

A quarterly newsletter for Volunteers and Friends of the Patuxent Wildlife Research Center and Patuxent Research Refuge



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Proposed High Speed Train Threatens Habitat at Patuxent Research Refuge and Other Federal Lands

By Marcia Watson, Volunteer

As many are aware from reports in the news media, a private company is planning to build an ultra-high-speed train (reaching over 300 mph) to carry passengers between Baltimore and Washington, D.C. The train is advertised to make the trip in about 15 minutes. What you may not know is the proposed train would run directly past Patuxent Research Refuge, and that the train's infrastructure will destroy some of the fragile habitats that the Refuge was designed to protect.

The project is known as the Baltimore-Washington Superconducting MAGLEV Project, or SCMAGLEV or MAGLEV for short. "MAGLEV" is an acronym for "Magnetic Levitation;" the train would operate by hovering above metal tracks using a levitation system powered by magnets.

Only three passenger stations would be built: in downtown Baltimore, in downtown Washington D.C., and at BWI Airport. There would be no local stops: this would not be a train to serve local commuters or communities. Eventually, the train line would be extended to Boston and New York.

The proposed SCMAGLEV train would be operated in the United States under a private company, and part of the funding would be provided by the Japanese company that oper-



Current proposed SCMAGLEV Routes. Source: Presentation by Ian Rainey of the MAGLEV project for the Patuxent River Commission, September 9, 2020.

ates the existing "Bullet Train" in Japan. However, the SCMAGLEV technology is NOT the same as that used by the Bullet Train; the SCMAGLEV

technology is new and there is only a 27-mile section of test track in existence using this new technology. The

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Proposed High Speed Train Threatens Habitat at Patuxent Research Refuge and Other Federal Lands

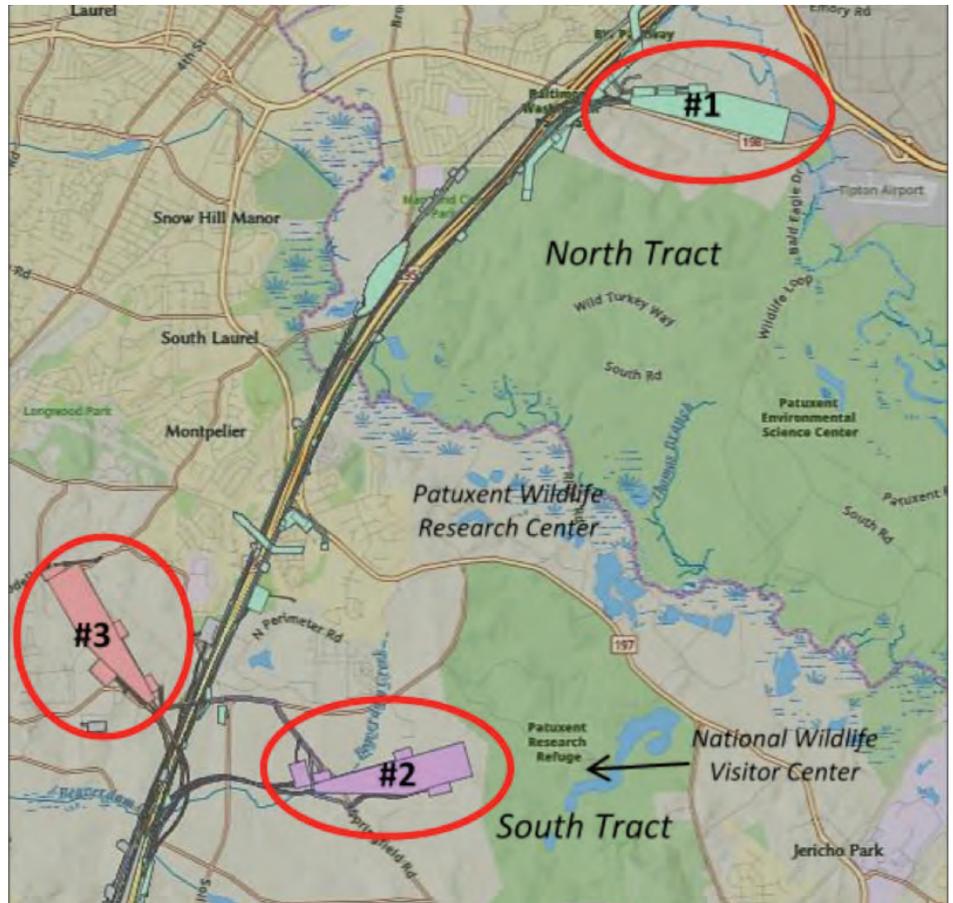
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test track is located near Osaka, Japan. That section is to be expanded to provide commercial service starting in 2027 from Tokyo to Nagoya City and in 2037 from Tokyo to Osaka. Currently the Osaka project is experiencing financial difficulties. In other words, the proposed project here is relying on technology that is unproven, both in terms of its technical feasibility, its environmental impacts, and its commercial viability.

A definite route has not yet been chosen for the train. When the SCMagLEV project was first announced in 2017, there were a large number of possible routes that the train might take between Baltimore and D.C. Since that time, the possibilities have been narrowed to just two possible routes, one running along the west side of the Baltimore-Washington Parkway (MD 295), and one running along the east side of the Parkway. (However, note that portions of the official project website still – confusingly – refer to the routes that have been discarded.) Much of the Baltimore to D.C. route would run underground through deep tunnels. There is also a theoretical “No Build” option that has been included in project planning as a logical alternative.

The huge extent of the project makes it difficult to adequately describe its wide-reaching impacts. This article is focusing on impacts to ecosystems and habitat at Patuxent Research Refuge and other federal facilities and public lands. For a full discussion of the impacts on human communities, including environmental justice issues, see the *Stop This Train* website at <https://www.stophisthistrain.org/>.

The proposed train route and its associated structures would require use of federal lands including pieces of Patuxent Research Refuge (both North and South Tracts), the Beltsville Agricultural Research Center (BARC), NASA-Goddard Space Flight Center,



Proposed sites of train maintenance yards. One of these three sites will be selected. Gray lines on either side of Rte 295 indicate the two possible train routes. Source: Interactive map provided by SCMagLEV <https://maryland.maps.arcgis.com/apps/opsdashboard/index.html#/3126ba14ebf54d3887e95f257ca5d054> with labels added by the author.

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Many of the regular newsletter contributors and assistants are volunteers. However, we welcome and encourage all volunteers and Friends to submit items for the newsletter by sending or bringing them to:

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All articles submitted to the Friends of Patuxent Newsletter will be reviewed by newsletter staff prior to their publication. We reserve the right to not publish submissions based on length, content or suitability.

Article submission deadlines:

| Issue | | | Issue | | |
|-------|----------|------------|-------|---------|-------------|
| No. | Months | Deadline | No. | Months | Deadline |
| 1 | Jan-Mar | December 1 | 2 | Apr-Jun | March 1 |
| 3 | Jul-Sept | June 1 | 4 | Oct-Dec | September 1 |

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the Baltimore-Washington Parkway (operated as a scenic parkway by the National Park Service), and lands of other agencies. In addition, county parks and open spaces operated by the Maryland-National Capital Parks and Planning Commission (MNCP-PC), by Anne Arundel County Parks and Recreation, and by towns such as Greenbelt and Maryland City would be impacted, for example, Bladensburg Waterfront Park, Northway Fields Park/North Woods in Greenbelt, and Maryland City Park.

The project would involve the construction not only of rails (known in SCMAGLEV parlance as guideways), but also of underground tunnels, tunnel exits, air shafts, emergency exits, a maintenance yard, and associated service structures, parking lots, entry ramps, and roads. The maintenance yard, where trains will undergo routine service, washing, and repairs, would be very large, about 200 acres.

As shown in the map below, currently there are three possible sites for the 200-acre maintenance yard, only one of which would be built:

1. On the north side of MD Route 198, east of the interchange with the Baltimore-Washington Parkway. This yard would be sited primarily on land owned by the U.S. Government adjacent to the northwest corner of the North Tract of Patuxent Research Refuge. This parcel houses the Maya Angelou Academy at New Beginnings and the Maryland Job Corps' Woodland Job Corps Center. The supporting roads and other infrastructure would use Patuxent Research Refuge land. The yard, as drawn on the SCMAGLEV maps, extends across the Little Patuxent River.
2. Along Springfield Road south of Powder Mill Road. This yard would use the old airstrip at the Beltsville Agricultural Research Center and would overlie Beaverdam Creek, which is part of the Anacostia-Potomac watershed. The yard would extend to the western boundary of South Tract of



Maintenance yard for the Bullet Train in Japan. Photo from Wikipedia.

Patuxent Research Refuge. New roads accessing the facility would be built across BARC lands west of Springfield Road.

3. Along the west side of the Baltimore-Washington Parkway, extending from Powder Mill Road north to Odell Road. This facility would be built on BARC and other USDA lands.

This large maintenance yard would consist entirely of an unbroken swath of pavement, metal, and gravel. There would be no habitat supporting any type of wildlife. The appearance will likely be similar to that shown in the photo above of a maintenance yard for the Bullet Train in Japan.

Currently, Patuxent Research Refuge, BARC, and other adjacent federal lands occupy over 20,000 acres and constitute the largest block of undeveloped land in the Baltimore-Washington corridor. Numerous research studies have established that fragmentation of habitat by roads and buildings reduces nesting success of breeding birds, and disrupts migration and dispersal corridors used by terrestrial mammals, amphibians, and reptiles.

The green spaces in the Patuxent Research Refuge vicinity provide ecosystem services that directly benefit the health of the environment and of humans. These services include carbon monoxide removal, nitrogen dioxide removal, sulfur dioxide removal, ozone removal, particulate matter removal, carbon sequestration, groundwater recharge, nitrogen uptake stormwater mitigation, and surface water protection. According to analyses that are publically available through the Maryland Department of Natural Resource's GreenPrint mapping service

<https://geodata.md.gov/greenprint/>, the monetary value of the ecosystem services provided by the lands at Patuxent Research Refuge and BARC is far in excess of \$35 million dollars per year. Note that there is no way to mitigate the loss of these services, as there is no other green space of comparable size in the region.

The lands that would be impacted by the train maintenance yard and other supporting structures contain habitats rare for our region, such as sand barrens and bogs. Patuxent Research Refuge and BARC are studded with freshwater wetlands that protect the water quality of the Little Patuxent and Patuxent Rivers. These habitats support native plants that are rare for our region, along with unique insect and wildlife communities that depend on them. Every one of the three possible sites for the train maintenance yards would impact such habitats. The proposed placement of these maintenance yards could not be worse from an environmental perspective. It is not known why the project leadership has not instead planned for use of available industrial-zoned spaces in Baltimore or Washington.

The impacts of the SCMAGLEV project on habitats at Patuxent Research Refuge and BARC were extensively reviewed by biologist Sam Droege in a presentation hosted by the Maryland Native Plant Society on October 27, 2020. A recorded session of Droege's presentation is available courtesy of the Native Plant Society at <https://www.youtube.com/watch?v=fCXM3FiXoY8>. In addition, a more detailed written description of the impacts to habitat at Patuxent Research Refuge and at BARC is provided on the Stop This Train website at <https://www.stophisthain.org/biological-and-ecological-concerns>.

Given the unproven nature of the SCMAGLEV technology, there are many unanswered questions about other possible ecological and environmental impacts of the project, including

- Impacts of runoff of chemicals used in train washing and maintenance on

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Holiday Tales From the Past at Patuxent

by Matthew C. Perry, Friends of Patuxent Board of Directors

The Mysterious Saw-whet Owl

About a week before the 2020 Thanksgiving, during the Covid-19 pandemic, the country received some well-needed and exciting news through the news outlets and social media. The news was that a tiny owl (at first called a baby owl) had traveled 170 miles to New York City in a 75-foot Norway spruce that was cut down in Oneonta, New York. The tree had made this long journey to become the Christmas tree and the focus of the magical Rockefeller Holiday Season display.

When the owl was discovered, wildlife experts were consulted, and stories revised to explain that the “baby” owl was actually a full-grown saw-whet owl and is known to commonly roost in evergreen trees. It also was an adult, and its sex was unknown. It appeared that the owl had probably entered the tree after the tree was loaded on a flat-bed truck and hung tight for the long trip south.

This species of owl, which is the smallest owl in the Northeast, weighs on average only 2.8 ounces (80 g) and is nocturnal. It was taken to the Ravensbeard Wildlife Center in Saugerties, NY, about 100 miles north, and quickly received the name Rockefeller. The owl, now identified as a female and given the nickname, Rocky, was released on November 24, 2020, after receiving nutrients in the form of dead mice.

The story of Rockefeller revived some memories among retired Patuxent staff about another owl-in-the-tree miracle that occurred in December 1979. At that time there was an an-



Saw-whet owl captured at Rockefeller Center in a Norway spruce tree.



Rockefeller (Rocky) at the Ravensbeard Wildlife Center.

Photo by Ravensbeard Wildlife Center.

Photo by Ravensbeard Wildlife Center

nual Christmas party at Patuxent that was a must-show event. The party was planned by the Patuxent Recreation Association and held with minor funds from a very modest membership contribution.

To save money, one year some young biologists volunteered to obtain a tree on the Refuge so as not to have to buy one. The problem was that pines are the main conifer on the refuge. The preferred spruce trees are rare and located in fields where they were planted in the 1940s. They were all Norway spruces and now had a height of about 75 feet (same as the Rockefeller tree). But one of them had a nice top, so a plan was quickly proposed and executed!! One of the biologists, without hesitating, made the long climb up the spruce tree, and with a handsaw cut the main leader about eight feet from the top. It fell to the ground and was hauled back to the front of Gabrielson Laboratory.

The next morning the 8-foot “tree” was brought inside and placed in a Christmas tree stand. The decorating committee soon arrived and started to place ornaments on the tree. Soon someone exclaimed, “there is a live owl in the tree.” The docile owl was then easily captured by hand and held gently while many staff left their offices to personally witness this rare avian visitor. Danny Bystrak, a biologist in the Bird Banding Laboratory, identified the owl as an adult saw-whet owl and proceeded to band it.

Although saw-whet owls are not commonly seen on Patuxent Research Refuge, due to their nocturnal nature, they are caught occasionally by biologists focused on banding saw-whet owls or incidental to banding other species of birds in mist net banding operations. Elaine Nakash and Danny Bystrak, biologists in the Bird Banding Lab, checked the banding records and learned that Jay Sheppard, a former biologist in the Bird Banding Laboratory, had banded 11 saw-whet owls between 1972 and 1975. Jay was famous for finding saw-whets in their



Mistletoe growing on a tree in Snowden Woods and showing the gall created by the parasite, March 1992.

roosts and capturing them with a lasso made of monofilament fishing line.

During the period 1975 to 1986, Danny Bystrak caught and banded seven saw-whet owls at Patuxent. Danny reported that Ted Van Velzen, Chan Robbins, and Vernon Kleen banded another six saw-whets between 1962 and 1965, and in more recent times Mary Gustafson banded one in 1996 and Deanna Dawson in 2003. Hopefully, the publicity about the saw-whet owl captured at Rockefeller Center will increase the interest in birds nationwide as the saw-whet owl at Patuxent did many years ago.

Editor's note: It was also found out that a saw-whet owl was discovered flying around the Visitor Center lobby shortly after staff set up a Christmas tree that was purchased from a tree farm elsewhere. The owl was captured, banded and released on the south part of South Tract as this was deemed suitable habitat. It is believed this took place in the late 1990s.

Mistletoe of Patuxent

Mistletoe is a parasitic plant growing on large trees and has been traditionally associated with Christmas and New Year Day holidays. The plant has also been related to romantic purposes. In the past it has been placed in doorways where women who walked under it were often approached by men, who stole a kiss. This tradition apparently goes back to the Druids during the Middle Ages. The 1952 Christmas song, “I saw Mommy Kissing Santa Claus (underneath the mistletoe last night)” was recorded by many artists, but probably was most popular by the Jackson 5 with young singer, Michael Jackson. But mistletoe has an interesting history at Patuxent.

In the early days of Patuxent, the mistletoe plant was most noticeable near Merriam Laboratory. In a large black gum tree. The first record of mistletoe being in this tree is May 20, 1942, when it was collected by Brooke Meanley for the Patuxent herbarium.

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Encounters with Forest Fungi

Gail Melson, Education Programs Volunteer, Patuxent Research Refuge. Photos by Gail Melson

Late fall is an excellent time for a walk in the woods. The woods may look drab with brown, not green, as the predominant color, but there's plenty to see. My husband and I walked on the Forest Trail at Patuxent Research Refuge's North Tract in mid-November looking for fungi. All the fungi we saw were saprobes; decomposers which perform the critical job of recycling nutrients from dead wood in a forest.



The orange arrow on the beech tree marks the Forest Trail.

Identifying fungi is more difficult than identifying birds, butterflies, or plants. It's helpful to gather as much information as you can about the environment including the what kinds of trees are in the nearby area (dead wood like stumps and fallen branches can be especially challenging), what the fungi is growing on or in, what the microscopic spores look like (size, color, shape), and whether the fungi react to certain chemicals. High-quality close-up photos also help. There is no cheap and easy way to collect all this information. There is also no comprehensive guide for the tens of



Black Witches Butter (Exideia glandulosa)

thousands of fungi you might see in nature.

As a beginner, I used iNaturalist.org for initial identifications and looked up the various possibilities on MushroomExpert.com which provided more information on each species.

I made decisions based on the information I had accumulated. I then posted photos and notes on iNaturalist of the 15 species I collected on our walk. People confirmed my IDs for three species and I modified the original identification of the fourth species. Here are the four IDs from my North Tract walk that I feel confident about.



Hexagonal-pored polypore (Neofavolus alveolaris)

The first one is a Hexagonal-pored Polypore. It was living on a small branch on a small American Beech sapling. Its cap was about a quarter of an inch in diameter and was striking in its shape and the symmetry of the pores under the cap and down the stalk. It needs a better common name, though, something elegant, descriptive, and unique. I know that the scientific names are the only names that matter, but the common names are easier to remember for us beginners.



Turkey Tail (*Trametes versicolor*)



Eyelash Cup (*Scutellinia* sp.)



A fungus with a more descriptive common name is Black Witches' Butter. The two clumps of this jelly fungus 6 are each about an inch long (see top right photo on pg. 6). The clump in the lower left was bursting from cracks in the bark. That seemed unusual to me until I read that the job of this fungus is to digest the vascular cambium. That's the main growth layer of many woody plants, and it is just below the inner bark. It has nowhere to grow but out.

Quite a few shelf or bracket fungi that grow on living and dead trees are referred to as Turkey Tails but not all are true Turkey Tails. Michael Kao, who owns MushroomExpert.com has put together a short key for correctly identifying *Trametes versicolor* https://www.mushroomexpert.com/trametes_versicolor.html. The specimen in the photo fits the criteria – tiny pores on the underside of the fungi, finely hairy near the base, and a colorful, thin, flexible cap. I saw four other fungi that looked similar but didn't pass the test.

The fungus with the most interesting ID story was the Eyelash Cup. The individual growths were less than a quarter inch in diameter and looked like drops of orange paint. I removed a piece of bark from the dead tree trunk on the ground and had 3 specimens to examine. I could just make out some so-called eyelashes on them. I posted the photos on iNaturalist and made a preliminary ID of *Scutellinia scutellata*.

My observation got the attention of an expert on this genus who lives in England. He told me that to get to the species level with *Scutellinia*, one needed a microscope. He sent me information about 37 different Eyelash Cup species, all of which required microscopic examinations of spores and measurement of the hairs among other things. I changed my iNaturalist ID to *Scutellinia* which was as close as I could get. There's great value in the opportunity to learn from an expert, especially these days.

I'm wondering what awaits me on my winter walks. 🍄

Holiday Tales From the Past at Patuxent

Continued from page 5

Brooke once recalled that Dr. Alex Martin wanted a specimen for the herbarium and asked Brooke, being younger, to climb the tree for a specimen. Brooke used a ladder to help get to a branch about 25 feet above the ground. He then inched himself along the branch to get to the mistletoe. Bill Stickel, seeing Brooke out on a limb, jokingly came running out of Merriam Laboratory with a stretcher, apparently appearing ready for the worse. Fortunately, Brooke descended safely with mistletoe and this specimen remains preserved in the Patuxent herbarium for posterity.

During the 1980s several attempts were made to obtain mistletoe as part of the annual Christmas parties. Collections were reported being made with a shotgun by a staff chemist, Vic Levi, who also was a good marksman. When Gabrielson Laboratory was opened in 1969, many staff persons walked on the sidewalk under this tree without realizing the mistletoe was growing on a branch above their head. Dr. Gary Heinz remembers that in the 1990s the old black gum tree, largest of its species at Patuxent, was struck by lightning and, because of the damage, was cut down for safety reasons.

Mistletoe appeared in several holiday parties in the 1980-90s from other areas on the refuge. Biologist, Elwood "Woody" Martin, with expertise with tree climbing equipment, has obtained mistletoe from trees in the bottomland for office decoration of Gabrielson Laboratory during the holidays. The exact location is not known now, but one is more likely to see mistletoe growing on trees in wet areas. One mistletoe specimen that is easily observed is on the large willow oak growing along Hance Creek near Route # 197. Hance Creek is the very small tributary for the Patuxent River that exists between the log Cabin and Cedar Lane along the Laurel Bowie



Research Director Jim Kushlan and Refuge Biologist Sue McMahan with Santa Claus (Charlie Robinson) in 1990s.

Road (Rt. 197). I first spotted it in 1971 when I lived in the Hance House on the refuge, and just recently, I noticed the tree has two very obvious growths of mistletoe.

Mistletoe is a woody parasitic plant that belongs to the plant family *Santalaceae*. The scientific name for the unusual plant is *Phoradendron flavescens*. The first name has Greek origin with phor meaning "a thief" and dendron meaning "tree." This name refers to the fact that mistletoe derives its nutrients from trees on which it lives. Sometimes galls are formed, which might indicate how long the plant has been parasitizing the tree. The second part of the scientific name, *flavescens*, means yellowish, which refers to the color of the berry like fruit called drupes.

Mistletoe is parasitic on several species of deciduous trees especially oaks, gums, elms, and maples. Another species in the same family is

called dwarf mistletoe (*Arceuthobium pusillum*) and is associated with coniferous trees especially spruce and pines. Dwarf mistletoe does not occur in Maryland. Mistletoe is not common in central Maryland, but occurs mostly in Southern Maryland and in other states in the Southeast, especially along rivers and other wetlands areas.

Mistletoe is uncommon at Patuxent Research Refuge, which makes it more interesting as a plant to search for and observe. All plants are protected on national wildlife refuges, and once the research director, Dr. Lucille Stickel, complained to Gary Heinz that some people were harvesting mistletoe that they should not have been removing. I am unsure if she was referring to staff taking some for the Christmas party or folks removing it for commercial sale. If you find some growing on the Refuge, it would be good to notify the refuge biologist. 🦋

The Hollingsworth Gallery

by Faith Leahy-Thielke, Patuxent Volunteer

Have you ever wondered who the person was whose name identifies the Patuxent Refuge's north hallway? On March 16, 1996, the art gallery wall was dedicated to the memory of John W. Hollingsworth Jr. His work had been exhibited at the Grand Opening of the Visitor Center in October, 1994. Some of his iconic photographs remain in the Center on permanent display – the work of other photographers and artists are displayed on a rotational basis.

Hollingsworth was a native of Philadelphia who “set out” in the late 1960’s to drive to Alaska. He made it as far as Colorado – but winter weather interrupted his road trip. He didn’t make it to Alaska that year – and actually made Colorado his home until his death in 1995.

John and his wife, Karen, “always liked to photograph nature and wildlife at parks” but a visit to the Bosque del Apache Refuge in Socorro, New Mexico altered their focus. They were so “blown away” by its “incredible beauty” that their subjects from then on were refuges in the U.S. Fish and Wildlife Service’s Refuge System. John had been an engineer and Karen had managed a travel agency, but they left these careers in 1988 to found Worm Press, a photography and publishing business. The Hollingsworths devoted this business to our refuge system. They visited and photographed in 400 of the 508 refuges across the country. Many of their original transparencies were simply donated to refuges for use in education and outreach. A portion of the proceeds from their book, “Reflections of Nature,” and their annual calendars

were donated to the refuge system. Their images appeared in other exhibits and national publications.

After John’s death in March of 1995 until her own, Karen Hollingsworth continued Worm Press and the couple’s mission photographing endangered species. She started a Home Page called “Refuge Net” that still exists and features photographs and articles. The Hollingsworths deserve many thanks for their efforts to support and to publicize the conservation and preservation efforts of our National Refuges. Naming our gallery for him was a great choice.

Most of the information in this article is taken from a News Release of the U.S. Fish and Wildlife Service from April, 1996. 🦋

Accident at Main Gate of Patuxent

by Matthew C. Perry, Friends of Patuxent Board of Directors

On Friday the 13th of November 2020, there was an accident at the main gate (#1) of Patuxent. Apparently, a box truck coming to Patuxent from Laurel on Route #197 attempted to enter the gate and was traveling at too fast to safely make the turn.. The truck flipped on its side on the curve and crashed into the concrete/stone column, knocking it over. The gate guard (Mr. Anderson) said no one was injured. However, it could have been more serious if cars had been entering or leaving Patuxent at the time of the crash.

This intersection has been a safety problem for years. Most accidents in the past, I believe, are from cars coming toward the main gate on Powder Mill Road before we had a stop light. Drivers apparently do not realize the road ends at Rt # 197. Several staff of PWRC



Main gate scene after crash of box truck hitting and toppling concrete/stone column, Nov 13, 2020.

have been involved in accidents and requested the stop light, which is there now. Hopefully, the historic column can be replaced, and better safety warnings installed. (See

article on gates in Fall 2020 FOP Newsletter, if interested.)

<http://friendsofpatuxent.org/images/OctDec20V31n4.pdf> 🦋

Photo by John R. Sauer, PWRC.

Railbirding Memories

By Edward “Ted” Rivinus. Intro by Rich Dolesh, Chair, Friends of Patuxent

Greg Kearns, longtime senior park naturalist at Patuxent River Park, recently came across an envelope tucked away in a drawer in his office many years ago addressed to “Dr. Kearns.” In the envelope was an undated letter from Dr. Edward “Ted” Rivinus, a local birder who often visited the Patuxent River Park Jug Bay Natural Area. The letter, likely penned sometime in 1997 prior to his death in 1998, was titled “Railbirding Memories,” and contained his recollections of hunting sora rails on the Patuxent River from 1929 to 1972. (see page 12-15).

In a handwritten note on the envelope, Dr. Rivinus, who had a remarkable career in the US State Department and for the Smithsonian Institution, said that his reminiscences of railbird hunting on the Patuxent were prompted by reading the little book *Patuxent River Wild Rice Marsh* by Brooke



Sora rails were attracted to the light of a burning fire on the bow of a skiff.



Brooke Meanley inspecting wild rice at Jug Bay, circa 1990.



Juvenile soras in marsh trap just prior to banding and release, Sept 1, 2017.



19th century lithograph of rail hunting.

Meanley, that he picked up on a visit to the park.

Brooke Meanley was a former biologist for the US Fish and Wildlife Service who worked throughout the U.S. and spent nearly 20 years at Patuxent Wildlife Research Center. He was a prolific author of dozens of books about wildlife and natural resources of the Chesapeake Bay and southeastern U.S. He had a small number of copies of *Patuxent River Wild Rice Marsh* printed for friends, but he never published it for wide distribution like his other books.

While I was working at Patuxent River Park, I first met Brooke when he stopped in during the annual early fall migration of red-winged blackbirds, a special interest of his throughout his life. During one of his many visits to the park each fall, he asked if I was interested in the manuscript and gave it to us with permission to use it for education about the history of the river. The Maryland-National Capital Park and Planning Commission published the book in 1996 and it is still for sale at the park office—it is well worth a visit to the Jug Bay Natural Area of the park to obtain your own copy if you haven't yet visited the park.



Mike Haramis, retired research biologist at PWRC (left) and Dave Brinker, state wildlife ecologist, MD DNR preparing to install a sensor ‘gnome’

The “Railbirding Memories” of Ted Rivinus offer a fascinating history of an era long-gone from the Patuxent River, but which still lives on tantalizingly in stories like this and in the memory of descendants, now several generations removed, of those who lived and worked and fished and hunted on the river.

The freshwater wetlands and swamps of the river at Jug Bay were a nearby site for field research for many of the biologists and scientists of Patuxent Wildlife Research Center—Brooke Meanley, of course, and Al Geis who is mentioned in the letter, but also Robert Stewart, Fran Uhler, Woody Martin, Mike Haramis, Matt Perry, Luther Goldman and many others who spent time in the wetlands of the Patuxent River during their long careers at the Patuxent Wildlife Research Center.

You will find this letter by Dr. Rivinus a remarkable glimpse into a little-known part of the lore and life of the Patuxent River. Much thanks to Greg Kearns for making it available to the Friends of Patuxent. We are waiting on him to publish his research and perhaps write his own book on the secret life of Sora rails based on the decades of research he has conducted on these birds. He would be carrying on the tradition of the many naturalists and field biologists of the Patuxent River who went before him. 🦋



Greg Kearns with intern Chelsea Miller and staff of Bermuda Zoo and Aquarium preparing to erect Motus wildlife tracking tower in Bermuda in 2018.



Greg Kearns with juvenile sora perched on thumb.



Exciting adult sora catch.



Research assistant Katherine Dami with Virginia Rail.



Mike Haramis preparing a radio transmitter.



Greg Kearns with Mike Haramis pointing out the radio transmitter on a sora rail.

To read more about the history of railbird hunting on the Patuxent River, see Rich’s article in The Bugeye Times of the Calvert Marine Museum: <https://www.calvertmarinemuseum.com/DocumentCenter/View/1304/Bugeye-Times-Winter-1980?bidId=>

RAILBIRDING MEMORIES

1929 - 1972

by Ted Rivinus

When I speak of Railbirds, I mean Soras. My memories, over those 43 years are almost all of the Patuxent River marshes between Hill's Bridge and the mouth of the Mattaponi tributary. -- I've hunted soras on the Salem marshes in New Jersey, and where the Rancocas flows into the Delaware, again in New Jersey; and I've shot Clappers on the meadows across from Ocean City, MD., King rail my dogs flushed along the brushy edges of the man-made lakes near Bristol, PA. I even shot a Corn Crake on the hills north of Istanbul, and I see that I listed two Water Rail among my season totals in Izmir, Turkey, in 1952, but I seem to remember that my Labrador, Rock, caught them when they wouldn't flush.

Nonetheless, the memories I hold most dear are the wonderful September and early October tides on what Dr. Brooke Meanley describes in his splendid little book as The Patuxent River Wild Rice Marsh -- the book which has awoken these memories.

Dad brought me to the Patuxent on my first shooting trip with him, in September, 1929, when I was 14. We were Philadelphians, but Dad & a number of his friends had been coming to the Patuxent for many years. He always rented for the rail season a summer cottage on the river that belonged to a Mr. Heck, who lived in Washington, as I recall. Mrs. Bias, wife, mother, and grandmother of some of the best pushers on the river, would come in to cook for us, & we'd usually stay 2 or 3 days at a time.

Brooke Meanley, and others, have described the "how" of railbirding -- standing in the bow of the specially designed rail boats (the only one I've been able to find is in the St. Michaels museum) while a pusher poles the boat over the marsh on a full tide. (The birds are such skulkers it's almost impossible to get them to flush as long as the water is low enough on the marsh to let them sneak away thru the cover.) At high tide the pushers can push the boats fast enough to make the birds flush.

I tried another method when George Bias got on in years & tides weren't good. I put my Lab, Rock, off to hunt along the edges of the creeks while George poled the boat parallel with him. We did pretty well, as there were always birds in "dem yaller flowers" that grew on the creek edges, but it turned out to be mighty hard on Rock. By the time we'd come in he Wouldn't have any hair on his muzzle or face,

or on his front legs, from pushing through the Tearthumb which was also thick along the edges.

I hunted one day with Al Geis & a young man who was doing some research on soras (never did get his name). They walked the marsh, while I paddled along beside them in my canoe, & shot at any birds they flushed across the creek. I tried walking the marsh some years ago for snipe, after the frosts had knocked the reeds & other growth down. Toughest going I ever experienced anywhere. I have often thought tho that you might be able to do it on some kind of narrow snow shoes, if you could get bindings that would hold on. -- Anyway, I don't remember that we got many birds that time.

Up on the Rancocas marsh I used to see a sharp young fellow, who had a kind of saw horse affair that held his gun. He pushed himself alone. When a bird flushed, he'd drop his pole, pick up his gun & shoot, & I think he did pretty well.

But for us "dudes", the pushers were essential, and the pushers on the Patuxent in the old days were a great bunch. To begin with there was Mrs. Greenwall, who was kind of the "Madam" of the pushers. When you wanted to shoot, you called Mrs. Greenwall, & she'd tell you which pushers were available & line up your choice for you. She and some other ladies also set up a picking establishment in a shed back of the Greenwall house, where they would pick and clean your birds for you for, as I recall, a nickel apiece.

The pushers all kept their boats at the Greenwall landing at "Pig Point" on the Anne Arundel side of the river, & that's where you always started out. There were a fair number of other hunters on the marsh, of course. I remember a wealthy Baltimorean who came up the river in his large yacht, bringing a party of friends. He'd anchor just below the old railroad embankments, & when he and his party were on the river, they booked most of the pushers.

In the early part of the season, when the rice stalks and cattails were high, you often couldn't see other boats in your vicinity. You could see the top ends of nearby pushers' poles tho, & as soon as a pusher spotted another pole nearby he'd immediately give out a high-pitched and mellifluous "Coo-e-ee", answered at once from the other boat. I never heard of anyone absorbing a load of No.9s, tho it may have happened.

The pushers I knew best were the members of the Bias family. Old David Bias had pushed my father for years, & he made it plain that

only he was going to push "Mistuh Flo's boy" when Dad brought me down. David was well past his prime by that time, but I was light, & hadn't reached mine, so, while we didn't perhaps shoot as many birds as I did later, or pick up all we shot ("He musta div'"), David gave me a great introduction to railbirding, & he occupies a warm place in my memories still.

David had two sons, George and Frank, both top notch pushers. Frank was considered by the cognoscenti the best pusher on the marsh -- if he was sober. George was more reliable, & after his father died, he pushed me many times. In the next generation of Biases were George's sons, young George and Charles, and Frank's son, Buster. Young George married and moved to Washington, after which, as a non-resident, he was denied a pusher's license by Maryland. Charles was the best pusher of his day when in form, but he unfortunately took after his Uncle Frank, & there were days when he had trouble standing in the boat. Buster was an excellent pusher. However, as the marsh filled in, & pushing got tougher, he found a job on the trash trucks at Andrews AF Base, where he made more money for a lot less effort, & he left the river.

There were others -- the Johnson brothers, Fair and Mit, both good pushers, and John Timms, the only white man who pushed on the marsh. John was the only pusher left when I called Mrs. Greenwall in early October, 1972, & the reason was obvious. The marsh had filled in so much that we had to go way down to nearly the junction of the Mataponi, and even there there were only a few pushable areas unless you got a very strong tide. We didn't. We flushed only a rare bird (of course early October was pretty late in the season for rail according to Meanley), but one bird we lost fell into a thick stand of Phragmites, something we never used to be troubled with. By that time the old pushers had died, or were too old to push that tough marsh, and no youngsters had any interest. End of an era.

While it lasted though, it was a wonderful way to start the fall hunting season. For some reason, back in the mid-century, September dove shooting hadn't come into style in MD. If it had, my memories might have been quite different, because Dad was a good wing shooter, & loved a challenge. He didn't find it in rail. He loved the experience, & shot every tide, but his greatest pleasure was when the tide dropped & he could concentrate on the flocks of "Reedies" passing high overhead, & offering a much more challenging target. In the old days, the daily limit on reed birds was 50, and there were flights passing over all the time, so there was plenty of shooting opportunity that Dad found a lot more rewarding than rail.

At home, after our trips, we celebrated every year the fall ritual. Out of the cabinet came the chafing dish. It was set up by Dad's place at the head of the table, along with a platter of rail and a platter of reedies. For this annual event, Dad became chef. He would point out every year that while he had to melt some butter for the rail, the reedies were so fat they cooked in their own grease. We picked the meat off the rail, but were encouraged to eat the reedies whole -- which I never really liked because of the need to crunch the bones, tho I'll admit they were tastier. Another ritual faded into the past.

I was a very tyro birder in those early days, but I remember other bird life on the river that I see little of today. Swallows. I can remember days when legions of swallows skimmed over the river. I identified them at the time as either bank or rough-wings, but now I'm inclined to think they were probably female or immature tree swallows, since I still sometimes see lots of tree swallows over the river during migration.

Then there used to be lots of coots. They'd suddenly flush in their own inimitable way when you came around a bend in the creek, & I'm afraid several fell to keen hoppers for a king rail. Actually, I never saw a king or a Virginia rail on the Patuxent. I had a standard offer to my pushers of a bottle of whiskey to whoever pushed me up a king rail. I've had to drink it myself.

There used to be lots of common Egrets on the river, along with Great Blue Herons, & another bird that would flush from the marsh at some risk to its longevity was the least bittern. Fortunstely, the pushers were quick to holler out "Bitt'n, bitt'n" when one would get up. I always enjoyed the little marsh wrens that would scurry through the reeds ahead of the boat. And, after the tide, it was entertaining to have the pusher slap his paddle down on the water, and hear the rail in the marsh call in response. Rail will call in answer to loud noises, like hand clapping or slapping a paddle on the water - tho I never heard one respond to a gun shot.

Days gone by, but wonderful memories. One could wish for a hard winter when the river would freeze over, and when the ice floes coming down the river on a falling tide would scrape off alot of the surface of the marsh, & thus keep it pushable -- at least that's what the pushers used to tell us. But siltation from uncontrolled development has done its work. The marsh has changed, and the bird life with it. I can only be grateful that I knew it when.

Early History of the Patuxent Wildlife Research Refuge Area (Part 2)

Excerpted from *EARLY HISTORY OF PATUXENT WILDLIFE RESEARCH CENTER* (circa 1948) by Dr. L. B. Morley

Editor's Note: Many of the historic structures mentioned in this article exist or once existed on Patuxent Research Refuge lands. Example: Snowden Hall is prominently located as part of the Patuxent Wildlife Research Center complex.

Birmingham Manor was one of seven mansions, including Snowden Hall, built at various times for members of the Snowden family. The main part of the house, under which was a cellar stocked with the customary fine drinks of the day, was two stories with an attic. The lower portion of the building was built of keystone brick and the second floor and upper portion were of frame. The brick and the oak for the hand-carved woodwork were imported from England and transported up the Patuxent by barge. The river at that time was navigable for a considerable distance and was important and necessary as a source of supply, for travel, and for the shipment of iron, tobacco and other products.

It was a common practice in the timbering operations of a later date, carried on in the bottom land, to dispose of the tree tops and trimmings by throwing them in the stream. Although the river has long since become silt filled, and has split into numerous channels as a result to these practices, evidence of wheel-worn pack trails on the banks still remain.

The manor was located on the old Post Road in the Robin Hood's Forest section of Anne Arundel County facing Snowden Hill, overlooking the Patuxent valley, and after standing for 200 years was completely destroyed by fire in 1892. During the fire the portion of the wall above the mantel over the fireplace, usually covered by a painting, cracked open from the heat revealing momentarily a secret compartment for papers and parch-

ments long since hidden by Richard Snowden. Material of great historic value was lost.

The old Post Road and Black Bridge across the Patuxent, a successor of an earlier crossing, were used constantly by us in the construction of fences and roads on the Anne Arun-



Goodwood, built about 1760, and renamed Gladswood in 1860

del part of the refuge. The earlier bridge was of wood, with high sides, and covered with a heavy protecting coat of tar, hence the name "Black Bridge", a designation that will endure so long as the crossing is maintained. Other Snowden family homes were built in Prince George's County at early dates but no formal division of the land had been made by 1790, and the individual property holdings have not been traced previous to that date.

Montpelier, presently the home of Breckenridge Long, built approximately in 1750 by Thomas Snowden, is several miles from the Refuge and is a show place of Maryland. Snow Hill,

Oaklands, Avondale, Fairlands, and Walnut Grange are other mansions in the vicinity that have been preserved and are of local interest. Snowden Hall was the home of the late John Snowden, a prominent and prosperous farmer in the county until his death about 30 years ago, a grandson of Resin Hammond Snowden, and the last direct descendent to occupy the mansion.

The original mansion built in the early part of seventeen hundred, on the hilltop now occupied by the refuge headquarters, as the home of one of the Snowden family was destroyed by fire about one hundred and fifty years ago. The house was rebuilt as "Rose Cottage," a one story structure with dormer windows, around 1812 or 1816, from handmade brick some of which are said to have come from England. The story has been told that the lady of the mansion was most embarrassed during a trip to England to learn that only tenants lived in cottages and that on her return she "raised the roof" to make Snowden Hall the colonial dwelling that it is.

Although the building was remodeled with handmade brick from another structure on the place, the former roof line can be easily discerned. The Hall had two stories and a full basement with windows about three feet above ground. An extension of frame construction on the south end of the house served as a porch and summer kitchen. Although the house has the typical double arched fireplace chimneys on each end, its characteristic

colonial appearance is modified by a low pitched, rather flat roof.

One colonial innovation that stimulated curiosity and disconcerting questions from visitors, until its removal, was a large, metal, inverted, funnel-shaped arrangement and down spout placed under a bedroom window on the back of the house. It had been installed as a substitute of more modern plumbing for the convenience of the colored chambermaids of that day. The exterior and interior walls are more than a foot thick and are constructed of soft red brick and lime mortar. The mansion had a large center hall and open stairs with four large bedrooms upstairs. Each of the rooms, with the exception of the small one at the head of the stairs, was heated by an individual fireplace.

The main dining room was served by a dumb-waiter from the kitchen in the cellar where the cooking was done over a large open-hearth fireplace. The basement with its hard-packed sand-clay floor contained the wine cellar or other storage and provided living quarters for some of the house servants. Snowden Hall, surrounded by large trees, faced northeast toward Birmingham Manor and stood overlooking the Patuxent and the crop fields that had taken several generations to clear and enrich. The terraced formal gardens were located on a slope at the rear entrance of the mansion.

The family were large slave holders and Snowden Hall on a Sunday morning was the gathering place of more than a hundred slaves to hear the mistress read from the family Bible. Joe Snowden, a colored man of ancient age, who had been born and raised as a slave at Snowden Hall, was still living in the tenant house as a caretaker for the property when it was acquired by the Government.

Goodwood The Kluckhuhn tract, a part of the original grant known as "Moore's Industry," was patented Oc-

tober 21, 1718, to Charles Duvall and was the home of his descendants until 1906.

The family was founded by Mareen Duvall, a fleeing immigrant from Nantes about 1650. He came as one of 150 adventurers brought over by Colonel William Burgess and settled on the south side of South River to become one of the most successful merchants and planters of that region. The land records of Anne Arundel and Prince George's Counties show that this Huguenot planter held a vast estate. Telegraph Road, so called because it was the location of the first telegraph communication system, is roughly the division line between the domains of the Snowden and Duvall families. Charles Duvall built as his first home in the early part of seventeen hundred a small brick structure which was later included in a frame structure to form a "T" shaped extension to the main house. In colonial days, Goodwood, built about 1760, and renamed Gladwood in 1860 by Dr. Charles Duvall, was undoubtedly one of the most beautiful estates of its time.

The mansion, a large two-story structure of frame construction with its rambling extension, was surrounded by numerous ancient and massive English boxwood plants, most of which had been sold before the Government acquired the property. The stairs and other interior woodwork were a hardwood of the appearance of cherry, and the drawing room was finished with elaborate hand-carved panelling of the same material. The lawns to the front and rear were covered with large hollies and other fine specimen trees. The terraced formal gardens, extending from the lawn in the rear of the house to the spring at the foot of the slope, were renowned for their great variety of beautiful flowers and shrubs.

A great number of slaves were required to work the broad expanse of level land lying along the Patuxent. A landing on the river below Duvall

Bridge, the crossing for Telegraph Road, was used by the family to export the abundant crops of tobacco and other products. The property was sold and passed into other hands about 1906, following the death of the owner, Dr. William W. Duvall. The mansion was eventually occupied by tenant farmers and deteriorated rapidly from abuse. The dwelling, slave quarters, and other outlying buildings were later condemned and razed by the Government. Bricks salvaged from the original structure were used for reconstruction work on Snowden Hall and the large boxwood plants were moved and utilized in landscaping. 🦋

Calling for Your Articles and Photos



We're looking for articles—your articles—and cool photos for future Friends newsletters. You don't have to be a professional writer. Just jot down a paragraph or two about a nature topic dear to your heart. Or send us a photo or two of a beautiful plant, wildlife, or people at a Refuge or Friends' event along with a caption.

Please consider sending us your article and/or your photos for your next newsletter. Make sure to title your article and include your name and volunteer position. When you send it, put Newsletter Article in the Subject Line of your email. We'd like to hear from YOU. Here's where to send them: ross.feldner@verizon.net **Thank you so much!**

CRITTER CORNER - For Kids of All Ages

by Jeanne Latham, Volunteer

Maryland Critters - Surviving the Winter

As winter approaches, many wild critters in Maryland cannot migrate like birds to escape the cold weather.

Wild critters must adapt to the low temperatures of winter and are amazingly able to do that in different ways. Reptiles, which are “cold-blooded,” adapt in ways different from “warm-blooded” animals. Let’s check out a few critters and how they survive the cold of winter.

Wood Frog

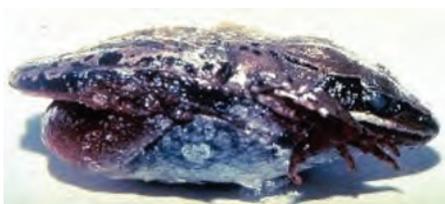
The wood frog lives in forests, and Mother Nature has given them a surprising way to survive in the winter. These cold-blooded small amphibians actually freeze!

Wow! How can this be? A portion of the water that makes up their body



Brian Gratwicke/flickr

A wood frog rests on a log at the Smithsonian Environmental Research Center in Edgewater, Maryland.



Evelyn Davidson

Wood frog frozen solid

Try this fun matching game to get started exploring how amazing animals are.

Critter

- ___ 1. Ground hog
- ___ 2. Northern cardinal
- ___ 3. Black rat snake
- ___ 4. Red fox
- ___ 5. Bumble bee (female)

How Adapts to Cold

- a. Puffs out & uses air as insulation
- b. Hibernates in a den with others of its kind
- c. Grows a thick coat to keep warm
- d. Hibernates in a burrow
- e. Hibernates in a hole below the ground

(NOTE: Answers at end of article.)

freezes, and they are able to withstand being frozen for a period of time at temperatures below freezing. Scientists have found that the frog’s body makes a syrupy solution that prevents the cells from freezing. So they survive in a type of suspended animation – remarkable!

Chipmunk

The eastern chipmunk is in the squirrel family, and likewise considered a rodent. These cute and active critters are commonly seen in forests and backyards and places where they hunt for food.

Chipmunks have cheek pouches to collect and store food before putting it in their burrow. Scientists have noted that a chipmunk can stuff its pouch with nearly 70 sunflower seeds.

Chipmunks spend most of the winter sleeping in their burrows. They are not considered to be true hibernators. Instead they enter what is called “torpor.” Torpor is the state in which the body temperature and heartbeat decrease. Chipmunks will wake up every few days to eat food that has been stored in the burrow.



Gilles Gontheir/Wikimedia Commons

Chipmunks enter their burrows in the autumn. And they don’t emerge until Spring, except briefly during warm spells.

Box Turtle

You may have seen a box turtle in the woods at the Refuge, or even near your home. Eastern box turtles are often found in open woodlands, as well as pastures, and marshy meadows. They spend a lot of time buried in the leaves and surface soils and hidden in the brushy piles of their forest habitats. And they are most active at temperatures between 70 and 85 degrees F.



Photo by Ross Feldner

<https://www.dept.psu.edu/nkbiology/naturetrail/speciespages/boxturtle.htm?>

<https://thebackyardnaturalist.com/wordpress/resources/bats-species-maryland/>

<https://www.nps.gov/subjects/bats/hibernate-or-migrate.htm>

As temperatures fall in the autumn, eastern box turtles burrow into loose soil, or mud, or even an abandoned burrow of a mammal. Then they begin their hibernation, which usually starts in October or November. As the air and soil temperatures drop with the progression of winter, the turtles burrow deeper and deeper into their place of hibernation. Once spring arrives, they reappear.

bat's heart rate can drop from 200-300 beats per minute to just 10 beats per minute. And the bat may go minutes without breathing.

In the spring, when temperatures begin to rise and food sources are replenishing, the bats re-emerge from their hibernating place. 🦇

Resources and references:

https://www.chesapeakebay.net/news/blog/how_six_chesapeake_bay_critters_survive_the_winter

<http://wildmaryland101.blogspot.com/2013/03/md-naturalists-notes-how-do-animals.html>

<https://www.nps.gov/gaar/learn/nature/wood-frog-page-2.htm>

<https://www.massaudubon.org/learn/nature-wildlife/mammals/chipmunks/about>

<https://kids.nationalgeographic.com/animals/mammals/chipmunk/>

Little Brown Bat

The little brown bats are true hibernators. These critters often use caves or mines for roosting in winter. Little brown bats collect in the cave and hibernate as a group in the winter. Reportedly one roost, outside of Maryland, had over 300,000 bats packed together to keep warm!

Hibernation is a dormant state. The bodily functions slow down to the point that very little energy is used. That means that the metabolic rate, heart rate and respiratory rate slow down. A



Don Pritzler/U.S. fish and Wildlife Service

Answers to Matching Game

- | | |
|------------------------|----|
| 1. Ground hog | d. |
| 2. Northern cardinal | a. |
| 3. Black rat snake | b. |
| 4. Red fox | c. |
| 5. Bumble bee (female) | e. |

Senator Paul Sarbanes, Friend of Patuxent

Honorable Paul S. Sarbanes, former member of the U.S. House of Representatives and U.S. Senator from Maryland died December 6, 2020. While best known for his expertise on national financial matters, Marylanders knew him for his strong environmental record and great love of Maryland's natural resources. Sen. Sarbanes was a great supporter of the Patuxent Research Refuge and Patuxent Wildlife Research Center. He was instrumental in obtaining funding for the National Wildlife Visitor Center and supporting Patuxent's research program. He was a major speaker at the 50th anniversary of Patuxent in 1989, which is where he stated "Patuxent is a green area that acts as the lungs between Washington and Baltimore." The Friends of Patuxent are grateful for his staunch support for the refuge and center over his many years of public service.

Around the Refuge

Photos by Jerry Herman



Bumble Bee



Common Buckeye



Great Blue Heron



Pearl Crescent



Monarch



Ruby-throated Hummingbird

Around the Refuge

Photos by Matt Beziat



Dark-winged Sweat Bee (North Tract)



Red Chanterelle Mushrooms (South Tract)



Sweet Gum Leaves (South Tract)



Autumn Meadowhawk (North Tract)



American Carrion Beetle (North Tract)



Crown-slug Moth (North Tract)

Proposed High Speed Train Threatens Habitat at Patuxent Research Refuge and Other Federal Lands

Continued from page 3

water quality of streams and rivers;

- Disruption of underground aquifers by the tunneling process;
- Effects of magnetic fields on wildlife and on humans: it is known that some bird species rely on the earth's magnetic fields for navigation during migration, and the effects of the train's magnetic fields have simply not been studied.

Significantly, the proposed taking of federal lands for use by a private, for-profit company is apparently unprecedented. It is unclear what process would be needed to authorize such a taking, but it likely would require an act of Congress.

The SCMAGLEV project is receiving support from some business and political leaders in Baltimore and Washington, DC. However, a large number of community groups are opposed to the project, citing the negative impacts on their communities in the absence of any benefits to local citizens. These citizen groups question the economic benefits cited by the train project. Moreover, the economic projections for the train have not been revised to account for the massive changes in commuter use of roadways and public transit in the face of the COVID-19 pandemic. Please see the website <https://stopthistrain.org/> or the Facebook page <https://www.facebook.com/groups/CitizensAgainstSCMaglev/> for further details of the impacts on human communities.

Currently, the project is moving through the federally-mandated National Environmental Policy Act (NEPA) process which requires preparation and public review of a Draft Environmental Impact Statement (DEIS). A version of that statement was recently delivered to agencies whose lands will be directly impacted by the project, including Patuxent Research Refuge, and

such agencies had the opportunity to provide comments on the Draft Environmental Impact Statement.

A revised version of the Draft Environmental Impact Statement will be available for **public review, with a 45-day public comment period from January 22, 2021 through March 8, 2021**. Members of the Friends of Patuxent will receive an email from the Friends when the DEIS becomes available, with information on how to access the document and how to provide comments. We hope that Friends members will take the opportunity to become involved in the process and make their concerns known.

Here are some steps you can take prior to and during the public comment period for the Draft Environmental Impact Statement:

1. Study carefully the information available at the official project website <http://www.bwmaglev.info/> and especially the interactive project map at <https://maryland.maps.arcgis.com/apps/opsdashboard/index.html#/3126ba14ebf54d3887e95f257ca5d054>. Note that at the top right of the interactive map, there are two tiny icons that allow the user to change the layers shown in the map as well as the base map, so that you can better visualize different aspects of the project. Also note that if you click on any color-shaded overlay that shows a component of the project, a small pop-up window will appear near the upper left of the map, identifying that component.
2. Also study the materials available at the website <https://stopthistrain.org/> or the Facebook page <https://www.facebook.com/groups/CitizensAgainstSCMaglev/>. Note the following sections of the website:
 - a. "About the MAGLEV" [https://www.stopthistrain.org/about](https://www.stopthistrain.org/abouthttps://www.stopthistrain.org/about) contains background about the project and about Citizens against SCMAGLEV.

- b. The page at <https://www.stopthistrain.org/questions> shows a list of unanswered questions and concerns, including discussion of the impacts on human communities.
- c. The page <https://www.stopthistrain.org/biological-and-ecological-concerns> goes into more depth than this article on the ecological concerns surrounding the project.
- d. A page with contact information for elected officials and government agencies is at <https://www.stopthistrain.org/take-action>.
- e. A wide variety of resources for citizens are at <https://www.stopthistrain.org/downloads-and-resources>. This page includes downloadable documents on how to prepare comments on the Draft Environmental Impact Statement.

Please contact your local legislators (town and county) and your state representatives with your questions, comments, and concerns.

It is also important to submit your comments to the Maryland Transit Administration (MTA) official project website by email, letter, or web form, using instructions at bwmaglev.info/index.php/contact-us.

We believe it will be of prime importance to contact your representatives in the U.S. House of Representatives and the U.S. Senate. It is likely that an act of Congress will be needed to authorize the taking of federal lands for this private project. Your elected representatives in Congress can be reached using contact information available at <https://msa.maryland.gov/msa/mdmanual/39fed/06ushse/html/rep.html#rep> and <https://msa.maryland.gov/msa/mdmanual/39fed/05ussen/html/sen.html>.

We hope that members of the Friends of Patuxent will step up to protect the Refuge that we all cherish. It is irreplaceable. 🦋

About the Refuge

From the U.S. Fish & Wildlife Service website

Established in 1936 by executive order of President Franklin D. Roosevelt, the Patuxent Research Refuge is the only National Wildlife Refuge in the United States established to support wildlife research. The Refuge has grown from the original 2,670 acres (10.8 km²) to its present size of over 12,800 acres (52 km²) and encompasses land formerly managed by the Departments of Agriculture and Defense. Throughout decades of change, Patuxent's mission of conserving and protecting the nation's wildlife and habitat through research and wildlife management techniques has remained virtually unchanged. About 1,100 species of vascular plants have been reported on the refuge.

Patuxent Research Refuge supports a wide diversity of wildlife in forest, meadow, and wetland habitats. The land is managed to maintain biological diversity and to protect and benefit native and migratory bird species. During the

fall and spring migrations, many waterfowl species stop to rest and feed. Over 270 species of birds occur on the Refuge. Increasing forest fragmentation in the area caused by urban development has damaged many populations of neotropical migratory birds. The Refuge is one of the largest forested areas in the mid-Atlantic region and provides critical breeding habitat and wintering habitat for these species.

Patuxent Research Refuge is divided into three areas: 1) North Tract, which offers hunting, fishing, wildlife observation, trails, and many interpretive programs; 2) Central Tract, where the headquarters for both the Refuge and the USGS Patuxent Wildlife Research Center are located, as well as research study sites; and 3) South Tract, which has the National Wildlife Visitor Center, trails, and many educational programs. The North Tract and the National Wildlife Visitor Center are the only areas open for visitor activities. 🦋

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FRIEND OF PATUXENT BOARD MEETINGS

Friends Board meetings are currently held by Zoom at 4 pm. Dates for Board meetings for 2021 are: January 19, March 16, May 18, July 20, September 21, and October 19 (both Board and annual members meeting). Dates, locations, and times are subject to change.

JOIN TODAY!

MEMBERSHIP APPLICATION

Name: _____

Address: _____

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- Individual (\$25/yr), gift: FOP bookmark (or other) Family (\$35/yr), gift: FOP decal (or other)
- Contributor (\$75/yr), gift: History of Patuxent DVD (or other) Sponsor (\$250/yr), gift: FOP hat (or other)
- Life (\$500), gift: FOP shirt (or other) Please ✓ size: S M L XL XXL XXXL
- Life-65+ (\$300), gift: FOP shirt (or other) Please ✓ size: S M L XL XXL XXXL
- Corporate \$1,000 Gift: 1/4 page ad in the Friends newsletter for one year. (4 Issues).

Donation \$ _____ Make check to "Friends of Patuxent" and mail to address on reverse side of this page.

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Friends of Patuxent

National Wildlife Visitor Center
10901 Scarlet Tanager Loop
Laurel MD, 20708-4011

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Friends of Patuxent

National Wildlife Visitor Center
10901 Scarlet Tanager Loop
Laurel MD, 20708-4011

Phone: 301-497-5789
www.friendsofpatuxent.org

WE INVITE YOU TO JOIN!

Friends of the Patuxent Wildlife Research Center and Patuxent Research Refuge, Inc. is a designated Section 501(c)(3) public charity. It is a membership organization whose mission is to financially support the research of the PWRC and the environmental education, outreach and recreational missions at the PRR. All contributions are tax deductible to the extent allowed by law. Our Maryland Charitable Organization Registration-2348.

Your membership/contribution helps support the mission and programs at Patuxent. You also receive the following benefits:

- Quarterly newsletter (mailed on request or go to www.friendsofpatuxent.org)
- 10% discount in our Wildlife Images bookstore and other area refuge bookstores
- Attendance at member functions
- Participation in on-site educational programs
- Sense of accomplishment in providing many opportunities for wildlife-related recreation, education and research

(Application on reverse side)