah Donnelly at Hannah@PotoamacAudubon.org.



PVAS Events

Adult Programs

By Krista Hawley, Adult Program Coordinator

With mass vaccination efforts underway, it seems as if there is a breath of fresh air being blown into PVAS's spring programming. While strict precautions are still in place with mask wearing, limited registrations and social distancing, we can feel the excitement in people's voices, in their emails requesting information or asking to join events and the number of our community members registering for our programs. Spring is in the air and vaccinations are in (or soon will be) our arms.

We are proceeding with caution and planning with vigor. Our April and May calendars are filling up with exciting opportunities for those who are able to get outside, while still offering virtual programs for those that prefer to join from the comfort of their home.

Joy Bridy spent 2020 hosting outdoor nature journaling gatherings at each of our four preserves and she isn't slowing down in 2021. In April, she will be venturing 'up the mountain' to see how spring is unfolding at Eidolon Nature Preserve and in May she will be celebrating spring surrounded by spring wildflowers and migrating birds at the Ferry Hill Plantation located just across the Potomac River from Shepherdstown. Her nature journaling gatherings welcome anyone interested in journaling regardless of their experience. Come along to find out what nature journaling is all about, but don't be surprised when you find yourself back again each month!

Do you love to feed the birds in your yard? Are you curious what birds are in our area beyond your backyard regulars? Join one of PVAS's bird walks and let our experienced bird walk leaders welcome you to the world of birding. Spring is an exciting time where the weather is warming up and the migrating birds are

passing through on their way to their summer homes. Thanks to our fabulous volunteers, PVAS is able to offer numerous walks at our preserves and throughout the area. Visit the birding option under our calendar of events to register for one of our many walks. Remember, registration is limited for these popular walks, so planning ahead is recommended.

What says spring better than wildflowers?! Let our team of wildflower experts wow you on one of their three wildflower walks. Mary Duke, Kathy Bilton and Wanda Miller have teamed up to share their knowledge and love of our fabulous native spring ephemerals. Join them as they hunt for a wide variety of wildflowers, including Bloodroot, Spring Beauties, Dutchman's Breeches, Rue Anemone, Twinleaf, Cut-leaf Toothwort, Trout Lily, and more.

The Potomac Valley Audubon Society's Monthly Programs will continue to be offered virtually via zoom in April and May. Our April 14th program features the invasive Brown Tree Snake and how it decimated the endemic endangered avian populations on the island of Guam and what the neighboring islands are doing to prevent the spread. On May 12th, dive into the fascinating world of fungi with Potomac Valley Master Naturalist and Shepherd University Assistant Professor, Laura Robertson. Dr. Robertson will be presenting 'Five Fascinating Fungi You Could Find in Your Backyard,' where she will highlight these interesting local mushrooms: Pheasant-back, Split-gill, Lion's Mane, Green-spored Parasol, and Cedar-apple Rust.

PVAS is continually looking for exciting educational opportunities for our community. Regularly checking our calendar of events at <https://www.potomacaudubon.org/calendar/> is the best way to take advantage of our programming. If you have an idea of something you would like to see offered, please be sure to share your idea with Krista Hawley, Adult Program Coordinator, at AdultPrograms@PotomacAudubon.org.

"This Race is for the Birds!"

Virtual Options, April 9-17, or In-Person on the trails of Broomgrass, Saturday April 17

It's race season again! PVAS's 21st annual "This Race is for the Birds!" is here with options for everyone!

VIRTUAL: Choose our virtual event and participate from the location of your choice. Pick any day between Friday, April 9th – Saturday, April 17th to accomplish your event. We encourage participants to get creative with their virtual 5K or 10K events: ride your bike, kayak your local waterway, hike your favorite trail, run your fun neighborhood course, etc!

IN-PERSON: If the trails of Broomgrass are calling your name, we are happy to welcome you to this beautiful community on Saturday, April 17. This year, things will look slightly different than in years past, yet we expect it to be equally as fun! In order to keep our participants and volunteers as safe as possible, we will not offer a professionally timed race. Instead, we will have staggered start times and a Strava segment set-up for those interested in recording their time or competing for 1st place. All other virtual and in-person participants will be entered in the awards pool with awards announced on Sunday April 18.

VOLUNTEER: If you would like to get a sneak peek at the gorgeous trails at Broomgrass, we would love your help at one of our race-prep volunteer workdays. Visit <https://www.potomacaudubon.org/calendar/category/volunteer-opportunities/> to register for our April 2, April 6 and/or April 13 volunteer workdays. Race day help is also needed, and sign-up can be found on <https://www.potomacaudubon.org/race/>.

We are very happy to be able to host the race this year and hope that, with both virtual and in-person options, you are able to find your perfect event. Join us in celebrating healthy outdoor play in our, or your, beautiful community.

Information and registration can be found at <https://www.potomacaudubon.org/race/>. Please email Race4Birds@PotomacAudubon.org, or call (681) 252-1387 with any questions you may have. All proceeds support the Potomac Valley Audubon Society's programs and preserves.



Birding

Get Involved with Birds

By KC Walters, PVAS Land and Facilities Manager

It's officially Spring! Now is a great time learn about birding projects and events with PVAS. We have something for all ages and birding abilities, and it's never a bad time to join the fun and get involved in birding! For more information on any of the programs below, visit our website or email KC at Katelyn@PotomacAudubon.org.

Swift Watch (April 4 – June 5)

Help PVAS monitor the Chimney Swift tower by joining the Swift Watch team! Each evening in April and May, volunteers play an audio lure at the base of the swift tower and record observations of Chimney Swift activity. Volunteers are asked to commit to a minimum of one day a week for one month.

Ruth Ann Dean Memorial Birdathon (May 1 – May 8)

The new format we developed for the 2020 Birdathon was a huge success, so we are doing it again for 2021! Birdathon is a two-part event: PVAS Top Birder (a friendly fundraising competition) and the Community Collaborative Big Day (a FREE community activity).

Ready to put your birding skills to the test? Compete against pro-birders Matt Orsie, Bob Dean and Wil Hershberger in a friendly contest for the title of PVAS Top Birder 2021. Each competitor will choose one, 24-hour period during the week of Birdathon to perform an intensive bird count to see who can identify the greatest number of species within the PVAS service area. For information on how to support our pro-birders go to: <https://www.potomacaudubon.org/birding/birdathon/>.

If you're not interested in competing, then consider participating in the Community Collaborative Big Day. Create your own team – either solo or with quarantine companions – come up with a clever name, and identify as many birds as you can within one, 24-hour period during the week of Birdathon. Your count can be completed in one location or you may migrate anywhere within the PVAS service area. We will combine all of the lists from every team to see if, together, we can reach the goal of 100 different bird species.

Climate Watch (May 15 – June 15)

Following the release of the 2014 climate change report, Audubon began the Climate Watch program to track the impacts of climate change on birds. Twice a year, volunteers across the country conduct point counts of priority species. Audubon scientists are then able to use this data to document the response of birds to climate change, including shifts in their ranges.

KC Walters and Wil Hershberger joined the Climate Watch force during the winter 2020 survey period and now they are looking for more volunteers to grow the program in our service area. They will be hosting a free information session and training via Zoom on April 20 at 6pm for anyone interested in participating in this critical community science endeavor. Attending the training is not a commitment to participate. All are welcome to learn about the program before choosing to get involved. For information go to: <https://www.potomacaudubon.org/event/climate-watch-training/>.



Eastern Bluebird © Wil Hershberger

Family and Youth Programs

Virtual Nature Programs

By Amy Moore, Lead Teacher & Naturalist/Audubon Discovery Camp Director

In February we reached out to teachers in Jefferson and Berkeley Counties to tell them about the free virtual nature programs that we are offering this spring. To our delight, the very next day, we received about 20 emails from teachers wanting to schedule programs. Although in-person programs are ideal, the one advantage to these virtual programs is that we are now able to offer programs to many more classes than we were ever able to before! Some of the programs we have been teaching include "Caught on Camera" where the instructor introduces students to the animals that live at our preserves using our trail camera video footage.

We also are teaching "Bugs-A-Billion" where students meet our live Madagascar Hissing Cockroaches as they learn about insects. Our turtles even have made a few cameos for our "Turtle Time" programs, where we teach students about turtle conservation. For upper elementary grades, we are offering programs such as "Animal Skulls," and "Flower Dissection." We even have a program dedicated to Phenology and another calling "Talking Trash" where students learn about what happens to our trash and how recycling works. Emily, Abby and I have had a blast teaching these new program topics and are eager to continue to teach virtually in April and May.



AmeriCorps Emily Sperling, with Scute, our education ambassador Box Turtle, teaching virtual "Turtle Time."

Family and Youth Programs

Youth Programs: Students Participate in Community Science Projects

By Amy Moore, Lead Teacher & Naturalist/Audubon Discovery Camp Director

As spring unfolds, we have been engaging our Outdoor School students in a variety of Community Science Projects. One such project is called “Nature’s Notebook” where students are recording phenological events that are taking place at our Preserves. To give you some background, you can think of phenology as nature’s calendar. It’s the study of events such as the timing of when leaves emerge, when flowers bloom or when a robin lays its eggs. These cyclic biological processes are closely tied to climate, and the data that we collect is very important as we study the effects of climate change on our local environment. Through this project, students are learning about climate change in a tangible way that they can connect with on a personal level. At the beginning on each month, each student chooses a plant and tree to monitor each week. They record changes that they see and draw how the plant looks on that day. At the end of the month, they look back at their drawings and notes to compare the changes, or phenophases, they observed over time. Next year, when we repeat this activity, we will have students compare the phenophases of those same plants to this year’s data. We will be reporting the data that we collect to the USA National Phenology Network so it can be used in scientific research.

Another project students are participating in is Project Nest Watch, a program of The Cornell Lab of Ornithology. Project Nest-Watch is a nationwide nest-monitoring program designed to track the status and trends in the reproductive biology of birds, such as when nesting occurs, number of eggs laid, how many eggs hatch, and how many hatchlings survive. Throughout this project, students learn how to carefully inspect bird houses in a way that minimizes disrupting the nest or displacing nesting parents. We then submit that data that we collect to the NestWatch database to be used by researchers to study birds. This data is especially important as scientists study how bird populations may be changing as a result of climate change, habitat loss, and the introduction to non-native plants and animals.

We hope that these projects empower our students and help them realize that they can be part of the solution to protecting our natural world. Perhaps these experiences will inspire our students to continue to contribute to scientific research and maybe inspire future careers in science and conservation.

You can participate in both of these Community Science projects as well. Information about Nature’s Notebook can be found here: https://www.usanpn.org/natures_notebook, and information about Project Nest Watch can be found here: <https://nestwatch.org/>.



Outdoor School students look for signs of spring in the Cool Spring Marsh.

Camp Programs

Who’s Ready for Summer Camp?

By Amy Moore, Lead Teacher & Naturalist/Audubon Discovery Camp Director

Summer is around the corner, and the PVAS Education team has some fantastic summer camp plans in the works. Now, more than ever, summer camp experiences are vital for children. This school year, many children have spent a lot more time in front of a computer, engaging in virtual learning at home. Additionally, children have had fewer in-person interactions with other children.

We are so happy that our Discovery Camp offers children the opportunity to be outside, safely interact with other children and adult mentors, and of course, interact with nature. My favorite thing to do as an environmental educator is simply to explore with children. I encourage children to be observant, ask questions, and tap into their innate sense of wonder. To me, summer camp is the perfect place to do that.

To ensure a safe and fun camp experience, we are following CDC health and safety guidelines. At camp, we stress the importance of social distancing, require staff and campers to wear masks, and have a health screening process in place. Additionally,

we are keeping camp enrolment numbers lower than a typical year in order to maintain small group sizes.

Just as in previous years, we are offering a variety of camp themes at both Yankauer and Cool Spring preserves.

Playing in the creek is always a hit at Cool Spring, so we created our “Muck Monsters” camp for children who are all about catching critters in the creek, making mud pies, and getting messy. We are offering our popular “Camp Survivor,” where campers learn primitive skills, and also our “Earth Art” camp, for those who want make masterpieces inspired by nature. For middle schoolers we offer our “Stream Investigators” camp, where campers will study the biology and chemistry of Bull Skin Run. For campers entering grades K-2, our “Sensational Senses” camp is all about using one’s five senses to explore nature. Other camp themes include “Nature Sleuths,” and “Animal Olympics.” For middle and high schoolers, we have our “Counselor in Training” program for those who wish to learn more about working with children, develop leadership skills, and volunteer at camp!



Notes from the Preserves

In the Preserves

By KC Walters, PVAS Land and Facilities Manager

Spring 2021 has officially sprung! The wildflowers are blooming, the trees are budding and the birds are singing the melodies of warmer weather.

Be sure to take a trip to Stauffer's Marsh to meet our newest marsh residents. Over the holidays, a pair of beaver moved into the preserve. While they have yet to make a public appearance, they are leaving evidence of their presence all over the preserve. We believe it is a pair of beaver because they have been busy constructing a lodge. This lodge can be seen from the marsh-viewing platform. Perhaps they are preparing for the arrival of baby beavers this spring!

While we are thrilled to have the beavers at Stauffer's Marsh, they are not the easiest animals to coexist with and they are causing a few land management issues that we are working to mitigate. Former PVAS AmeriCorps, Allison Zak now works with the Clifton Institute and is performing landowner outreach regarding beaver coexistence. She visited the preserve in February and provided us with a full report including land management recommendations.



One issue with beavers is they can sense running water and their instinct is to dam the breach. Unfortunately, this means they are damming the weir between the front and back pond. We plan to discourage this by breaking down the dam several times a year.

They're also taking down trees that we want to keep. They seem particularly fond of the evergreens located along the West Pond Trail that divides the front pond and the road. These evergreens are key screen trees that provide safety and privacy to the waterfowl. We are trying a relatively new method to protect these trees. Latex paint mixed with sand is being painted on the trunks of the trees we wish to keep. This does not harm the beavers but does discourage them from chewing the painted trees. We are experimenting with a couple of different paints and colors, so if you see painted trees, do not be alarmed.

In an effort to enhance this screen and replace some of the trees removed by the beaver, AmeriCorps service members, Abby and Emily, applied for a Project CommuniTree Grant from the Cacapon Institute. In late February, we received word that we were awarded the grant to plant 24 evergreen trees at Stauffer's Marsh. The trees we requested included a mix of Canadian Hemlock, Arborvitae, Eastern Red Cedar, Pitch Pine, Norway Spruce and American Holly. We are planning a super fun workday to plant these trees with volunteers!



The month of April has so many opportunities for you to lend PVAS a hand with our exciting projects. We will have three volunteer workdays to prep for This Race is for the Birds in the Broomgrass Community outside Gerrardstown. The tree planting at Stauffer's Marsh and new trail sign installation at Eidolon will also occur in April.

Abby and Emily have done a wonderful job leading volunteer workdays through the winter months. In May, they will lead their final two workdays at Cool Spring and Yankauer before turning their full attention to summer camp. Be sure to come out and join them while you can. For information and to sign up for volunteer work days go to: <https://www.potomacaudubon.org/calendar/category/volunteer-opportunities/>.

By June, we will have a new AmeriCorps joining the team. Donald Vogel will be the summer Land Management and Conservation service member working with KC. We are so excited to have him on board and hope you get the opportunity to work with him this summer.



Conservation

Top 5: Beaver Facts

By Abigail Freidline and Emily Sperling, AmeriCorps Volunteers

1. Beavers rank second in the largest-rodent category (the record is 66 lbs), following the capybara, which can reach 150 lbs. Beavers are characterized by their sturdy bodies, powerful incisors, and muscular scaly tail. Another key component of beaver morphology that enables their lifestyle is the size of their heads. The large skull of the beaver actually protects their brain from the forces generated from their chewing muscles. Don't forget the extremely dexterous front feet of the beaver which allows them to dig and hold items. Overall, the beaver is equipped with the means to transform entire landscapes both aquatic and terrestrial.
2. You've probably heard the phrase "busy as a beaver," which is true because beavers are most active at night. This is because they are not able to escape quickly from predators when on land, like wolves and coyotes. At night, beavers venture onto land to take down trees that they use for building their lodges and dams, and simply for sharpening their teeth. Since spring and summer always has an abundance of greenery for beavers to snack on, they are more rushed in the fall to stockpile edible resources for the winter. Beavers actually store extra food supplies underwater so that if the water freezes, they are still able to eat in the winter months.
3. Beaver love lasts a lifetime! An adult male and female will mate for life, and typically have multiple litters. The lodge can get crowded, too! There can be several young of various ages living with the mating pair in one large lodge.



This actually strengthens familial bonds because it allows for mutual grooming sessions with the family and play fighting.

4. Before the beginning of the fur trade in the 18th century there were an estimated 60-400 million beavers. Today there are only an estimated 6 million. Beavers' fur or pelts were highly valued in the 18th and 19th century. Their fur is prized for being waterproof



and holding its shape. Beaver tops hats were very popular during this time. Beavers were so highly valued they were used as currency.

5. Beavers are a keystone species. This means that they are a critical part of a healthy ecosystem. Beavers create habitats for many other animals both on land and in the water. Beavers have a unique ability to change the environment around them by slowing down water with their dams. The dams created wetlands and ponds. Wetlands and ponds create habitats, reducing flooding, erosion and trap extra nutrients before the water runs off.



Conservation

A Magical Emergence – Brood X

By Wil Hershberger, Nature Images and Sounds, LLC

We are in for a treat! Depending on the weather, from late-May through mid to late-June, nature will bring a rare spectacle to our area – the emergence of Brood X of the Periodical Cicadas (*Magicicada septendecim*). Throngs of cicada nymphs, that have been feeding on sap from the roots of trees for the past 17 years, will burrow their way up to the surface, synchronized by a signal that they all release into the ground once the soil temperature warms to a critical level. In any particular area, they all emerge in just a few days. Tens of thousands to millions of individuals will break through the soil in the dark of night and clamor aimlessly in search of a vertical surface to climb. And climb they do, from a few feet to tens of feet above the ground they climb. By some internal switch, they stop, get a really good grip on the surface to which they are clinging and begin the most dangerous event in their amazingly long lives – they molt out in the open. They leave the exoskeleton of the last nymphal stage by expanding and breaking open the back of this exuvia. Straining and wiggling, thrashing and pushing, they make their way out of that old shell. Now free, they must hang on to the cast-off memories of youth and hang motionless for hours. During this teneral stage, their new exoskeleton will harden. Their wings will expand to full size and harden, and their bodies will go from pale ivory to black as pigments are transported throughout the hemolymph to the epidermis. If they fall to the ground, if others of their kind trample them, or if a predator pounces, they could be permanently damaged or killed. The soft exoskeleton can be deformed; the wings could be bent or twisted to the point they would never be able to fly; this is their night of dread.



Female laying eggs in sassafras © Wil Hershberger



Male Cicada © Wil Hershberger,

By morning, they are adults. Their bodies are now flat-black, their eyes bright red, and their transparent wings veined in orange to match their legs. Males will begin singing in a few days, their droning joined by countless other males singing to attract a mate. The combined chorus is something to behold, as if from another world, in fact, it can be overwhelming. While singing, a male will listen for a response from a nearby female. She will flick her wings at a precisely timed interval following his song. Once he hears her, he will turn and walk toward her in the hopes of mating. Other males are also in the area and have heard this female. They all descend on her in a frantic wrestling match. If a male gets close enough, he will change his song from the droning, “weee-oooo,,, weee-oooo,” to a much more excited, “Oooo-wee, Oooo-wee, Oooo-wee,” in hopes of impressing her. If she is duly smitten and they begin to mate, he changes his tune again to an even more excited, staccato “we-we-we-we-we-we-we!”

Mated females must now lay their eggs. The ovipositor projecting from the back-end of her body is an amazing piece of engineering. Split down the middle, from front to back, the two halves or valves of the ovipositor work independently in a circular motion to saw their way into the fresh wood of the current years-growth of deciduous trees. She starts out away from the base of the twig and works the valves into the xylem, where she deposits a few long, cylindrical eggs in neat rows. She then backs a little further toward the twig’s base and lays more eggs, repeating this effort until she reaches the end of this year’s growth. Now she thrusts her ovipositor completely through the twig several times in hopes of cutting off the water and nutrient supply so that this twig will die and drop to the ground.

Around the middle of July, the eggs have matured enough to wiggle their way out of their wooden nursery. If the twigs were killed by the female’s efforts and fell from the tree, the nymphs have only to fall a fraction of an inch and then burrow into the soil. However, though dead, a lot of limbs do not fall to the ground, hanging there in testament to the spectacle of the month before. Here is where another magical display can be found... Early on a sunny, still morning in mid-July, find an area where there were lots of cicadas in June; look toward the rising sun, you might see a fine rain of glistening minute bodies gliding to the forest floor. These are the next generation of nymphs. This is their first step into a 17-year odyssey that occurs nowhere else on Earth. These magical cicadas are very much a phenomenon of eastern North America. The adults are not dangerous and pose no threat to the health of humans or our pets. Many species of animals in the woods of our area gorge themselves on these cicadas to the point of lethargy.

I certainly hope that you will take the time to seek out this rare, magical event that only comes a few times in a lifetime. Relish in the sounds and sights, the confusion and perfusion of life, the mystery and magic of these Periodical Cicadas.



Cicada eggs in xylem © Wil Hershberger

Advocacy

Higher Registration Fees For Hybrid Vehicles – What's Up With That?

By Neal Barkus, *Panhandle Progressive*

Awhile back, a good friend of mine spent half an hour complaining to me about having to pay an additional \$100 when he registered his Prius hybrid vehicle. That caused me to wonder why West Virginia would want to discourage the ownership of these vehicles with a whopping big tax. Hybrids consume a lot less gasoline and emit proportionately less greenhouse gasses from the tailpipe. That's a good thing, right? The answer, of course, is not so simple.

The additional registration fees for alternative fuel vehicles were first imposed in 2017. Many states have done this. In West Virginia, hybrid vehicles, which use a combination of gasoline and self-generated electric power, are charged an extra \$100. All-electric vehicles, which use no gasoline, are charged an additional \$200. This difference depending on whether gasoline is used turns out to be the key to understanding the policy behind these fees.

West Virginia, like all other states, uses gasoline taxes to fund the maintenance and expansion of its transportation infrastructure – roads, bridges, and the like. West Virginia is one of only four states that has responsibility for maintaining both state and county roads. In 2017, the combined state gasoline tax was raised to \$.357 per gallon, where it remains today. But still gasoline tax revenues have been declining for years, principally because of better fuel efficiency.

The gasoline tax is considered a use tax – until hybrid vehicles came along the gallons of gasoline sold were a rough measure of the use our highways and bridges were getting. Because of increasing fuel efficiency driven by federal policy and alternative fuel vehicles, gasoline consumption can no longer be used as a proxy for highway use.

So it was no coincidence that both higher gasoline tax and the alternative fuel vehicle registration fees were imposed in the same year. The objective was to even the burden of infrastructure maintenance on all vehicle owners. When viewed this way, raising the registration fee for hybrid and electric vehicles seems fair. And owners of these vehicles actually are better off than traditional gasoline vehicle owners if each drives the average annual mileage put on a West Virginia vehicle.

Here is the math: I have seen several different figures for the average miles a vehicle is driven each year in West Virginia, but all of them are around 15,000. Assume that a gasoline powered vehicle gets 25 miles per gallon, which would mean 600 gallons of fuel consumed per year. The West Virginia tax on that gasoline would come to \$214 per year. What about the hybrid vehicle? They get around 50 miles per gallon, so that would mean 300 gallons consumed on average per year. The West Virginia tax on that would be \$107 per year, saving this driver an equal amount per year versus the gasoline vehicle driver. Against this tax, the additional \$100 registration fee is a slight bargain.

It's a similar bargain for all-electric vehicle drivers, who save the entire \$214 in gasoline tax that a driver of a conventional vehicle would pay. Against the \$200 registration fee, the all-electric

driver saves \$14, enough to treat the kids to a couple of Big Macs. The higher registration fee really creates no financial disincentive for owning a hybrid vehicle, it just removes an incentive to do so.

Maybe hybrid owners should get an incentive as a matter of state policy. An argument could be made that reducing tailpipe emissions is a worthy objective that is served by making ownership of a hybrid more attractive. But this runs into that elusive concept of environmental justice. If we eliminate the higher registration fees on hybrids, the cost of maintaining roads simply gets shifted to drivers who don't own hybrids. Maybe they own big gas guzzling trucks and deserve it. But maybe they can't afford to buy a Prius, which the last time I looked cost \$25,000 for an entry model. It is not good policy for a highway use tax to be converted into a tax on being poor.

Looking a little more skeptically at hybrids, when and why did we decide they were so good for the environment? It might make us feel better about ourselves to drive a hybrid. But exchanging CO2 emissions from gasoline for even dirtier emissions from generating electric power makes no sense. A model developed at MIT shows that eliminating petroleum use by electrifying the whole transportation sector would cause the use of dirtier electric power to surge. Overall emissions would drop only 2% by 2050. And emissions from coal-burning power plants include lots of other bad stuff besides CO2, like nitrous oxide and soot.

Tax policy is never simple, particularly when it is bound up with politicized environmental issues. But at ground zero, my friend is never going to accept any of this. He is just annoyed by having to pay a stupid tax on his hybrid Prius. I can talk all I want, but I plan to make myself scarce next year when he registers his car again.

PVMN

Master Naturalists in Action at Page Jackson Elementary

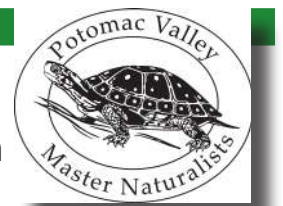
By Rich Brager, PVMN

On a sunny but blustery mid-March morning, three Potomac Valley Master Naturalists (PVMN) in training, one Master Naturalist, one Page Jackson Elementary (PJE) School teacher and the head honcho of Engineers Without Borders (EWB) converged for some volunteer activity at the PJE outdoor classroom project. This is a collaborative project of PJE, EWB and PVMN.

On this particular day, the task at hand was to rake out a large pile of mulch over the vegetable garden, then position the 8 previously constructed raised beds atop the newly spread mulch. Then we filled each raised bed with the 40 bags of garden soil that was on hand.

We had allotted 3 hours for this job, but the enthusiasm was

continued next page



PVMN

MNs in action continued

high and the work was completed in a bit over one hour. The raised beds will still need a bit more soil, a task that will be completed at a later date. We will also need to finish putting up web fencing around the garden. The garden will then be ready for planting by the high-energy students.



Volunteers at work (l to r): Roger Ethier-EWB, Donna Yaros -PVMN, Dave Curfman-PVMN, Malcolm Hally-PJE, Leslie Boyd-PVMN

There are several other outdoor classroom projects to be completed in the future. These are fun projects, and PVMN volunteers will be solicited. Don't miss out on this opportunity to get your volunteer hours in.

Potomac Valley Master Naturalist Update

Krista Hawley, Adult Program Coordinator

In March of 2020, just as that year's Master Naturalist cohort was gearing up to begin their year-long program, COVID was rearing its ugly head and tightening its grip on everyone's life. Thanks to an extremely patient group of students and a creative and diligent coordinating committee, the 2020 (now 2021) cohort has begun its journey to becoming Master Naturalists! While we are beginning the program with virtual classes in March, April & May, we are also looking ahead with hope and anticipation of the good things to come. The pavilion at Yankauer Nature Preserve will be the venue for in-person summer classes; where instructors can teach outside in the open-air pavilion using PowerPoint as well as utilizing the preserve for hands-on field learning. The goal is to transition to Cool Spring Preserve in the fall, if COVID regulations allow.

Thanks to the hard work of an amazing coordinating committee, the February 27th Master Naturalist (Virtual) Annual Meeting was a huge success. Master Naturalists were able to join the meeting from the comfort of their own homes. While the delicious potluck dishes were missed, we felt a huge sense of community through answering WV natural history trivia questions, attending breakout rooms, and by brainstorming ways to continue to stay connected.

Despite a fun virtual Annual Meeting, the PVMN Coordinating Committee is very excited to announce that planning for our 15-year anniversary celebration is underway! If all goes as planned, there will be an outdoor, in-person event in the fall of 2021. If you would like to be part of the excitement and volunteer on the 15-year anniversary sub-committee, please email Krista Hawley at AdultPrograms@PotomacAudubon.org.

We welcome you to visit www.potomacaudubon.org/master-naturalists/, where you can keep up to date on all of the latest and greatest of the Master Naturalist Program.

GIVE THE GIFT OF MEMBERSHIP!

ALL of your dues will stay here to support local PVAS efforts and help us grow! And here's what you'll get:

- 10% member discount on program fees, facility rentals, and birthday parties.
- A subscription to our bi-monthly newsletter, *Valley Views*, and twice monthly e-newsletter, *Heads Up, PVAS!*
- Free or reduced admission to participating nature centers/museums.
- Discounts to participating **local businesses**.

Gift Membership Form

To purchase a gift membership, send in the form below with an enclosed check. Dues are \$50/household, \$35/teacher (covering membership for everyone in your household for one year, or \$20/full-time adult student (benefits apply to member only). Make the check out to "PVAS." For more details on membership, go to: www.potomacaudubon.org/support/become-a-member/.

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Thank you for your support!

About the National Audubon Society

National Audubon has a membership program that is separate from PVAS. To become a National member, go to the Society's website at www.audubon.org, and click on "join." If you join National Audubon and reside in Berkeley, Jefferson, or Morgan counties in West Virginia, or in Washington County Maryland, you will automatically become an affiliate of PVAS, but not a full PVAS member. Affiliates will have access to our communications, and invitations to our events. However, all National Audubon dues go to the National Audubon Society and are not shared with PVAS. We heartily invite you to become a dues-paying member of both organizations.



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The Potomac Valley Audubon Society meets at 7:00 p.m. on the second Wednesday of each month, September through May. Programs are free and open to the public. For additional information about PVAS or its programs and activities, please contact any of the board members listed here or see <http://www.potomacaudubon.org>. PVAS serves the Eastern Panhandle of West Virginia and neighboring Washington County, Maryland.

PVAS BOARD

PVAS Board meetings take place the first Thursday of every other month (September through June).

Meetings are open to all PVAS members. Please contact the President or Vice President if you would like to attend.

All Officers, Board Members, and Staff can be contacted at 681-252-1387.

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