

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

FRIENDS OF PATUXENT

Vol. 26 • No. 4

www.friendsopatuxent.org

October-December 2015

Connections Lost and Found

Brad Knudsen, Refuge Manager

Nowadays, when you hear someone say, "I've lost my connection," I think most of us are likely to think, "Oh, that person just dropped a cell phone call, or they don't have enough bars, or they are going to have to reboot. They have lost their connection!" But what about another kind of connection the Fish and Wildlife Service has been addressing lately, connecting people with nature? Of course, it is not just the Service that is spending a great deal of time and resources to get people of all shapes and sizes connected - or reconnected - to nature. There are many other federal agencies that are doing so, along with state and local government entities, organizations like the National Wildlife Federation and Audubon, the Boy and Girl Scouts of America, and an array of educational institutions.

A couple of recent examples illustrate just how disconnected some people may be. A few years ago, an elementary student on the Refuge's popular tram tour saw a Canada goose sitting atop a beaver lodge in Lake Redington, and immediately proclaimed, "Look at the robot goose!" This past spring, when Jeff Bolden and I did an outreach event on biodiversity at the New Beginnings Correctional Facility for Youth just a mile from our North Tract Visitor Contact Station, one of the youths told me he had seen a drone shaped like a bird, with an antenna sticking out the back end, flying over their facility. I had an idea what he had been seeing, and



when I drew a crude picture of a great blue heron in flight - with crooked neck crunched over its body and long legs trailing behind - LIKE AN ANTENNA - he said, "That's it!"

I am certainly not making light of either of these individuals lack of knowledge.

Continued on page 2

Saving Monarchs July 18, 2015 Members Program

Jeanne Latham, Member of the Board of Directors, FOP



Photo by Ross Feldner

Nearly 20 members and their guests were treated to "Saving Monarchs," an inspirational presentation by Rich Dolesh, Friends of Patuxent Vice-Chair. He stated that the beautiful monarch butterflies are at risk of disappearing from North America. The greatest threat is habitat destruction, i.e., loss of food sources and roosting areas - in the US as well as Mexico. He showed in a

Continued on page 16

Inside...

Friends Membership Dues Re-structure to Serve You Better	3	The Spring Brings New Successes to the School Yard Habitat	12
Eastern Box Turtle: Disappearing Gems of the Forest, A Mystery Tale...	4	Join the Big Sit!	13
Polar Bears	5	Vernon Sears Demonstrated the Proper Use of Oil Pastels	14
Games, Crafts, Art & More at Wildlife Images	6	Fall 2015 in the Hollingsworth Gallery . . .	15
Main Gate Memorial	7	Birds and Snakes	16
Scrambled Eggs for Dinner	8	Wildlife Holiday Bazaar	17
Birds Around Patuxent	11	Kid's Corner - Nature Hunt Bingo	18
		Membership Application	19

Connections Lost and Found

Continued from page 1

Lord knows, there are a TON of topics I have no knowledge of (I still do not know which wine - red or white - goes best with peanut butter and jelly sandwiches. And after 20 years of living in Maryland, I'm still learning how to dress for this mid-Atlantic climate - the flannel shirts I wore 11 months out of the year in North Dakota and Montana just don't cut it!!). My point is, these young ones were so disconnected from nature, they did not even recognize it when they saw it. The gap between them and the natural world may have been wider than we could have imagined. It was much easier for them - from their experience - to believe the goose was animatronic and that a flying object must have been a drone from nearby Ft Meade!

We very frequently see kids - and often times their parents - that are reluctant to walk into the woods, or down a trail between tall grass, for fear of ticks, poison ivy, or just the plain unknown. But we also see many of these same kids - after they have been through multiple programs or attended one or two of our nature camps - venturing into wood-




lands and grassy fields with smiles on their faces. Familiarity that comes from repeated positive experiences turns fear into acceptance, apprehension into enjoyment. Where there were concerns, now there are connections.

We have also seen military personnel - after long deployments and time serving their country with little time to do

their own thing - get reconnected to nature through our hunting and fishing programs. Some have become volunteers, giving even more of themselves to their country.

After a summer working at Patuxent, one of our recent interns switched her major from Interior Design to Zoology, and spent last summer and fall on a firefighting crew at Yosemite National Park. A Youth Conservation Corps enrollee from this summer has already decided to drop her plans for a double major and just go after a degree in Environmental Science at the University of Maryland this fall. While there may have been a slight affinity to the outdoors and nature that drew them to jobs here in the first place, their time here forged that affinity into a full-fledged desire to work in a natural resource related field.

So - connections CAN be made. Connections CAN be strengthened. Reconnecting to the natural world CAN happen. It will certainly be in different ways for different people. Our role is to recognize those opportunities, acknowledge those gaps where they exist, and devise ways to establish those critical links that will ensure a better future for both ends of the connections! 

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

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

Editor, Friends of Patuxent Newsletter
ATTN: Ross Feldner
 11811 Ivanhoe Street
 Wheaton, MD 20902

Or email 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 No.	Months	Deadline	Issue No.	Months	Deadline
1	Jan-Mar	December 1	2	Apr-Jun	March 1
3	Jul-Sept	June 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.

We invite you to join!

**Your membership/
 contribution helps
 support the mission and
 programs at Patuxent**



Friends Membership Dues Re-structure to Serve You Better

Jeanne Latham, Member of the Board of Directors, FOP

The Friends of Patuxent is a volunteer-operated non-profit organization, which primarily supports Patuxent Research Refuge (PRR) and Patuxent Wildlife Research Center (PWRC). Through your membership and enduring loyalty, the Friends of Patuxent has been able to accomplish much in our more than 25 year history. This includes providing support for many special events, raising funds for educational programs and teacher-training workshops, the upkeep and replacement of audio-visual equipment for the Visitor Center, maintaining and repairing the tram, and much more.

Despite the outstanding support for the mission and programs of the Refuge and the Research Center, not once have the membership dues been raised in 25 years. Yet the needs for the Refuge and the Research Center have continued to grow, as have the costs of the support that the Friends provide.

Therefore, after consultation with members of the Friends and careful consideration by the Friends of Board of Directors, the Board has agreed that an increase in dues is essential and necessary to continue providing the support that we give to the Refuge and Research Center, and to grow and meet the needs of the future.

The Friends of Patuxent has been hard at work to re-invigorate our organization and be better able to serve the Refuge and the Research Center as well as our members, donors, and partners. We need your continuing support as we restructure the membership dues. We believe that with the dues restructuring and other new initiatives by the board, the Friends will be able to accomplish even more in our ability to support the mission of the Refuge and the Center.


Level	Current	Future (as of Jan. 1, 2016)
Individual	\$15	\$25
Family	\$20	\$35
Contributor	\$50	\$75
Sponsor	\$100	\$250
Life	\$500	\$500 - Less than 65 yrs. of age \$300 - 65 yrs. of age and older

To give you a sense of what we intend to accomplish in the coming months and years, we are currently at work developing a new organizational strategic plan, which will incorporate ideas for innovative fundraising projects and events. Through these endeavors, we intend to significantly increase our funds raised to support Patuxent Research Refuge and Patuxent Wildlife Research Center. These new funds will help partially recoup the conservation tram tour income that is no longer collected by Friends (due to recent Fish and Wildlife Service policy changes), and long-running funds that were raised at the previous Wildlife Art Shows. We will continue to host and enhance the Wildlife Holiday Bazaar, our current fund-raising event. Among our new initiatives, we hope to reinstate the Refuge 5K Race, a popular event in the past, for an additional source of funds, and to look for new events that will reliably raise funds to support the Refuge and Center.

We will be expanding benefits for you, our members, as well. We plan to offer enhanced Members programs, very nice premiums for memberships, and recognition for member contributions. In the past, Friends has offered member-only programs on a variety of topics including: amazing ospreys; Champion tree tour, the impact of climate change

on wildlife and habitat; a guided tour and talk at the Rachel Carson House in Silver Spring; and the incredibly popular and special behind-the-scenes Whooping Crane tours. We will offer additional conservation-related programs, social opportunities, and workshops in the future in order to raise funds and inspire folks to join Friends. And we welcome suggestions from you, our members, for creative ideas for Friends activities and to bring new sources of revenue to the Center and Refuge.

The proposal approved by the board for the restructuring of the Friends membership will be implemented beginning January 1, 2016. The dues increase will not affect current memberships until the expiration date of that membership. For example, if you renewed membership or joined in November of 2015, your dues increase would not apply until November of 2016. The chart above shows the current and the future membership dues structure.

The Friends of Patuxent have accomplished much in our 25 plus year history; and with your support, the future is even brighter than the past. We thank you for your past support and count on you for the future. If you have any comments or questions at all about the dues restructuring, we would be glad to hear from you. 

Eastern Box Turtle: Disappearing Gems of the Forest, a Mystery Tale...

By Sandy Spencer, Supervisory Wildlife Biologist, Patuxent Research Refuge

You may have noticed some forest clearing on the Patuxent North Tract, just past the Wildlife Viewing Area on the left side of Wildlife Loop Road. This area was once known as Trap and Skeet Range 17, which shut down in 1999. It is now a remediation project area. Tests conducted by EPA and FWS found that high levels of lead remain in the soil, posing ecological risks to the environment. Fort Meade has contracted with EA Engineering to clean the site, which entails removing the vegetation across most of the 20-acre area and removing between 6-12" of soil. Clean fill will replace the removed soil and the area will be planted in native trees, shrubs, grasses and forbs.

I was delighted when I first learned about the project, but then thought about the Eastern box turtles, *Terrapene carolina* Carolina, that might be harmed during the vegetation removal phase. I mentioned this to one of the project directors for EA and he said they would be happy to ask the equipment operators to "keep an eye out for box turtles". But just how feasible do you think it really is for the operator, sitting high on the machine, to see them below in the dense vegetation? I asked if we could have some notice before work begins to conduct some searches on our own. This was readily accommodated.

Then I turned to Paula Henry, of USGS, for her advice on the feasibility of doing some searches in there. She was very positive about the idea provided that we had enough people to stretch out in a line and walk the property. Enter stage left, Diana Ogilvie, who worked her magic to produced as many as 25-30 volunteers and 3 staff: Diana, Jenn Hill and myself.



Despite the heat, we were excited and enthusiastic that morning about our first survey on July 11. Paula had brought buckets to put them in, and obtained permission from USGS crane crew to use one of the old acid rain pond enclosures to overwinter them in. We had also planned to take blood samples to measure levels of lead and conduct general health surveys.

We assembled our line and started through the forest, dodging (or not) greenbriar thickets, dense pines plus mosquitoes. We made one pass in, turned around, and made another pass on the way out, and met back at the roadside to tally our results. Guess how many turtles we found? ZERO! We went in again, but this time it was a timed, individual freestyle search. Again, no result. We came back the next Saturday, this time fewer volunteers, but again, same result. Nothing. Another final search was held on Aug 1. And no turtles again.

This prompted some heavy thinking and head scratching. Could so many

people and this number of repeated searches truly have missed box turtles? Were they so hidden, or so sparse or, not even there?? The habitat was right-some very nice plant communities had regenerated in there comprised of oaks, beech, sweetgum, tulip poplar, maple, highbush blueberry, viburnum, native grasses, ferns, and forbs. How could we have not found a single one? (Note, on the first day of the survey I found a freshly killed young box turtle on Wildlife Loop a short distance away, crushed by a vehicle). Could it be that they were extirpated from the area by former range use, which would have required frequent mowing, and with them went the institutional memory of this place? Why haven't offspring from neighboring territories moved in? Is there something causing them to reject the site? This was indeed a deep mystery that would require further investigation and searches in adjacent habitats. We are discussing now plans for a future study of this question and the general status of Patuxent's box turtles. So stay tuned!

Meanwhile, why the emphasis or concern about box turtles in the first place? The Eastern box turtle is probably the most commonly known turtle to anyone raised in the east. Common as they seem to be, scientists claim that they are declining, and that the turtles we now see are ghost representatives of the species. They are all older adults.

Why are they disappearing? The simplest and most probable explanation is loss or degradation of habitat. Box turtles are a forest species. The landscape around Patuxent was once covered in forest, broken only by wetlands, rivers and creeks, and a few meadows. But farming, followed by intense development and infrastructure construction has reduced forest cover substantially and fragmented remaining forest into little patches separated by barriers or death traps. Perhaps the biggest problem is collisions with cars. Collection by well-intentioned animal lovers is another problem. However, unless they are returned to their home range in the wild, where they can breed and produce more turtles, they are as good as dead to the wild population. Disease is another issue that may result from returning a turtle kept in captivity back to the wild or from a compromised immune system when living in poor quality habitats.

Another explanation is the slow, imperceptible and relentless decline in reproduction rate of the population. As the turtles move through their home ranges, many eventually wander out of the forest patches facing dangers from which they may never return. Over time, there are fewer and fewer box turtles living in those small forest patches, making it even more difficult for turtles to meet and breed. Fewer turtles are born and survive because there are fewer eggs laid, fewer good nesting sites and more predators, like raccoons. (Raccoon populations increase around human dwellings). The forests themselves become degraded with invasive plants which affects quality and abundance of food. Slowly the turtle population decreases . . . until there are no turtles left.

This is why Patuxent is so important to box turtles and why the Eastern box

turtle was identified in the Patuxent Refuge Comprehensive Conservation Plan and the Maryland Conservation Action Plan as an important indicator or representative species for healthy forest habitats. Patuxent is one of the few places left in this area where one can find large expanses of forest habitat.

But even Patuxent is not without forest quality issues. There are roads that fragment the forest, there is vehicle traffic from visitors, staff, other users, there are invasive species affecting the quality of habitat and food sources, there are infrastructure maintenance activities, necessary mowing, and high raccoon population.

But we can help reduce impacts to box turtles from our own activities by observing speed limits on roads, careful timing and vigilance when mowing, conducting search and rescue operations prior to land disturbing activities, promoting native plant communities (which support their food resources), or educating the public about the importance of not collecting turtles. These measures would benefit the refuge population. On a larger scale, landowners of large blocks of forest and local land use decision makers have the potential to make truly meaningful contributions to ensure the persistence of this gentle species conserving intact forest land. 🐢

Polar Bears

Did you know, that in 2008 polar bears were listed as a threatened species under the US Endangered Species Act (ESA)? In order to help save polar bears, a team of scientists, including USGS PWRC's Michael Runge, gathered to look further into the situation.

The team found that polar bears are greatly affected by the melting of arctic ice, which is caused by the emission of greenhouse gasses. Without the ice, polar bears are forced to live on land, making it difficult for them to catch seals, their main source of food. Another factor contributing to the decline of the polar bear population is that, as allowed under the ESA, they are hunted and used as a means of food and economic support for people native to the arctic region.



After looking at these factors, as well as the ages and sexes of the polar bear population, the team of scientists created a model that could predict the future for polar bears. In doing so, the team did not want to tell people what will happen for sure; rather, they hoped to set out a few scenarios to help people see the bigger picture.

Using their model, the scientists suggest that with greenhouse gasses continuing to be generated at the rate they are today, polar bear populations will continue to decline. Should greenhouse gasses be cut back drastically and immediately, there will be a substantial lag in the repopulation of polar bears, but repopulation is a possibility.

This team of scientists worked with different agencies, politicians, and other stakeholders to come up with the scenarios in this draft conservation plan, which is now open for public comment at <http://www.fws.gov/alaska/pbrt/>.

Games, Crafts, Art & More at Wildlife Images

By Pat Simons

School has started, and fall, winter, and the holidays are just around the corner. And while the cooler weather is perfect for reading, it is also the perfect time for family and friends to get together with a puzzle, game, or craft project. Wildlife Images, the Friends of Patuxent Book Store, has a variety of fun and educational items appropriate for all ages.

Puzzles

Puzzles are a great way to get everyone around the table. For younger children we have "Forest Friends," a colorful wooden puzzle for children ages 4+. For slightly older children (6+) we have a 100 piece puzzle that prompts children to find 101 different items (such as owls, rabbits, squirrels, foxes, bears, and more) in a colorful woodland picture. We also stock a collection of wooden 3D puzzles for children ages 6+ and 8+. These puzzles let you create a three dimensional figure of an owl, grizzly bear, polar bear, deer, elk, or wolf. Step-by-step instructions are included with each puzzle. For adults, the store stocks a number of puzzles with artwork by the well-known nature artist, Carl O. Brender. These stunning 1000 piece puzzles capture the detail and realism the artist is known for in his wildlife paintings.



Games

A deck of playing cards is a good, go-anywhere game, and even better when the cards can double as flash cards for identifying wildlife. Card decks include Backyard Birds, Animals of North America, Insects & Spiders, Water Birds & Waterfowl, Birds of Prey, Reptiles & Amphibians, and Fish.

Nesting Boxes to Assemble and Paint

The store has a good inventory of our popular nesting box kits. Created by a Friends volunteer, these kits include all the screws, nails, and instructions needed to assemble the box. Priced at just \$14.15, these are a fun project and an economical way to aid native bird species and attract birds to your yard. Because these nesting box kits are made by a volunteer, all proceeds go to the refuge. For more information about nesting boxes, visit <http://www.nwf.org/How-to-Help/Garden-for-Wildlife/Gardening-Tips/Attracting-Nesting-Birds.aspx>.

For younger children, a fun project to get them started thinking about nesting birds, is the pre-assembled "Paint Your Own Birdhouse" craft kit which includes a small birdhouse, paint, varnish, stencils, stickers, and paint brushes.

Drawing, Painting, and Origami

For budding artists, we have the "Color Yourself Smart: Birds of North America" kit which includes 32 plates to color, eight studio-quality colored pencils, instructions, and facts about all of the birds pictured. This kit is a wonderful resource for someone of any age interested in learning to draw birds.




Coloring books are fun at any age, and the store stocks a wide selection of nature-themed coloring books, with varying degrees of detail and complexity. And for younger children, we have a variety coloring, sticker, maze, puzzle, and other activity books-many priced at just \$1.50 each.

For those who love butterflies, the Butterfly Origami kit is a wonderful way to learn to create delicate and colorful paper butterflies. The kit comes with 100 sheets of specially designed color paper, detailed instructions, and information about 20 varieties of butterflies and moths.

Ornaments & Wrapping it up

The store has recently received another shipment of Marcia Poling's exquisite hand-painted ornaments. These ornaments always sell out quickly as many "Friends" and visitors buy a new one every year.

Finally, you can wrap your gift purchases in sheets of Audubon Birds gift wrap. Each package includes four differently patterned sheets of paper with four matching note cards. The four designs are all based on prints from Audubon's "Birds of America."

Wildlife Images is open every day 11:00 a.m. - 4:00 p.m. (except Thursdays and Federal Holidays). 

Main Gate Memorial

A generous donation was recently made to the Patuxent Research Refuge in memory of Joe Piehuta, a longtime service employee who most recently served as the liaison between the National Conservation Training Center and FWS Headquarters staff.

Patuxent Facility Manager, Martin Brockman recently reached out to a historic preservation firm, Chem Strip MD to have the historic iron fence used at our entrance gate de-rusted and painted. The owner, Mr. Eric Whitesell asked Martin if he knew Joe, who was very memorable as always cheerful and friendly. Mr. Whitesell said that he had been a friend of Joe's and that he would like to donate the preservation work on the iron fencing at our entrance in honor of Joe's memory.

The fence panels were reinstalled in late June, and the work is impeccable. We are grateful for Joe's contribution to the training of so many US Fish and Wildlife Service employees and for the amazing craftsmanship of Mr. Whitesell and his staff. 🐦



Main gate prior (above) and after (below) restoration



We invite you to join!

**Your membership/
contribution helps
support the mission and
programs at Patuxent**



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

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

Scrambled Eggs for Dinner

By Lisa Bierer-Garrett

Walking along a wetland trail, we pass a small pile of curled white shells, almost looking like small slips of paper. Soon we see another dug out hole in the dirt surrounded by more of the pale slips of eggshell. These are turtle nests that have been raided, the eggs eaten by a raccoon or opossum well before they were ready to hatch. The curled shells are all that remain.

less you want many micro sized praying mantises running up and down your walls and counters. As I say, keep wildlife wild and outside.

Eggs are all around us. They come in so many shapes, colors and sizes, and can be found in some surprising places in our yards. The important business of an egg is protecting and nurturing the young of an animal. The young are called embryos, and the egg itself con-



Photo: Wikipedia

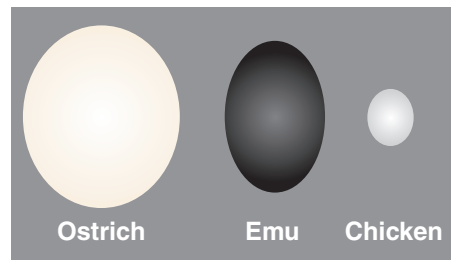
Baby box turtle with egg tooth.



Nest raided by racoons.

You might walk in your yard and find a small blue eggshell. It may be from a robin or perhaps a sparrow. Lying on the ground cracked, it might have been dropped by the parents tending and cleaning up the nest for the youngsters that have newly hatched. It might also be left behind from a predator's meal. Eggs can have a hard shell, but they don't always protect their fragile contents.

Peering into the garden, I spy a brown puff glued onto the stem of a golden-rod plant. This case will hatch a hundred Carolina mantises in the summertime. It is cool to see the baby mantids, but I warn you do not bring the egg cases inside your house un-



Bird egg size comparison.

tains food (yolk) and protection (white albumen). Some eggs are hard shelled like a chicken egg. Some eggs are soft and pliable, small and shaped like a ping-pong ball like a turtle's egg. Many eggs are laid in the water, like fish or frog's eggs.

Most of largest eggs in the world are laid by birds. Ostrich, emu and tiny kiwi birds lay the biggest eggs. Ostrich eggs weigh 3 pounds each, and a nest can contain 50 eggs. The largest egg on record is from the whale shark, and one of the tiniest vertebrate eggs is laid by the bee hummingbird at .02 of an ounce!

Most animals and insects in the world lay eggs except for mammals and a few arachnids like scorpions that have live babies. There are exceptions to this including boa constrictors, rattlesnakes and water snakes which have live young (the eggs hatch inside the mother), and the duckbilled platypus, a mammal called a monotreme, which has tiny eggs that it hatches. Some embryos have a temporary egg tooth with which to crack, pip, or break the eggshell or covering so they can escape the confining shell and emerge. The egg tooth will fall off in a few days. This can be seen on box turtle babies quite well.

At this time of year, insect eggs are hatching in abundance. Butterflies are landing on their favorite host plants and laying small green or white pearls that will hatch into hungry caterpillars. Frog eggs are turning into tadpoles, fish eggs are turning into small fish fry and mosquito eggs, laid in even a capful of water, hatch into wriggling larvae. Soon they will change into the biting adults and the cycle continues. Eggs are vital to the life cycle of so many creatures.

Photo: USFW, Jamaica Bay Wildlife Refuge.

In my article on milkweeds, I talked about the importance of milkweed species to monarch butterflies for their egg laying. The monarchs search for species of milkweeds that their life cycle revolves around. Common milkweed hosts several species of insects that need to eat the milky sap and leaves of the plant in order to survive. Most butterflies have specific plants that they live their life cycle around. The silver spotted skipper lays eggs on the Locust tree; the yellow tiger swallowtail uses the tall Tulip Poplar tree as its host.

Watch butterflies flying quickly and visiting leaves instead of flowers and you may be able to spot some eggs. These will be larvae or caterpillars in a few days, turn into cocoons or chrysalis for two weeks or more, and then finally hatch out into adults. The cycle can be as short as a few weeks to many months. Some moths and butterflies overwinter either as adults or in their cocoons, and will emerge next spring.

A closer look at Turtle eggs in Trouble

Speaking of emerging, we were wondering if any turtle eggs might actually hatch along the trail where we saw all the plundered nests. Female pond turtles such as red bellied sliders will come up onto land to dig a hole and deposit 20-40 eggs. The eggs are soft and pliable so that the young can absorb moisture and breathe as they develop. It



A snapping turtle laying eggs.

takes 90 days from being laid till the young turtles emerge. Most turtles in Maryland lay their eggs in May and June. All turtles lay their eggs in a hole on the land. The female travels a far distance from the water's edge so that the eggs will not be submerged by a sudden downpour or high waters. The porous shells would drown the young inside if laid in water. Turtle species that might lay eggs in our area include snapping turtles, box turtles (a terrestrial species), red bellied turtles, painted turtles, mud, musk and stinkpot turtles, and near the marshlands by the Bay some folks might spot Diamondback terrapins coming up on shore to lay eggs. Herrington Harbor Marina head-started terrapins with local schools and released hatchlings at their property. Perhaps some mature females, (it takes 6-10 years) will return and lay a nest of a new generation of terrapins!

After Hurricane Isabel hit, much of our yard in North Beach was submerged. We found several turtle nests with drowned young. It was sad to find almost completely developed baby snapping turtles, stinkpot and mud turtle eggs all drowned near our compost bin and leaf pile where we annually found nests. Not to be downtrodden, the mother turtles have returned to successfully nest in our yard in the past few years. They do not stay to see their young hatch or guard the nests. So the young can be very vulnerable. Citizen Scientists and their children "wildlife scientists" can help.

Recently, I was researching Diamondback terrapins (*Malaclemys terrapin*) for a work project. I was surprised to

find that raccoons are causing a precipitous decline in their nesting success and hatchling survival. At Jamaica Bay Wildlife Refuge, just a few minutes from bustling New York City, refuge wildlife biologists and volunteers are trying to make a difference.

From their Refuge page: Walking along a sandy beach just a few feet away lay the main reason the scientists were there - a terrapin nest, dug up and littered with scraps of thin eggshell, curling in the sun like shredded ping-pong balls. "Raccoons get most of them within 24 hours," Professor Burke said.

After being fished nearly to extinction in the early part of the last century to feed the appetite for turtle soup, the diamondback terrapin has made a remarkable recovery. Nowhere more so than at the Refuge, home to what Professor Burke calls the species' busiest breeding ground in its North American range, more than 2,000 nests crammed into about 185 acres of sand along the Refuge's shore.

But the Refuge's terrapins may be in trouble again. For the last few years, more than 95 percent of their eggs have been eaten by raccoons, Professor Burke said. Each night at dusk in June and July, the raccoons raid the nests and gorge themselves, orangey yolks running down their faces. This is not natural at the Refuge, part of Gateway National Recreation Area. The Refuge is on an island. Twenty years ago, there were no raccoons here. Now, there are many dozens. City folks pay to have raccoons trapped and relocated. The best place to relocate them, to most people, seems to be the wildlife refuge. The island used to offer protection based on its isolation. Now the terrapins are suffering. It is a long battle of man's good intentions and the consequences of our actions.

How does Jamaica Bay Refuge help the turtles?

The Diamondback Terrapin Research Program at the wildlife refuge is a re-

Continued on page 10



Baby box turtle hatching out of nest.

Photo: National Wildlife Foundation

Scrambled Eggs for Dinner

Continued from page 9

search program lead by Dr. Russell Burke, an associate professor of Biology at Hofstra University. His students and volunteers observe, monitor, and collect data associated with the terrapins. They share the tasks, such as gathering data on the existing population as far as their growth or demise, tag them to track and record the movement in the area, and study how the temperature of the protective nesting cages affect the sexual makeup of the young. Protective cages, which are made of different materials, are used to protect the nest and eggs from predators, most often raccoons. They use a team of volunteers to monitor nesting, place cages over the nests and walk with red colored flashlights to scare away the raccoons and other predators on night patrols. With a reduction of raccoons, perhaps the waters around the Refuge will be swimming with terrapins soon. To learn more visit <http://www.nyharborparks.org>

A Local Sanctuary for box turtles

A great way to become a citizen scientist is to become involved in turtle research. A local nature sanctuary and research center has been studying a particular turtle for many years. According to Jug Bay Wetland Sanctuary in Lothian, Eastern box turtles, *Terrapene carolina Carolina*, have become a species of concern throughout much of its range. Needing large tracts of intact forest to complete its lifecycle, there are fewer and fewer places that can support healthy populations. Additionally, roadway fatalities and collection as pets continue to reduce the populations of this once widespread reptile.

The forests of Jug Bay have proved to be a refuge for the box turtle.

According to their website, "Since 1995, we have marked individual box turtles with a notched code along the edge of their shell. We have identified



Photo: USFW

USFW/NPS working with terrapins at Jamaica Bay Wildlife Refuge.



Photo: jugbay.org

Turtle tracking and cage to protect eggs at Jug Bay wetlands.

over 500 individuals within a 300-acre area of the Jug Bay Wetland Sanctuary. Volunteers and staff members record measurements on every box turtle found. From repeated sightings, we are mapping the home ranges of individual turtles. Over the years we have greatly expanded the regional knowledge on the Eastern box turtle. In addition to our mark-recapture study we also conduct radio telemetry work on 5-10 individuals per year; tracking their movements weekly to better understand the answers to the following questions:

- What sorts of habitats do box turtles prefer?

- What stimulates them to move about and search for food?
- Where do they nest and where do they overwinter?
- How long do they live?
- Go to <http://jugbay.org/volunteer/become-volunteer> to become involved in helping the box turtles and other reptiles found in our area.

How can you help turtles?

Ways to help turtles nest successfully include putting a piece of chicken wire screening over the top of the newly dug nest and staking it down. The raccoons and foxes will be deterred. Or put a small landscape fence around the nest perimeter. Put a flag up near the nest sight and wait. In late August or early September remove the screening and check for signs of hatching. Hopefully you will be rewarded with the sighting of several small quarter sized hatchlings emerging. In Maryland and most of the USA, it is illegal to keep or sell hatchlings. Enjoy helping our struggling wild turtles by providing a sheltered place for nesting and then cheering on the young turtles as they make their way into the world. 🐢

Birds Around Patuxent

Photos by Ross Feldner



Great Blue Heron



Northern Mockingbird



Orchard Oriole



White-breasted Nuthatch



Yellow-rumped Warbler



White-throated Sparrow



Tree Swallow

The Spring Brings New Successes to the School Yard Habitat

By Evelyn Kirby

Photos by Ann Coren

The summer months at the School Yard Habitat provided some excitement for volunteers. The plants that were put in the pollinator garden last fall grew and flowered this summer, providing food for a number of pollinators, including the five butterflies shown below.

In late August several Monarch caterpillars were seen on the milkweed, giving everyone hope that more Monarchs will visit the School Yard Habitat next year.

The first photo (below) shows one area of the pollinator garden when it was planted in September, 2014, funded by the Governor's September 11 Day of Service and Remembrance Project. The second photo (right) shows it in bloom in this past summer.

Of course, along with the many native plants growing and prospering, the non-native and invasive plants (read "weeds") are thriving as well. There is always a need for weeding. Refuge volunteers as well as those from the Montgomery County Master Gardeners and others have spent hours at this task. One morning, working with the help of 4 interns and their leader from the Urban Wildlife Exchange, and 1 intern from UMD, four barrels of Canada thistle were removed from a part of the garden that has not yet been restored.

Also, plans are under way for a compost area so we can recycle the weed nutrients back into the garden, completing the cycle of life.

The School Yard Habitat still needs more volunteers to "dig in" and con-



Pollinator garden in bloom during the summer.



Pollinator garden at initial planting, September 2014.



Monarch.




Horace's Duskywing.



Silver-spotted Skipper.



Sachem (one of the Grass Skippers).

tinue with the restoration and maintenance of this beautiful place. The weeds are persistent and there is always a need for more people keep them under control. Please contact Ann Coren anncoren@hotmail.com for more information. 

Celebrate the Upcoming National Wildlife Refuge Week and join The Big Sit!

Saturday, October 10th, 2015
 9:00 am to 2:00 pm
 Patuxent Research Refuge
 National Wildlife Visitor Center
 10901 Scarlet Tanager Loop,
 Laurel, MD



The Big Sit! is an annual, international, noncompetitive October birding event hosted by Bird Watcher's Digest and founded by the New Haven (CT) Bird Club. The National Wildlife Refuge System has adopted it as an activity for National Wildlife Refuge Week.

The idea is simple – we'll identify a 17 foot diameter circle near the National Wildlife Visitor Center, set up chairs and binoculars, and identify as many birds as we can. You're welcome to join us on October 10 for all or part of the day (9:00 am to 2:00 pm)!

The event is FREE and open to the public!

No special equipment or experience is needed, but bring your binoculars and a field guide if you have them!



Feel free to bring your own lawn chair and snacks!

The National Wildlife Visitor Center is located on Powder Mill Rd. between the Baltimore/Washington Parkway and Rt. 197, just south of Laurel, MD. If you have any special needs please contact us at least two weeks prior to the event so that we may accommodate you.

For additional information call (301) 497-5887 or visit us on the web at <http://www.fws.gov/refuge/patuxent/>.

For more information about The Big Sit! visit <http://www.birdwatchersdigest.com/bwdsite/connect/big-sit/about-the-big-sit.php> or write ross.feldner@verizon.net or amy_shoop@fws.gov.

"It's like a tailgate party for birders."

Vernon Sears Demonstrated the Proper Use of Oil Pastels

By Mary Ann Hartnett, Volunteer

On Saturday, August 15th at the Visitors Center, Vernon Sears, the wildlife artist displaying his artwork in the John Hollingsworth Gallery that month, presented a free program on the use of oil pastels for drawing wildlife images.

Mr. Sears started by assuring everyone in the audience that they were capable of being a wildlife artist. Even those of us who are challenged to draw a straight line with a ruler need not worry. According to Mr. Sears, a wildlife artist does not need to be able to draw a straight line, even with the aid of a ruler, because there are no straight lines in nature! When drawing wildlife, one begins by using a free rotational movement from their shoulder to start making circles and ovals. These basic shapes begin to represent bodies, heads and limbs of animals as they are enhanced.

Oil pastels are Mr. Sears primary medium of choice when drawing wildlife. He uses a technique of layering this medium instead of blending the colors. Birds are a favorite topic for his compositions, but wolves, tigers, lions and foxes also appear in his collection.

Like many projects, preparation before starting to draw with oil pastels is very important. Mr. Sears uses 100% cotton rag paper. The paper is pretreated with an acrylic paint and pumice mixture. This base produces a rough surface that is better able to "catch" the oil pastels. Like many other types of mediums used in artwork, oil pastels never thoroughly dry. By pretreating the surface, it also seals the surface so that the oil does not penetrate it, and lengthens the life span of the artwork. If untreated, the paper would become yellow and brittle after a few years thus ruining the artwork.



The type of oil pastels Mr. Sears works with are composed of a special blend of mineral oil and paint pigments. While they resemble a crayon, they do not contain any wax or other binders. This particular formulation was originally developed at the request of Pablo Picasso, and now sells for \$4.00/stick.

After demonstrating how to draw a blue jay, Mr. Sears lead a group of the 16 attendees on a walk through the Hollingsworth Gallery to view other pieces of his artwork that were on exhibit.

If you were unable to view his August 2015 exhibit just wait. Mr. Sears hopes to return for an exhibit of new artwork in 2017. 🐦

Fall 2015 in the Hollingsworth Gallery

By Faith Leahy-Thielke, Volunteer


Fall exhibitors this year in Hollingsworth Gallery include a first-timer, a “repeat,” and a “threepeat!” October boasts the well-known Pennsylvanian, Denny Bingaman, whose spectacular photos have graced the gallery once before in 2013. November introduces us to Stacey Littledeer, a native-American/Virginian watercolorist. December celebrates the third exhibit for local photographer and Master Gardener, Gloria Hynes.

Award-winning photographer, Denny Bingaman, successfully converted a childhood love of nature and wildlife into his life’s vocation for about the last 30 years. A native of Waynesboro, Pennsylvania, Bingaman still lives and has located his studio there, but has obviously wandered far afield to photograph an impressive selection of birds, mammals, reptiles, flowers and landscapes. His biography states that he has filed some 65,000 images. Birds have obviously been a focus for this member of the Audubon Society and the Cornell Lab of Ornithology. Much of the work can be viewed in the various galleries at Bingaman’s website and as beautiful as the images appear online, “in person,” they should be even more impressive. Bingaman is apparently into education as well as illustration. Along with magazine photos, he may include the natural history of his subject as well as wildlife photography methods. As far away as Phoenix, Arizona, the Desert Botanical Gardens use his photos for identification and education. Closer to home, his work is on display at the Wildwood Sanctuary near Harrisburg. The U.S. Fish and Wildlife Service has used several of Bingaman’s images on the internet and for brochures. Bingaman prints, mats and frames his own work at his studio. His work can be purchased there, online, or at shops in Maryland and Pennsylvania.

Stacey Littledeer of Virginia has been a working artist for the last 30 years. She describes herself as a single mom who has devoted the last 18 years of her life to a child with serious challenges. Of Cherokee/Mattaponi descent, she is a member of the Southeast Cherokee Nation out of Georgia on the Southeastern Cherokee Council Inc. (SECCI) tribal roll. Littledeer has had no schooling or formal art training, but has worked for years developing a style that is wholly her own. With pastels and watercolors, she shares her unique vision through “Spirit Paintings.” She believes that a connection through art is a connection through spirit. Indeed, many of her pieces are part of an ongoing series which started years ago entitled “Women in Prayer.” She has participated in many juried shows and is nationally recognized. Littledeer hopes to be able to travel to the National Indigenous Fine Art Market (IFAM) in the Southwest and display her work to wider audience.

In December, Master Gardener - and master photographer, Gloria Hynes’ work will evoke spring as well as Christmas in Hollingsworth. She is a long-time resident of Laurel who recently designed the landscaping of the public areas of the Montpelier community and

writes on gardening for their newsletter. Having completed the “Baywise” course in natural gardening, she demonstrated its techniques and won awards for employing them in her own garden. Hynes writes that it’s her pleasure to promote nature’s beauty “in all its splendor.” She’s become increasingly aware of the emotion her “captured” images evoke. Recently, she hung photos of six different Maryland butterflies in a bariatric surgeon’s office and included the story of their metamorphoses - perfect metaphors for people taking life-altering steps. Since her last exhibit with us, Hynes has found her “Rembrandt moments” locally, with images of the National Monuments downtown - often at night or in reflected views. What too could be more of a draw for a flower-loving gardener than the cherry blossoms? Westminster’s barns and covered bridges have also caught her lens’eye. She writes that her clients have asked for photo art that tells a story. We look forward to the one she’s going to write for us at year’s end.

As Shakespeare once wrote, “Summer’s lease hath all too short a date...” Fall’s inevitable, and we have more than scarlet leaves to anticipate; so bring it on. 

Calling for Your Articles and Photos Please

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. And if you will, please include a caption for your photos.

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 or jelatham@verizon.net **Thank you so much!**

Birds and Snakes

Frank McGilvrey, Volunteer Biologist



Black snakes are fond of birds' eggs, and are an important predator on song and wood duck nest boxes on the Refuge. Small snakes enter the song bird boxes and larger ones the wood duck boxes. We have had problems trying to find an effective predator guard. The last two years have been particularly troublesome. Unless checked carefully and frequently, snake predation is hard to detect. The snakes swallow the eggs whole and leave no evidence of their presence. I have occasionally found snakes in boxes, but this year we had a first. Wood duck hens are caught half way through incubation for banding. If already banded, this gives us information on her age, depending on when she was originally banded. Cheryl pulled a hen out of the box, and noticed something moving. It was a black snake! While the hen incubated, the snake was taking eggs out from under her. It had swallowed one and was in the process of pulling out a second one. We pulled the snake out of the box, banded the hen and departed. We went back two weeks later to determine success. The snake had returned and devoured the rest of the clutch.

Several years ago, I flushed a mallard hen off her nest. Under her, a black snake was devouring her eggs while she incubated.

I have often wondered where the "old wives tale" that birds will desert the nest if the eggs are touched originated. Nothing could be further from the truth. The maternal instinct is too strong! 🐍

Saving Monarchs

Continued from page 1

telling bar graph that the Eastern population trends are down significantly from 1994 to 2014.

However, all is not lost. We can engage in various actions that will help save Monarch butterflies. Citizens, volunteers, families, refuges, businesses, and everyone can get involved in the national conservation effort. Habitat enhancement opportunities include: planting gardens and Monarch waystations; planting Monarch-friendly plants along roadsides and agricultural margins; incorporating landscapes and utility right-of-ways; and planting appropriate plants on public and private lands.

Rich talked about the fact that Monarchs cannot survive without milkweed plants. So we can plant milkweed and other plants as food sources for Monarchs, keeping in mind that milkweed plants differ from region to region. There are many resources at our fingertips, including Monarch Joint Ven-



Slide showing various opportunities for citizens, volunteers, parks, refuges and everyone to help save Monarch butterflies.

ture at www.monarchjointventure.org; Monarch Watch at www.monarch-watch.org; and other supporting organizations. Check out "Connecting People and Monarchs: Resources Guide for Parks, Nature Centers and Nature Preserves", compiled by Denise Gibbs, Monarch Conservation Specialist of Monarch Watch ([http://www.nrpa.org/uploadedFiles/nrpaorg/About NRPA/Impacting Communities/Monarch-Resources-Guide-for-Parks-2015.pdf](http://www.nrpa.org/uploadedFiles/nrpaorg/About%20NRPA/Impacting%20Communities/Monarch-Resources-Guide-for-Parks-2015.pdf)). 🐦



Friends members, guests and volunteers gather for the "Saving Monarchs" presentation at North Tract on July 18, 2015.

**WE SALUTE AND APPLAUD
OUR VOLUNTEERS**

Friends of Patuxent Wildlife Holiday Bazaar

HELP WANTED: The Holiday Bazaar Committee is looking for volunteers who are willing to be Head Elf in one of the following areas: Volunteers, Kid Friendly Shop, Bake Sale, Thrift Shop, Crafts (origami and stamping), or Cashier. Please contact Brenda Stone at stonesoop@comcast.net if you are interested.

Donations for the Thrift Shop may be left at the Visitor Center until **November 6**. Clean out that closet and donate what you can't use to Friends of Patuxent. Don't forget to fill out a donation form. Please - NO posters, flat art, or bed linens.

Don't forget the **Bake Sale**. Donations for the Bake Sale may be left at the Visitor Center starting Friday, November 13. Cookies, bars, snack mix, quick breads, and coffee cakes are most popular - doesn't have to be fancy, just homemade and delicious.


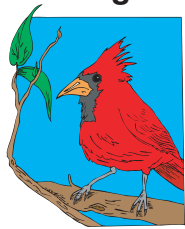












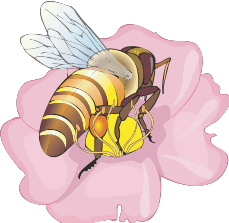
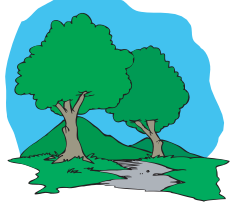
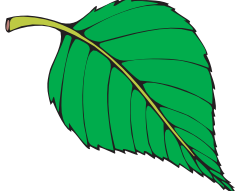

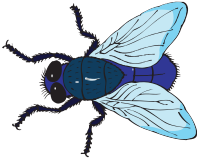
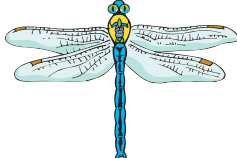
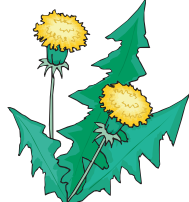



Come and join us as a volunteer on Friday, November 13 as we get set up for the Bazaar and on Saturday, November 14. We have a lot of fun and there are plenty of chances to shop. To volunteer contact Susan Minter at sandjminter@yahoo.com.



KID'S CORNER

Nature Hunt Bingo

The first person to see all the nature items in a row, column or diagonally (just like tic-tac-toe) wins!

<p>Frog</p> 	<p>Perching Bird</p> 	<p>Flower</p> 	<p>Cloud</p> 	<p>Turtle</p> 
<p>Spider Web</p> 	<p>Dirt</p> 	<p>Animal Tracks</p> 	<p>Butterfly</p> 	<p>Deer</p> 
<p>Hiker</p> 	<p>Bird House</p> 	<p>FREE SPACE</p>	<p>Water</p> 	<p>Squirrel</p> 
<p>Bee</p> 	<p>Tree</p> 	<p>Leaf</p> 	<p>Grass</p> 	<p>Fly</p> 
<p>Dragonfly</p> 	<p>Dandelion</p> 	<p>Flying Bird</p> 	<p>Rocks</p> 	<p>Ant</p> 



We invite you to join!

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

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FRIEND OF PATUXENT BOARD MEETINGS

Friends Board Meetings are usually held on the 4th Tuesday of each month at 7 PM at the Visitor Center. No Board meetings are held in August and December. The scheduled meetings remaining for this fiscal year are: June 23, July 28, September 22, October 27, November 24.

JOIN TODAY!

MEMBERSHIP APPLICATION

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 (\$15/yr)
 Family (\$20/yr)
 Contributor (\$50/yr)
 Sponsor (\$100/yr)
 Life (\$500)
 Donation _____

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

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



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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:

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- 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)