

Springing Forward...

by Jennifer Greiner, Refuge Manager

Forsythia in February? With all sights and sounds around the refuge pointing eagerly toward Spring, I thought I'd provide an update on the many fresh and exciting things happening at Patuxent:

Trail Improvements

Over several weekends during December and January, Clark Construction volunteers worked with Refuge facilities staff to rebuild the River Trail boardwalk at the North Tract. Later this summer, volunteers from the Union Sportsmen's Alliance will refurbish the Dr. Chandler S. Robbins Outdoor Education Center at the South Tract in preparation for the much-anticipated ribbon cutting of the Wisdom Trail.



Clark Construction staff working on the River Trail Boardwalk on NT.

Photo: Martin Brockman/USFWS

Staffing additions

Over the last quarter, we filled vacancies in Administration and Facilities. Two more hires are happening in Visitor Services, and another in Facilities, over the next couple of months, AND we found out that Patuxent was selected as the home station for two of the Regional Office's three Great American Outdoors Act strike team members, bringing much-needed capacity to help tackle deferred maintenance tasks around the refuge.

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Outreach video

Thanks to the volunteer expertise of a recent USFWS retiree, the Refuge is working to create an updated welcome video for use in both visitor centers and on social media. Expect to see the product debut in early autumn, in time for Urban Refuge Day.

Fishing trailer

In partnership with the Recreational Fishing & Boating Foundation and Maryland DNR, Patuxent is getting a new “Reels on Wheels” fishing trailer, outfitted with freshwater fishing equipment. This trailer will be used on the Refuge and in local communities to increase our capacity in reaching new audiences.

New partnerships

Our Visitor Services team has been busy forging new connections with key influencers in communities around the Refuge:

Bowie State University - Refuge staff from multiple programs will participate in the university’s first ever Climate Career Expo on March 9th at the campus where we will showcase the variety of work within the USFWS.

Prince George’s County Police Department – The Refuge will host a first-ever “Cops & Bobbers” fishing event at Lake Redington on April 15th, designed to allow local law enforcement the opportunity to engage with our local community. The Police Department has Community Resource Officers familiar with underserved communities, who will be invited to this event.

National Park Trust - The National Park Trust College Ambassador Program (NPT) provides college students with the resources to lead initiatives on their campuses that increase outdoor recreation participation and

stewardship within their campus communities while also increasing access and awareness of parks and outdoor places. The Refuge has been working towards providing recreation opportunities to BSU students. We are now working with NPT and its Student Ambassadors to host a fishing event at the Refuge. We are working with MD DNR to provide free fishing licenses to BSU students who attend our event.

New Beginnings – Developing a relationship with our neighbors, New Beginnings which is a program of the Department of Youth Rehabilitation Services for the District of Columbia. They share their campus with Earth Conservation Corps and Youth Challenge Academy. These programs are for young adults, many of whom have not been exposed to nature. 🦋

Thank You Donors of 2022

We sincerely thank the individuals and one anonymous foundation for donations totaling more than \$57,000 in 2022. Your dedication to Friends of Patuxent allows us to continue supporting research, wildlife conservation, and education at the Patuxent Research Refuge and Eastern Ecological Science Center.

THANK YOU!

Board of Directors, Friends of Patuxent

Friends of Patuxent is published quarterly and can be read online or mailed to our Friends upon request.

Many of the regular newsletter contributors and assistants are volunteers. We welcome and encourage all volunteers and Friends to submit items for the newsletter by emailing them to: ross.feldner@verizon.net

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	3	Jul-Sept	June 1
2	Apr-Jun	March 1	4	Oct-Dec	September 1

To become a member of the Friends of Patuxent or send a donation, please see “Membership Application” on page 19, or join online at <https://friendsofpatuxent.org/Join>

Early History of the Friends of Patuxent Saved from the Shredder

Rich Dolesh, Chair, Board of Directors

A routine purge of out-of-date documents at the Patuxent Research Refuge almost led to the loss of years of the earliest newsletters of the Friends of Patuxent, but due to the heroic efforts of some Friends' volunteers and Refuge staff there is a happy ending to the story.

Throughout the 31-year existence of the Friends of Patuxent there have been few organized efforts to preserve the history of the organization and what we have done to support the Refuge and wildlife research center. A lot of time has passed in 30 plus years and many of the volunteers who make up the membership and leadership of the Friends have come and gone. The Refuge's volunteer newsletters, which date back to the beginning of the Friends of Patuxent in 1991, provide one of the only continuing records of the early days of the Friends.

But who saves 30 years of newsletters? Fortunately, a lot of those years of newsletters have been saved digitally by longtime Friend's volunteer and board member Sparky Sparks who singlehandedly brought the Friends into the 21st century by establishing a Friends' webpage, a Facebook page, and digitizing other Friends' records for years. But in the early years, there were only hard copies of the newsletters.

Due to the efforts of a dedicated volunteer and a couple of past and present Refuge staff starting with Patty Nagel, then Nell Baldacchino, and now Diana Ogilvie the current volunteer coordinator and liaison to the Friends, newsletter issues were saved and stored away.

But time moves on. The Department of the Interior in its wisdom requires agencies to dispose of out-of-date records after a certain number of years. As any-



Image: Diana Ogilvie

to have a cleanup and send all that unnecessary paper on its way. And that's where the old copies of the Friends of Patuxent newsletters inadvertently headed—to a shredder truck that was arriving the next day.

Friends' volunteer and board member Karen Atwood just happened to be looking for extra copies of the current Friends' newsletter during a Saturday program. None were to be found, and distressingly, neither could all the old copies be found. The Friends brought the matter up to Refuge Manager Jennifer Greiner who said we were welcome to come that Monday to look through the big plastic contractor bags, but the shredding company was coming on Tues morning.

Karen put out an urgent email Monday morning for any volunteers who might be able to drop what they were doing and come to the Refuge and root through the bags. Abby Ershow, a semi-retired volunteer, read her email and replied she could help. When she got there, Jennifer opened the storage closet where a big overflowing utility cart held nine huge bags of paper to be shredded. Jennifer helped her unload them from the cart and Abby dragged them to the volunteer break room where she started going through everything, page by page. "I found a few items related to the Friends and then a couple of newsletters of the Friends. I was about a third of the way through the bags, but I knew I couldn't finish by the end of the day."

Stephanie Everett, another longtime volunteer and Friends' member, also saw Karen's email. "I came late to the party. When I got there, Abby was already sitting in piles of paper. She showed me the few copies of

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A copy of the first issue of the Friends and volunteers "journal" found by Abby Ershow and Stephanie Everett that was saved from the shredder.

one knows who has worked or volunteered at a Refuge, paper piles up and soon closets and storage spaces are overflowing with outdated brochures, years out-of-date admin records, and boxes full of paper that someone thought they would get around to sorting someday. It only makes good sense



Photo: Abby Ershow

Boxes of early "journals" found by Abby Ershow and Stephanie Everett that were saved from the shredder.

From Analog to Digital: Eight Decades of Tracking Box Turtles on Patuxent Research Refuge

by Andy Royle, Research Statistician; Paula Henry, Research Physiologist; and Jennifer Malpass, Biologist; USGS Eastern Ecological Science Center; and Sandy Spencer, Wildlife Biologist, USFWS Patuxent Research Refuge

The creation of the Department of the Interior's Patuxent Wildlife Research Center in 1939 inspired federal biologists to begin wide-ranging studies of many of the species on the Patuxent Research Refuge. Some of these investigations continue today as part of the research conducted by the U.S. Fish and Wildlife Service (USFWS) and U.S. Geological Survey's Eastern Ecological Science Center (USGS EESC), which has one of its primary campuses on the Central Tract of the Refuge.

Early surveys of box turtles on the Refuge

Lucille Stickel, Director of the Patuxent Wildlife Research Center from 1972 to 1982, initiated a field study of eastern box turtles (*Terrapene carolina Carolina*) during 1944-1947 as part of her doctoral research (Stickel 1950). The primary goals of this early research were to determine population size and home range relationships, including whether turtles defended their home range as territories, size of home ranges, and movement patterns of turtles within and outside of their home ranges.

When first captured, turtles were uniquely and permanently identified by filing notches along the margins (scutes) of their top shells (carapaces). Within the first 18-20 years of life, turtle ages can be estimated by counting the number of growth rings on their carapace. Dr. Stickel improved on an earlier trailer design to track turtle movements (*Image 1*) and noted, "Details of travels can be followed for weeks or months by attaching thread-laying devices to their carapaces. Their normal activi-

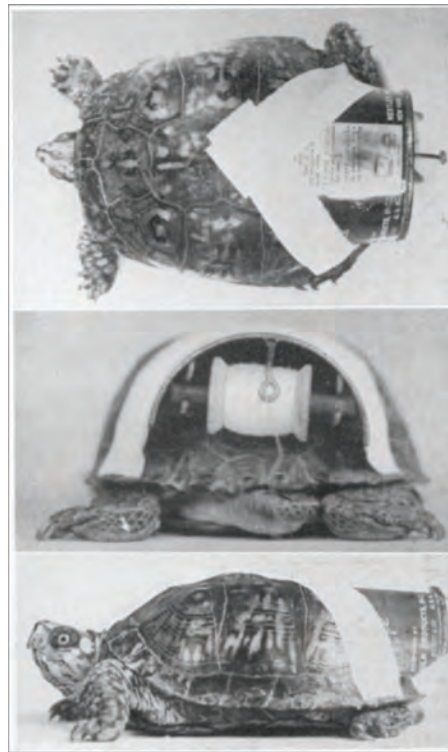


Photo: Stickel 1950

Image 1. Box turtle with thread-laying device designed by Dr. Lucille Stickel.

ties are not detectably altered by the attachment of these trailers, or by handling and marking." She followed and mapped the travels of eleven turtles for 456 turtle days, including following one individual for 161 days!

Dr. Stickel also initiated annual box turtle surveys within the Refuge and data were analyzed once each decade during 1945-1975 to study population dynamics. Turtles captured during previous years could be identified by their scute notches. This "mark-capture-recapture" approach allows for individuals to be tracked throughout their lives and helped Dr. Stickel document a pronounced decline in the estimated population of box turtles (Stickel 1978).

Expansion of monitoring methods

Concerned about the apparent declines in the local box turtle population and to maintain records of persistence of individual turtles, the decadal surveys continued in 1985 and 1995. Unfortunately, the 1995 population appeared to be no more than 23% of the peak population of 1945 (Hall, Henry and Bunck 1999). Researchers added radiotelemetry in 1995 to track seasonal movement of nine turtles and evaluate search efficiency.

Dr. Paula F. Henry, a research physiologist at USGS EESC, noted, "turtles are far less visible than formerly assumed; even when the location of an individual could be narrowed to a few square meters, it often took observers great effort to sight a turtle that was only thinly concealed by vegetation or debris." Radio tracking also revealed turtle movements to be more extensive and complex than previous studies had suggested.

Advances in technology support monitoring today

Mark-capture-recapture methods like those used throughout the 1900s can be effective when done correctly but involve significant time. In 2017, Sandy Spencer, USFWS wildlife biologist, began tracking five female box turtles throughout the Refuge using solar-powered cellular transmitters (*See Image 2*). Cellular transmitters allow turtle locations to be automatically uploaded to cellular towers based on a pre-programmed schedule instead of relying on field personnel to manually relocate the turtle from its transmitter signals using a hand-held receiver.



Photo: Sandy Spencer

Image 2: Box turtle with cellular transmitter.

The cellular transmitters record GPS coordinates, speed and direction of travel; are solar powered; and only function when the turtle is above ground, approximately mid-April to late October. As of October 2022, four of the cellular transmitters were still sending data three times weekly. Data can be viewed through a GoogleEarth interface that displays GPS locations and lines of travel between these locations (*Image 3*).

USGS EESC research statistician Dr. Andy Royle launched the Quantitative Turtle Analysis Project in 2019 to overcome some of the challenges related to mark-recapture-capture methods. Machine learning programs can differentiate between individual turtles using pictures of their shells instead of permanent notches (computer-assisted photo-ID capture-recapture). New “spatial-capture-recapture” models also account for the unbalanced search effort of observers by using GPS tracks to record what areas were surveyed (*Image 4, page 17*).

Modern efforts to monitor box turtles on the Refuge also involve a community approach. Between 2000-2015, the box turtle monitoring records were the focus of projects conducted by multiple community volunteers; research by students at local high schools, colleges, and universities; and an intern working with the U.S. Humane Society.

For the last four years, USGS EESC has hired a summer intern to track the Ref-

uge’s box turtles through the USGS Cooperative Summer Fellowship Program and Youth Conservation Corps students stationed at the Refuge often assist with fieldwork as part of their summer program. USGS EESC has also worked with students in Eleanor Roosevelt High School to develop computer algorithms to identify individual box turtles from measurements of their shells using photos taken by both trained biologists and community scientists. To date, field technicians and community scientists have collectively provided over 500 photographs of turtles, contributing meaningful data for tracking the population of turtles on the Refuge.

How you can help

- **Slow down when driving on or near the Refuge.** Roads that lead through the Refuge cross the natural path of box turtles looking for a mate or place to hibernate. Car accidents pose a threat to healthy turtle populations.
- **Send us your turtle photos!** Box turtles usually emerge from hibernation in April and are active during the day through October. If you see a box turtle on the Refuge, please take a centered photo from above of the top of turtle shell and record the location using your smart phone compass or GPS app. Email the photo, date and time of encounter, and geographic coordinates to: pwrc.turtles@gmail.com.
- **Enjoy box turtles in the wild only.** Thousands of box turtles have been removed from the wild for the pet trade. To help protect wild turtle populations, it is illegal to sell box turtles at pet stores in Maryland, and other states only allow the sale of captive-bred box turtles.

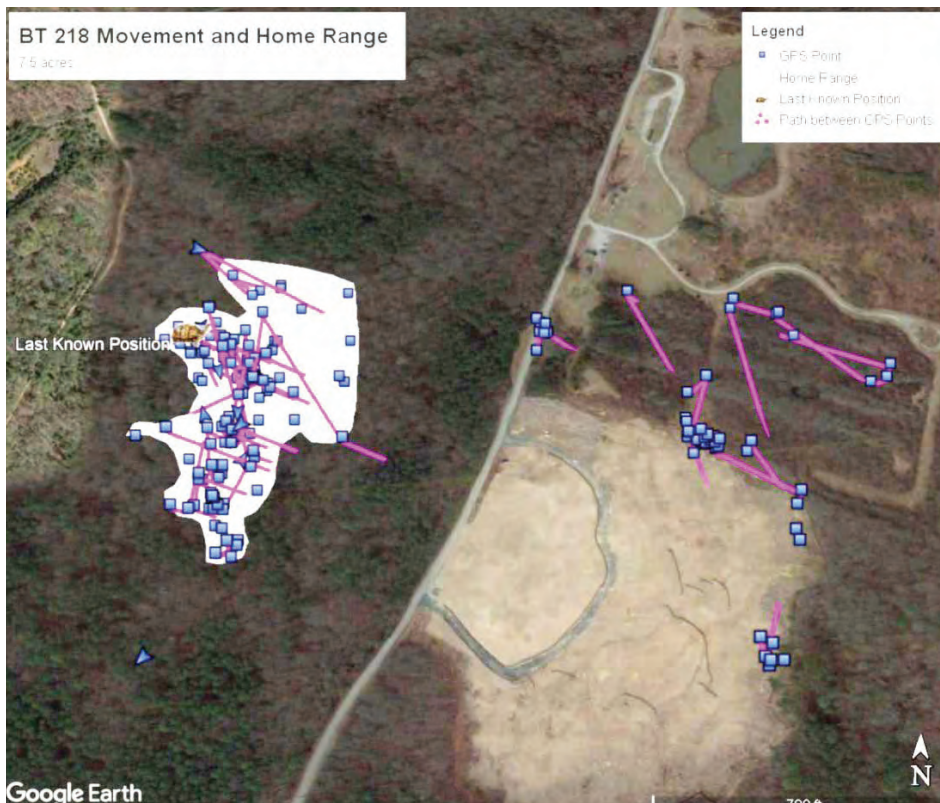


Image: Sandy Spencer

Image 3. Movement and home range of one turtle tracked with a cellular transmitter.

A version of this article previously appeared at: <https://www.usgs.gov/centers/eesc/news/analog-digital-eight-decades-tracking-box-turtles-patuxent-research-refuge>

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LOVEABLE BIRDS & BEASTS: WILDLIFE PHOTOGRAPHY – AND LOVE – CAN HELP SAVE THE WORLD

by Barbara Joan Saffir, Certified Master Naturalist and Author. Photos by Barbara Joan Saffir.

For me, it started with **LOVE**. I always adored birds, beasts — and especially blooms, since I grew up in the lush subtropics — but my fuse was truly ignited when I got my first digital camera more than a decade ago and started capturing wildlife behavior in my own Northern Virginia neighborhood. That's when I changed from occasionally glimpsing birds and beasts to beginning to study them and their eye-popping beauty. I slowly progressed organically from there. Each time I captured a new behavior or a new critter, I read about them. And my love grew with each new nugget of knowledge. Now I'm even obsessed with macro photography and amazing insects. Who knew that a teensy splotch on a leaf could be a critter with colors and shapes and patterns worthy of the National Gallery of Art? Eventually I was so hooked that I became a certified Virginia Master Naturalist. Now, I'm an incurable bird lover and wildlife photography addict — and like all good addicts, I try to turn others into addicts!

My wish list for a camera is a top-quality mirrorless and matching lenses, which focus more readily on birds in flight. Until then, I primarily use a Can-



Barbara Joan Saffir in action.

“Nature photos can help save the world’s dwindling treasures,” says wildlife photographer Barbara Saffir. “Wildlife images can inspire voters, LAWMAKERS, and others to fall fervently in love with earth’s cute critters so they’ll work passionately to protect them and to conserve the sacred places they call home.”



Sunflowers and Indigo Bunting.

on EOS 7D, Mark II with handheld telephoto lenses. (Canon 100-400 lens or Sigma 150-600 lens.) As a petite (but strong) woman, I wear a Cotton Carrier vest which my hefty camera and lens clips into, so I can hike effortlessly

for up to 10 miles at a whack. I call my vest the “great equalizer” to encourage more women and girls to break more barriers in the still male-dominated field of wildlife photography.

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SHOW DATES:	June 1 - June 30, 2023 Tuesday to Saturday, 9 a.m. - 4:30 p.m.
RECEPTION:	Saturday, June 3, 1 - 3 p.m.
WHERE:	Patuxent Research Refuge Visitor Center, South Tract, 301-497-5772 10901 Scarlet Tanager Loop, Laurel, MD https://www.fws.gov/refuge/patuxent-research

Welcoming Another Valiant Volunteer for Wildlife Images

by Karen H. Atwood, Friends of Patuxent Board Member, and Refuge Volunteer

We offer a formal “welcome and thank you” to yet another volunteer in our *Wildlife Images* Bookstore & Nature Shop: Hank (aka, Henrietta) Dahlstrom, since August! Hank grew up in New York, outside NYC, and lived on a dirt lane surrounded by fields and woods where she loved to spend time exploring. She also picked up an enjoyable hobby then, sewing; these days she mostly sews quilted wall hangings.

Hank and her husband Rob moved back to Silver Spring last June after living in Virginia for 10 years. She had moved to Virginia to help with her only grandchild (now twelve). Hank says her grandchild taught her so much: to have the curiosity of a toddler, to notice small things, to be in the moment, and to enjoy making messes! She would often take her granddaughter to a local nature center, which they both relished. Once her granddaughter entered school, Hank enrolled in the Virginia Master Naturalist program, began volunteering, and earned her Virginia Master Naturalist certification.

When she and Rob decided to move back to this area, she eagerly sought similar avenues for volunteering, and found her way to the Patuxent Research Refuge’s South Tract and Visitor Center (10901 Scarlet Tanager Loop; Laurel). Front desk volunteer Joyce Wineland connected her with Refuge Ranger Diana Ogilvie, who told her about a training session that very Saturday in the Visitor Center — to Hank’s delight, she could start right away!



Hank, with one of her quilt wall hangings, as photographed by her husband, Rob.

Hank had long thought that she’d find it fun to work in a bookstore. When she learned Ann needed another volunteer in the Refuge Friends’ *Wildlife Images* Bookstore & Nature Shop on South Tract, Hank stepped up. She derives great pleasure from locating or suggesting a book or gift item that delights a customer, e.g., recently, a special Nature Journal for a customer’s 10-year-old niece. She also cherishes spending time amid the “wonderful collection” of nature-related books and other items, both functional and gift-oriented, in the shop. Hank notes, “The bookstore sales raise money to support the Refuge’s programs and mission. It is also a fun place to hang out. Ann is a wonderful teacher. I had

never worked a cash register before and was a bit anxious about it, but in her gentle way Ann guided me through the process and continues to be available if I have trouble. I enjoy browsing through the books and checking out other items for sale. And often I get to meet interesting folks, sometimes from far-away places.”

Hank also delights in kayaking, hiking and reading, and writes poetry, mostly about nature (enjoy one of her poems in this newsletter!). She and Rob have a cat named Molly, an endless source of amusement and comfort.

She also volunteers at the Refuge’s North Tract Visitor Contact Station (230 Bald Eagle Drive), which situates her near beautiful trees and ponds. They relocated here from a house in Virginia that backed up to a park; now they live in a sixth-floor apartment in Silver Spring. Volunteering at North Tract brings her joy watching birds at the feeders, and again, through helping others learn about and enjoy nature.

Hank encourages anyone who loves nature and cares about our earth to consider volunteering at Patuxent Research Refuge: “It is so important to encourage and teach young people about our Mother Earth, as the volunteers do in the Kids’ Discovery Center and other programs.” She continues, “It is vital to have places where we can immerse ourselves in nature, to remember we are a part of the wondrous network of Life.” 🦋

Where Are They Now???

Update on Dr. James W. Carpenter

First of an ongoing series by Matthew C. Perry, Scientist Emeritus, Eastern Ecological Science Center

Dr. James W. Carpenter arrived at the Patuxent Wildlife Research Center (now EESC) in 1974, and soon became a dominant figure in the embryonic Endangered Species Research Program (ESRP). He and his wife, Terry, lived in a government home on the bucolic shoreline of Bluegill Pond. This location made easy access to the endangered species propagation area where he worked in a small “temporary” veterinary hospital in a double-wide house trailer. He provided health checks and oversaw the research, captive propagation, and the veterinary health program of numerous species including bald eagles, whooping cranes, sandhill cranes, Aleutian Canada geese, masked bobwhite, Andean condors, and black-footed ferrets.

In the 1970s, Patuxent also conducted preliminary studies on Hispaniola parrots and snail kites. These two species were surrogates for the Puerto Rican parrot and the Everglade kites. Andean condors were also surrogate species for the California condors. These three species never came to Patuxent but were studied at field locations. Dr. Carpenter monitored these captive surrogates and advised scientists working in the field on medical issues.

Dr. Carpenter’s personal studies dealt mostly with whooping cranes, and he spearheaded some of the early work on captive propagation and rearing. Many of the problems in the early phases of the program involved parasites and diseases. Dr. Carpenter promoted good health conditions focused on disseminated visceral coccidiosis and eastern equine encephalitis and published extensively in this area during his 15 years at Patuxent.

In 1989, Dr. Carpenter left Patuxent to start a new program in zoological/
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Dr. Jim Carpenter (rt.) and Thom Lewis force feeding via gavage a sandhill crane at Patuxent, in 1981.



Dr. Jim Carpenter with an endangered Malaysian tiger at the James W. Carpenter Clinic at Manhattan’s Sunset Zoo.

Photo: M. C. Perry

Photo: J. W. Carpenter

The Diminutive Blue-gray Gnatcatcher

by Steve Noyes, Volunteer

One of the smallest birds returning to breed at the Patuxent Research Refuge (PRR) is the Blue-gray Gnatcatcher (*Poliophtila caerulea*). This species is the only member of the gnatcatcher family that is truly migratory and is the only gnatcatcher species that breeds in the eastern U.S. (deciduous woodland). It's breeding range also includes the southwestern U.S. (scrubland). It winters along the Gulf Coast, Mexico and northern Central America.

It prefers open deciduous forests and scrublands, nesting far out on tree branches. It can be difficult to spot (much less photograph) because of its size (4-5") and it tends stay high in taller trees.

Description

Males - blue-gray upperparts with white underparts.

Females - paler upperparts.

Juveniles - greenish-gray upperparts

Both sexes have a white eye ring.

Long white-edged tail which it flicks from side-to-side to scare up insects. Often described as the "little mockingbird"

Nesting

Builds a cone-like nest from lichen plants and spider webs. Males share in the incubation, caring and feeding of nestlings. Females lay 4-5 eggs which are bluish white with reddish brown specs. Incubation takes approximately 2 weeks. A second brood may occur. Males are fiercely territorial, using vocal and posture displays. Nestlings leave the nest af-



ter approximately 2 weeks. So, if you hear their soft call, you may be near their nest

Diet


Mainly insects, spiders, insect eggs. Food may be caught by hovering over foliage (flicking its tail) or hawking (catching insects in flight).

In spite of its name, gnats are not a primary food source.

Conservation

The Blue-gray Gnatcatcher's eastern population is reportedly expanding so it's considered a "species of least concern." Loss of habitat may cause some concern in the future.

So, as you visit the wooded habitats of the PRR, look for this excitable, diminutive bird. Good luck!

Sources: Wikipedia and allaboutbirds.org 

Visit us on Facebook and Twitter

<https://www.facebook.com/PatuxentResearchRefuge>

<https://twitter.com/USFWSNortheast/status/78546358377783296>

WE APPLAUD AND SALUTE OUR VOLUNTEERS

Around the Refuge

Photos by Matt Beziat, Volunteer



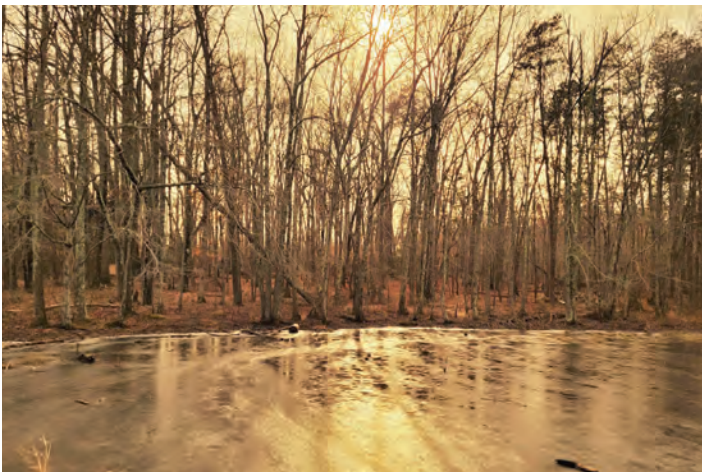
Cash Lake (South Tract)



Lake Redington (South Tract)



Savannah (North Tract)



Goose Pond (South Tract)



Winter Firefly (South Tract)

Sex Lives of Birds

by Matthew C. Perry, Scientist Emeritus, Eastern Ecological Science Center

As a wildlife biologist I have always been interested in the sex lives of birds, but find that most folks, and even birders and naturalists, become silent and seem to fade away if I broach the subject. I feel the subject is valuable, however, to better understand birds, and to obtain a better appreciation of them, other than by simply watching and listing. My interest also comes from the fact that I would rather handle birds than watch them, and handling in research often involves banding to learn more of their movements and habitat needs. Aging and sexing birds while banding is crucial to understand population structure and long-term trends of populations.

Most of my research at Patuxent involved waterfowl biology, and a successful bander definitely needs to know how to sex and age waterfowl. The plumage of many waterfowl species can often tell us the bird's age and gender, but some species (especially geese and swans), are monomorphic, so it is good to understand the genitals of the waterfowl group. First of concern is to know the term "cloaca," which is Latin and translates to "sewer." This is the vent area where waterfowl waste is expelled. However, it also is the avian orifice where the genitals are located in birds.

Some species of birds that are associated with water, have a penis. Okay now, don't get upset if I use this word. Actually, the term is incorrect, and the better name for the male bird's genitals is phallus. Simply put, the semen in the mammal penis travels inside the organ and with a bird phallus the semen travels on the outside, after originating at the base of the phallus. Okay enough details on the anatomy of this organ.

But why do waterfowl have a phallus? Waterfowl copulate on water, so it would seem the sperm carried by the semen should get deep enough in the oviduct (like a mammal uterus) so it is not washed away. However, only



Dr. George Gee collecting semen from a male Aleutian Canada goose in a small funnel and vial for eventual insemination of female geese.

about 3% of the 10,000 bird species in the world have a phallus. Another suggested reason for a phallus in waterfowl is that female waterfowl experience "rape" when there are excessive males. Phallus length can vary by species and the ruddy duck, for example, has an exceptionally long phallus, that some physiologists have related to an evolutionary process adapting to the long oviduct of a female to reduce chances of insemination when "rape" is common. But this hypothesis is equivocal and complicated!!



Biologist Steve Leathery holding an Aleutian Canada goose female in preparation of artificial insemination with a syringe by Dr. George Gee, in 1979.

Most male birds in other bird taxa, including many waterbirds, deposit the semen in their own cloaca, and then conduct a very fast "cloacal kiss" to transfer the semen to the female bird, while balancing on her back. This can frequently be observed in the spring

Photo: M. C. Perry, USFWS

especially with the common house sparrow but takes place usually very rapidly (1-2 seconds) and is missed by many bird observers. Because many passerines are often flapping their wings during copulation, the act could be mistaken for "begging" by young offspring. I have watched gulls copulate for several minutes, but I was unsure if this might be for stimulation more than transfer of sperm.

Cranes do not have a phallus, but Dr. George Gee revolutionized avian propagation at Patuxent when he developed techniques to collect semen from male birds and then artificially inseminate female birds. The male cranes were held between the legs of an assistant who massaged the bird's thighs to sexually arouse the crane. When the crane was sexually aroused the semen was ejaculated in the cloaca and then collected by Dr. Gee. The semen then could be used to inseminate one or many female cranes. The process was very successful at Patuxent in producing eggs and offspring. The resulting offspring grew up to be productive members of the captive flock and many were released successfully into the wild. See page 81-85 for more information on crane propagation at Patuxent in the link below: <https://www.fws.gov/media/2022-conservation-history-150-years-conservation>.



Brian Clauss collecting semen from a whooping crane being held by Jane Chandler. May 2011.

Helpful information and editing for this article were given by Jim Carpenter, Jane Chandler, and Glenn Olsen and are greatly appreciated. 🦋

Photo: M. C. Perry, USFWS

Photo by Barbara Clauss, USGS

Keep Looking Up!

By Jerry Persall, U.S.D.A. Graduate School

Now that winter is here, how often do you remember to look up at the night sky? Of course, it's cold and you do have to bundle up to be comfortable outdoors, but it turns out that, perhaps paradoxically, winter can be the best time for stargazing. Why should that be? In the first place, cold air holds less hazy moisture than summer air, so if the winter night is cloudless and clear it tends to be very clear indeed. In the second place, if you Google a list of the brightest 100 stars all year long, most of the very brightest ones appear only in the winter. So, as the article says, "Cold Air, Bright Stars, Can't Lose..." <https://www.sunset.com> Some of the favorite constellations are winter constellations including nearly everyone's favorite, Orion, but also Taurus, Canis Major, Canis Minor, and Gemini. <https://www.constellation-guide.com>

If you live where urban light pollution is not a problem, then seeing splendid views of the winter constellations will present no problem. The problem is, however, in the early twenty-first century many locations are losing their pristine view of the night skies. You may need to travel away from city and town lighting to get a good view. Fortunately, there are organizations trying to assess urban light pollution and institute better urban light planning to include outdoor light fixtures with full shielded cutoff that directs the light downwards and not upwards as stray light.

One such group is The Countryside Charity, based in Great Britain. For several years, they have sponsored their annual Star Count where anyone can look up and count the stars inside the "rectangle" of Orion, i.e., the four "corner" stars. All observations from citizen scientists such as you and I are combined and analyzed to produce a report on "seeing" the stars as affect-



Image: <http://cpre.org.uk>

How much light pollution is there in your area?

- ★ 0-5 stars indicates very severe light pollution
- ★ 6-10 stars indicates severe light pollution
- ★ 11-20 stars indicates some light pollution
- ★ 21-25 indicates fairly dark skies
- ★ 26-30 indicates dark skies
- ★ 30+ indicates truly dark skies

Image: <http://cpre.org.uk>

Stella Access for Smartphones (multiple download sites).

ed by urban light pollution. Star Count 2023 just ended but you can participate next year in 2024. For full information see <http://cpre.org.uk>

I lived in Maryland for 46 years and relocated out to Colorado some 17 years ago. I owned and operated a backyard observatory in the countryside of Ellicott City for a dozen years and I was the Executive Director and Astronomer-in-Residence at the Gle-

nelg Country School's observatory for a school year. I have a back-of-the-hand familiarity with Maryland's night sky and the urban light pollution from Baltimore and Washington, DC. Mary and I have lived in Colorado for some 17 years now and, oddly enough, often I have found the night sky to be not always as scintillating as my views from the Maryland observatory were. The reason: my view to the south where Orion hangs in the winter is toward the little mountain town of Castle Rock and its urban light pollution.

We just participated in the Star Count 2023 and reported, "Surveyed and counted the stars in Orion visible to the naked eye and submitted the results. Turns out there was no surprise, with Orion hanging directly over the urban light-polluting mountain town of Castle Rock, Colorado at 6,000'. 6. As seen in the box below, 6 stars indicates severe light pollution, something I've been aware of since we moved here from Maryland some 17 years ago." A friend of mine did the count from southern California and got a slightly better count of 13. From <http://cpre.org.uk>

Some twenty years ago we would do the Calling Frog Survey at Patuxent beginning in February, when the Spring Peepers came out, and we would always enjoy looking up at the winter night sky from the various stops on the route. I once flew down to the Caribbean (Aruba or Grenada) and arrived at 4:00 in the morning. Walked down to the beach to observe the night sky and was momentarily disoriented by the thousands upon thousands of stars. Turns out there were so many that I did not immediately realize I was looking at my old friend Orion!

Patuxent Scientist Emeritus and longtime friend Dr. Matthew Perry reminds

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Spring Artists of the Month - Hollingsworth Gallery

by Faith Leahy-Thielke, Patuxent Volunteer

Was it winter? If you didn't head for Pittsburgh, you might not have been sure, but recently I heard a bit of doggerel that actually made sense: "will it rain or will it snow; I live in Maryland, I don't know!" So "welcome sweet springtime"- we hope. Two groups and a well-known area photographer/naturalist will exhibit in the gallery this spring: in April, the Laurel Art Guild; May, the Olney Art Association; and June, Barbara Jean Saffir.

The Laurel Art Guild was established on the grounds of the Montpelier Mansion in 1967. The mansion itself dates to the 1780's and has passed through many hands including the Snowdens and its grounds supported agriculture and iron production. In 1983 the owner turned it over to the National Trust for Historic Preservation. Restored, it's administered by the Maryland National Park and Planning Commission. The Guild is housed in a separate building where artists rent studio space and classes, workshops, and juried exhibitions are held. Other exhibit opportunities are available for artists, students and people interested in the "advancement of the fine arts." Both professional and amateur artists as well as young people find studios and classes. Monthly meetings provide educational presentations aimed at developing and honing members' skills and provide networking and social functions. Critiques from pros and peers are available and offer free display of work on guild website. Dues are \$25 a year. Guild representative, Diane Shipley reports that the theme for the Guild's exhibit is "Colors of Nature."

The Olney Art Association actually owes its existence to an associate professor of art education from the University of Maryland, Ed Longley. In 1973 he had a

show of his work at Brook Manor Country Club. Two members of a prominent family saw it and originated the idea of organizing a group to exhibit there regularly. In 1974 five artists began a loose association that met in members' homes to critique each other's work, socialize and discuss art-related topics. Today the Association has grown to 75+ members who met at the Olney Library and now at the Salem United Methodist Church. These members are all "visual artists" who work in media including oil, watercolor, acrylics, pastel, colored pencil, pen and ink, printmaking, sculpture, ceramics, digital art and photography. OAA holds membership meetings every other month on a second Monday. Meetings include demonstrations and other presentations. The group sponsors a juried annual exhibit, and, at various locations, a semi-annual one at Sandy Spring Museum and/or Brookside Gardens. Those participating in their May exhibit at Patuxent include Association President, David Terrar and members: Ken Bachman, Howard Clark, Angela Lacy, John MacArthur, Pauline Rakis, Margaret Boles, Pamela Bozzi, Pauline Clatterbuck, Teresa Figaretta, Marsha Salzberg, Diane Shipley and Freddi Weiner. WOW!

Barbara Jean Saffir is an award-winning wildlife photographer and author

as well as a former reporter, political researcher, architecture critic and master naturalist. In her Northern Virginia neighborhood, she started "capturing wildlife behavior in her own backyard." She "simply adored" birds and beasts. Her "LOVE" grew with macro photography. Saffir became a certified Virginia master naturalist and an "incurable wildlife photography addict." On her walks throughout the metro area, she carries a camera with 100-400 lens or Sigma 150-600 lens, but wishes for a camera with top quality mirrorless and matching lens and lens clips – the better to focus on a bird in flight. She calls her cotton carrier vest a great equalizer so that a "petite (but strong) woman" can heft the right equipment.

Saffir has written an amazing book, "Walking Washington D.C." It relates 30 treks to the "newly revitalized capital's icons, natural spectacles, urban treasures, and hidden gems." recounted from biking, hiking, and running through the District's streets. She's founded Nature Photographers, a D.C./Md/Va meeting group who share photos, adventures and discoveries. She's led hikes for the Sierra Club and the Anne Arundel Camera Club.

Her June exhibit is fittingly titled "Love-able Birds and Beasts." 🦋

Friends of Patuxent is Now on Instagram!

Please follow us [@friendsopatuxent](https://www.instagram.com/friendsopatuxent) to see great photos from Patuxent.

If you'd like us to share your pictures, please message us on Instagram or email us at friendspr@friendsofpatuxent.org

Visit us on Facebook and Twitter

<https://www.facebook.com/PatuxentResearchRefuge>

<https://twitter.com/USFWSNortheast/status/78546358377783296>

New, New York Times Bestselling Books in Our Bookstore & Nature Shop!

by Karen H. Atwood, Friends of Patuxent Board of Directors, Bookstore Liaison

In addition to our wide variety of nature and natural history publications, we're excited to announce two new best-seller books in our *Wildlife Images* shop: ***An Immense World: How Animal Senses Reveal the Hidden Realms Around Us***, by Ed Yong, and ***Beaverland: How One Weird Rodent Made America***, by Leila Philip! These books have nationally been in such high demand that they were on backorder in many places — we now have them available!

In other news: Would you like to learn more about invasive species, learn to identify them, see photos and discover how to control the invaders? We also now carry the latest edition of ***Plant Invaders of Mid-Atlantic Natural Areas, a Field Guide***, by Jil Swearingen, invasive species specialist, with coauthor and plant expert Judy Fulton!

Read the incredible reviews online, but please heed our plea: Buy from us! Your purchases here help support the mission of Patuxent Research Refuge



and Eastern Ecological Science Center. Our shop is open to the public and inside the National Wildlife Visitor Center (10901 Scarlet Tanager Loop; Laurel, MD on the South Tract of Patuxent Research Refuge) Tuesdays through Fridays from 11AM to 4 PM, and from 10 AM to 4 PM on Saturdays. (Closed, federal holidays.) *Friends of Patuxent* members and active U.S. military members may receive a 10% discount on all purchases; apprise us of your member status when you shop with us. We look forward to seeing you!




Early History of the Friends of Patuxent Saved from the Shredder

Continued from page 3

newsletters she had found, so we knew what to look for. The next bag we dumped open on the floor was the motherload! There was a big pile of newsletters and we gathered all we found. We don't know how many years of newsletters we saved, but at least we saved some."

"It was so gratifying when we came across two copies of the very first issue

of the newsletter," says Abby. "Jennifer could not have been more helpful. She stayed late beyond her normal workday so we could finish and clean up."

So, all's well that ends well in the tale of the lost Friends' newsletters. In the scale of things, it is not a big deal, but it sure feels good to have saved a part of the Friends of Patuxent's early history. We sincerely thank Jennifer, Diana, and Friends' members and volunteers of Patuxent who helped with this search. You are what makes this history valuable. 

Irrepressible Wren

by Hank Dahlstrom, Volunteer, Wildlife Images Bookstore & Nature Shop, and Refuge Volunteer

Skittering on crusty snow
you sing outside my window
as if greeting

a sunny spring day.

You, of all the little creatures,
insist on burbling

a gladness

that knows no season.

Titmouse and chickadee

focused on finding the next seed
have no time for frivolous chirping.

Cardinals, so vocal in spring
are as silent now as the owl
who glides through the woods
on soundless wings.

But you, my friend, the wren,
share your grateful heart
in all seasons.



Gallery Talks Recognize Talent of Local Photographers

By Courtney Koivisto, Friends of Patuxent Board of Directors

Not too far from Patuxent Research Refuge is Buddy Attick Lake Park, a community staple in Greenbelt, Maryland and an excellent place for wildlife viewing. Many photographers frequent the lake in the hopes of capturing some of the lake's many resident and visiting wildlife, including Osprey, Barred Owls, Great Blue Herons, snapping turtles, Wood Ducks, and Ring-necked Ducks.

The National Wildlife Visitor Center at Patuxent Research Refuge recently hosted an exhibit in its Hollingsworth Gallery showcasing local photographers' images from Buddy Attick Lake Park. The photographs were extraordinary, capturing the essence of Buddy Attick Lake and its seasonal changes throughout the year. For many of the photographers, this was their first time exhibiting their art and formally sharing it with the community. Graeme Simpson, an established and renowned nature photographer, coordinated the exhibit and gave insight into what it takes to organize a photography show. While the show was on display in February, Graeme gave a talk every Saturday about how it came together.

Graeme saw this exhibition as an essential opportunity for amateur photographers to build confidence in their work. Many of the photographers have been visiting the lake for years, but never had the opportunity to formally display their work in a gallery setting. Graeme worked with the photographers to create a cohesive show that best presented the diverse wildlife of Buddy Attick Lake while still highlighting each photographer's unique style.



Graeme Simpson discussing the exhibit with attendees.

To help make this initial exposure easy and inclusive, Graeme made sure to keep the material requirements simple and straightforward. He shared that frames could be low-cost, photos could be from point-and-shoot cameras, and that prints didn't have to be a specific size. These low-entry barriers were also important as a way to bring community members to the show since those were easier to relate to and recognize. To this point, Graeme made sure to include species that were both familiar to viewers and ones that are more unique to the area.

Once the photographs were ready and the gallery reserved, Graeme worked on publicizing the exhibition and building rapport with local newspapers and journalists. The [Greenbelt News Review](#) was indispensable for

promoting this exhibition, especially since many of the photographers share and publish their photos in the paper. Getting the word out and sharing this exhibition made it a huge success. Overall, the exhibition's works were captivating, and visitors relished the details and spectrum of colors these community photographers were able to express.

The photographers featured in the exhibition were: Kathryn Beard, Ken Briefel, Gary Brown, Gloria Brown, Rebecca Cagle, Bill Cornett, David Crissinger, Suzanne Flynn, Michael Garcia, Kevin Higgins, Charles Chuck James, Mike Kilberg, Mick Morgan, Ken Nguyen, Marc Siegel, Graeme Simpson, Bruce Smith, Tom Statas, Wade Stephen, Viad Tchompalov, Amy Wenzel, and Andrea Zukowski. 🦋

Where Are They Now???

Continued from page 8



Dr. Jim Carpenter (left) performing a health examination on a sandhill crane at Patuxent with Steve Leathery.

Photo: M. C. Perry

Keep Looking Up!

Continued from page 12

me that Patuxent endangered species biologists established a link between urban light pollution and certain bird species in Hawaii beginning in the 1960s. They recognized “the heavy mortality suffered by Newell’s Shearwaters and Hawaiian Dark-rumped and Band-rumped Storm Petrels from crashing into the ground and other obstacles as a consequence of light pollution.” They worked with researchers at the University of Wisconsin to develop methods to reduce light pollution by switching and shielding light sources. The message is clear and deserves everyone’s attention, especially architects and city planners. (“Endangered Species Research in Hawaii: The Early Years” by J. Michael Scott and Cameron B. Kepler, p. 185 in “The History of Patuxent: America’s Wildlife Research Story” edited by Matthew C. Perry)



Photo: J. W. Carpenter

Dr. Jim Carpenter with staff and interns with a recovering post-exam giant anteater, December 30, 2022.

wildlife medicine at the College of Veterinary Medicine, Kansas State University, Manhattan, Kansas. He was the main person in developing an internationally recognized program in zoological medicine there and trained 45 interns and residents and several thousand veterinary students. Over his 48-year career, he authored 185 scientific papers, 47 book chapters, 250 proceedings articles, and numerous books. He has been Editor-in-Chief of



Dr. Jim Carpenter briefing President Ronald Reagan at Blackwater National Wildlife Refuge about bald eagle research, in 1984.

Photo courtesy of White House staff photographer

two veterinary journals dealing with zoological medicine. He is also the past President of three international zoological medicine organizations.

In 2013, the Veterinary Health Center of KSU College of Veterinary Medicine named the new veterinary facility at Manhattan’s Sunset Zoo the “James W. Carpenter Clinic at Sunset Zoo”. After establishing such an impressive and long career he recently decided to retire, which he will do in June 2023. Patuxent can be duly proud of this alumnus and wish him well in his future endeavors. 🦋



Photo: Pixabay

Orion constellation

I have been privileged to travel and see the arch of the Milky Way from many dark sky sites in the world and it vastly broadened my perspective on life and the world. If you want to help preserve the night sky for future generations then I suggest you advocate full shielded cutoff outdoor light fixtures wherever possible and remember to count the stars in Orion next year!! Until then keep looking up! 🦋

From Analog to Digital: Eight Decades of Tracking Box Turtles on Patuxent Research Refuge

Continued from page 5

To learn more about USGS Eastern Ecological Science Center's research on fish and wildlife from headwaters to oceans, visit usgs.gov/eesc. Follow us on Facebook at facebook.com/USGSEESC for the latest updates on our science and ways you can get involved, including events at Patuxent Research Refuge. 🐢



Photo: Ross Feldner

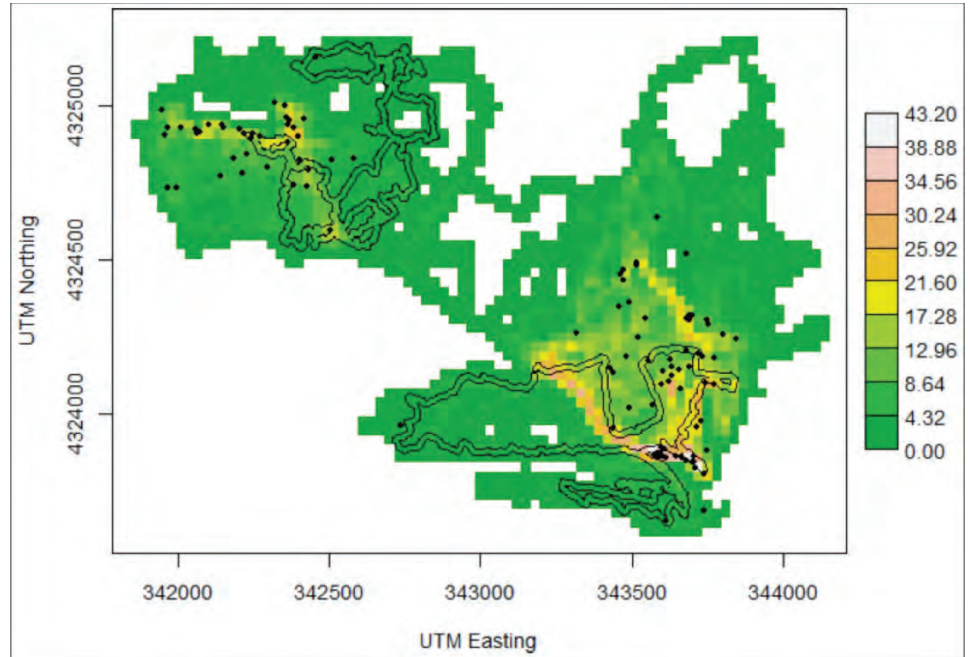


Image: Royle and Turner 2022.

Image 4. Total search effort by USGS EESC in 2020. Numerical values and colors represent the total frequency of observer passes through the center of each grid cell during the 60 day of survey activity (1–4 surveyors each survey day). For example, a value of 40 would mean that a given grid cell was searched 40 times during the season. The buffered track lines, outlined in black, show the search path of one surveyor on Day 5 in the Stickel plot (northwest region) and Day 58 in the Snowden plot (southeast region). The black dots represent capture locations of box turtles over the season.

Land Protection Plan Listening Sessions

Contact: Daniel Murphy, Chesapeake Bay Field Office
410/980-6053 • dan_murphy@fws.gov

Public Invited to Listening Sessions Regarding Proposed New National Wildlife Refuge Lands in Southern Maryland

The U.S. Fish and Wildlife Service is inviting the public to comment on the proposed establishment of new National Wildlife Refuge units in Southern Maryland. The proposed refuge units are in Prince George's, Anne Arundel, Calvert, Charles, and St. Mary's Counties. This region provides valuable habitat for fish and wildlife, supports migrating waterfowl, protects water quality in the Chesapeake Bay, and offers recreational opportunities including hunting and fishing.

In 2011, the Director of the U.S. Fish and Wildlife Service (Service) approved a Preliminary Project Proposal (PPP) to expand the acquisition boundary of Patuxent Research Refuge (Refuge) in Laurel, Maryland. This was the initial step toward an expanded refuge presence on the western shore of the Chesapeake Bay. Following approval of the PPP, the Refuge worked in collaboration with partners to create a Landscape Conservation Design (LCD), which was completed in 2018. The purpose of the LCD is to inform a Land Protection Plan and Environmental Assessment (LPP/EA), which is a public-reviewed document that, if approved by the Service's Director, will serve as the guide for the establishment of an expanded refuge presence in Southern Maryland. In early 2022, the Refuge was directed to work with Federal, state, local, and non-government partners to develop an LPP/EA, which is expected to be finalized by Fall 2023.

In the Spring of 2023, three listening sessions will offer interested members of the public opportunities to learn about the proposal, ask questions, and provide input to representatives of the Service and conservation partners. The listening sessions will be held in March and April at the Patuxent Research Refuge, Charles County Administration Building, and Calvert Marine Museum.

Dear Friend of Patuxent,

We need your help to strengthen Friends of Patuxent and our support of the Refuge and Science Center. Friends of Patuxent is a volunteer organization, and we seek members who are willing to assist in the following roles.

1. **Board of Directors.** Help to lead the organization.
2. **Bookstore and Nature Shop Volunteers,** including someone with experience in establishing and operating an online store.
3. **Volunteers to assist with programs and events,** such as the Annual Meeting, Pollinator Festival, and Wildlife Holiday Bazaar.
4. **Information Technology (IT) specialists.** We have store and office computers and a website to maintain and keep current.
5. **Committees.** We have several committees that conduct important work of the organization.
6. **Archivist.** To organize and maintain the historical record of Friends of Patuxent.

If you can help in any of the above capacities, or would like more information, please email friendspr@friendsofpatuxent.org or phone 301-497-5789.

Board of Directors
Friends of Patuxent



**Friends of
Patuxent**

Meet the Current Volunteers Who Help Staff Our Friends' Wildlife Images Bookstore & Nature Shop

The shop volunteers just after shop Manager Ann Carlson took them to lunch on January 30th. *Left to right, back row:* Sandra Burke, Hank Dahlstrom, Elizabeth Knudson. *Front:* Shasi Karyampudi, Sue Straney. The luncheon gave these team members a chance to get to know one another better and to celebrate their dedicated efforts on behalf of the shop, the Friends, and the Patuxent Research Refuge. **Shop profits are part of the Friends' support for the Refuge and Science Center work and mission.** 🦋



Photo: Ann Carlson

Loveable Birds & Beasts

Continued from page 6

"Loveable Birds & Beasts" showcases some of America's most captivating natives, which can visit or live in our own neighborhoods, such as crayon-colored indigo buntings, birds that sip "cherry cola," adorable owls, rainbow-colored handsome meadow katydids with Paul Newman eyes, flying "fairies" (southern flying squirrels), "honeymooning" toads, and much more.



Burrowing Owls.

Saffir is an incurable wildlife photography addict, a certified Virginia Master Naturalist, a former journalist, and author of "Walking Washington, DC." She leads hikes (photo safaris, citizen-science, natural history, American history, and fitness) for, and



Cardinal and Cherry blossoms.

delivers lively presentations to, institutions as varied as her own Nature Photography Washington, DC group; the Harvard Club of Washington, DC; hiking clubs; camera clubs; libraries; Cultural Tourism, DC; and the Smithsonian Environmental Research Center. She adores sharing adventures and discoveries that spark people to exclaim: "Wow!" 🦋

Barbara Saffir, 571-449-0445,
Barb22030@yahoo.com

<https://www.NaturePhotographyDc-MdVa.com>



FRIENDS OF PATUXENT BOARD OF DIRECTORS 2023

- Richard Dolesh, *Chair*
- Lowell Adams, *Vice-chair*
- Helen Lowe Metzman, *Secretary*
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- Kirby Rootes-Murphy, *USGS Eastern Ecological Science Center Liaison*

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- Benjamin R. Carter, *Legal Counsel*
- Carter Law, LLC, *Beltsville, Md.*

FRIENDS OF PATUXENT BOARD MEETINGS

Friends Board meetings are currently held by Zoom at 4 pm. Dates for Board meetings for 2023 are: January 17, March 21, May 16, July 18, September 19, October 17 (both Board and annual members meeting). Dates, locations, and times are subject to change.

JOIN TODAY! MEMBERSHIP APPLICATION

Go to <https://friendsofpatuxent.org/Join> to join online!

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

E-mail: _____

(E-mail address will not be sold or shared. It will be used for Friends and Refuge announcements only.)

Phone: (opt.) _____ New Renewal

Individual (\$25/yr) Family (\$35/yr) Contributor (\$75/yr) Sponsor (\$250/yr) Life (\$500) Life-65+ (\$300)

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Credit card No. _____ Exp. Date ____/____/____ Security Code _____

Check here if you would like save a tree by reading our quarterly newsletter online.





Friends of Patuxent

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friendsofpatuxent.org/

WE INVITE YOU TO JOIN!

Friends of 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 Eastern Ecological Science Center and the environmental education, outreach and recreational missions at the Patuxent Research Refuge. 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 <https://friendsofpatuxent.org/>)
- 10% discount in our Wildlife Images Bookstore and Nature Shop 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 page 19, or go to <https://friendsofpatuxent.org/Join> to join online).