

Habitat Works

CHESAPEAKE WILDLIFE HERITAGE

The newsletter about restoring, managing and protecting wildlife habitat.
Winter 2017



Habitat Works is published by Chesapeake Wildlife Heritage, a 501(c)(3) nonprofit conservation organization dedicated to restoring, managing and protecting wildlife habitat and establishing a more sustainable agriculture through direct action, education and research in partnership with public and private landowners. We welcome your comments and contributions.

Caretakers—Winter Home

By Ned Gerber, Director/Wildlife Habitat Ecologist

I wonder what the geese think as they descend on their winter home after such a long journey from the Ungava Peninsula. As they fly over the Chester River, do they feel a sense of relief that their annual fall trip is ending? Do the older birds glance at the cove where they ride out the harsh winter storms undisturbed in a northwest lee? Any thoughts of the fields where we unfailingly leave standing corn and wheat for grazing?

Studies have shown that geese show fidelity to wintering sites, so we are confident that many of these birds return to our Barnstable Hill Farm year after year. We are fortunate to be able to help them through the winter.

The hundreds of Monarchs that visited the farm in September and October had, of course, never been there before. They still had a long way to go once they replenished their energy supplies on the many native wildflowers we work to provide for them. They need to visit many refueling sites each fall if they are to make it to the mountains of Mexico in good condition.

Mrs. John Campbell White donated a conservation easement on Barnstable Hill Farm to Maryland Environmental Trust long before the family donated the property to CWH. Certainly, prohibitions against residential development are a great first step in preserving a landscape not cluttered with houses and lawns. But in our world, where 70 percent of the Chester River watershed is intensively farmed, easements alone are not enough. We simply must take extra steps to enhance the opportunities for a diversity of wildlife to survive and thrive.

We at CWH are grateful to participate in government efforts that help us to be better land stewards. The cover crop program allows us to plant wheat to retain soil and nutrients on the farm fields—and the geese relish the grazing opportunity. The Conservation Reserve Enhancement Program (CREP) allows us to maintain large meadows and wetlands that assist a diversity of local wildlife like dragonflies,

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wood ducks, box turtles and bumblebees. The CREP also lets us help other long-distance travelers such as wintering sparrows (white throats, chipping, song, etc.), Monarch butterflies, shorebirds and puddle ducks. The habitat we create and maintain also reduces nutrient pollution in the Bay, which will hopefully lead to increased SAV beds and more grass shrimp, crabs and rockfish.

Thanks to our supporters, we are able to leave about 30 acres of neonicotinoid-free standing corn to feed the geese, the field-feeding ducks and other birds.

This complements the natural foods in the wetlands and meadows. We work to enhance the foods in the wetlands by carefully disturbing the soil to produce heavy seed-bearing annuals like fall panicum and tickseeds. The panicum feeds sparrows and ducks, while the tickseed provides nectar to Monarchs and food for other pollinators and waterfowl. We also drill native species like wild millet in patches during the early summer to feed waterfowl and songbirds. Thanks to the generosity of our members, Barnstable Hill Farm is the largest private wildlife refuge on the Mid-Shore! It is an essential refueling or wintering point for countless migratory birds and other creatures.

Effective habitat management is often knowing and caring about what NOT to do. Thus, while we do grow corn, our use of seed NOT treated with neonicotinoids (or any other insecticide) protects birds and pollinators. Neonics are water soluble and leach into the buffers, where they are taken up by plants and eventually turn up in their pollen and nectar. This, in turn, harms the bees



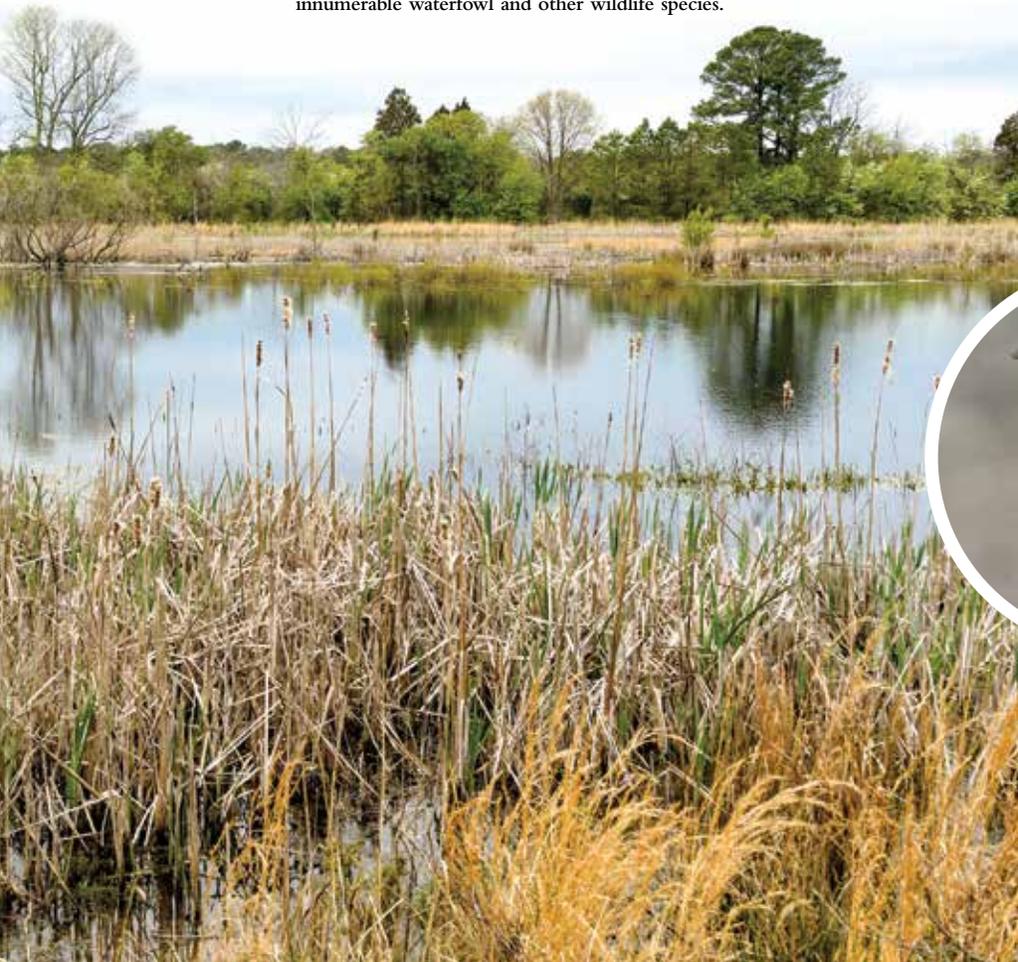
using those plant blossoms. Sadly, nearly all other farms in the Bay watershed use treated seed. As a result, the flowers in their buffers may have negative impacts on pollinators—a sad ecological trap.

While all our fields have CREP buffers, we do NOT mow or burn them until March (and then only 30 percent), with the exception of a few access trails. This saves both vital plant cover and insect larvae, such as those in goldenrod galls that help feed birds over the winter. It also preserves the numerous native seed sources in the meadows that birds need to survive the winter months.

Too many Maryland farms have no significant buffers along ditches, woodland edges or waterways. Most that do, mow the buffers completely in August before many species like goldenrods, wingstem and other flowers have a chance to bloom and help Monarchs, other butterflies and native bees. Buffers are simple and fundamental additions to the landscape that all farms can easily and profitably install with CREP (and some other Farm Bill programs) to help biodiversity and water quality in Maryland.

Please visit our website to view our wildlife cams over the winter months. Hopefully you will see some of our winter residents using the wetlands we have restored and managed at Barnstable thanks to our supporters and the USDA CREP. You won't see the Monarchs, but don't forget about them! Please take some time over the winter to think about what you can do to help them next year. Can you plant a patch or meadow of wildflowers? Maybe talk to a landowner friend about installing buffers or wetlands? Convince a farmer to stop mowing the buffers until March? ●

A wetland restored by CWH provides food and habitat in all seasons for innumerable waterfowl and other wildlife species.



Black saddlebags. Photo courtesy of Bill Hubick.



Butterflyweed and Monarch



Song sparrow.
Photo courtesy of Bill Hubick.



Bumblebee on wingstem

A BEEHIVE is an Ecosystem in Itself



By Michael Robin Haggie, Agricultural Wildlife Ecologist

Bees pollinate many species of flowers. They coevolved with angiosperms (forbs, shrubs, grasses and trees) during the early Eocene from a group of predatory wasps. Prior to that time, the earliest pollinators were beetles. Bees pollinate a significant portion of our daily diet, including, you may be surprised to learn, coffee, which the poet Lord Byron, an habitu  of the 19th-century coffee “shacks” in London, described as “that naughty bean”!

There are in the world over 20,000 bee species. There are more than 4,200 in the United States alone and 400 just in Maryland. Most are solitary in nature and generalist feeders. Many people do not know that the honeybee is not native to the Americas but was introduced by European explorers in the early 17th century.

A hive of the eusocial *Apis mellifera* (the European honeybee) is unique among bees for its ability to overwinter in superior numbers, thus gaining a head start in the spring. A beehive is a rich and complex ecosystem inhabited by countless microbes, bacteria, mites, fungi and all manner of other

diminutive biotic creatures, all living together in a delicate balance worked out over millions of years.

Several species of native bees—sweat bees, for example—in the family Halictidae are small but gorgeously colored in shades of electric green. You may have noticed them alight on your skin in summer; they do not sting, so do not swat them. They have certain structures on their bodies called “acarinaria,” a term derived from the Greek “Akari,” meaning “mite.” These structures have coevolved with the bees for millennia and house phoretic mites, ones that hitch a ride with their host, the bee, from the flowers they have been pollinating. Upon reaching their destination, the mites hop off and set about their business of eating waste products, deleterious fungi and bacteria and contribute significantly to the hygiene of their new home. Thus, many have a commensal relationship, a form of symbiosis. Honeybees do not have acarinaria, but they do have phoretic mites, with possibly more than 50 species living within a hive performing beneficial activities. Only a few, like *Varroa destructor*, are

harmful; indeed, this one can be very destructive!

You may have heard of CCD (colony collapse disorder) and a group of insecticides called neonicotinoids, since much has been made of them in the press. In fact, you may well think from what you read written on the printed page that CCD and neonicotinoids (neonics) are the only killers of bees and that we are all going down the tubes together with the extinction of bees and the loss of diversity in our food supply. However, science has shown us that the greatest contributing factor to bee colony decline is not from CCD, but from the *Varroa* mite. This mite sucks the hemolymph (blood) of the bee and transmits, among others, two deadly bee virus diseases: Israeli Acute Paralysis Virus (IPV) and Deformed Wing Virus (DWV). Ecologically, there is a fascinating mutualistic relationship between the *Varroa* mite and these viruses.

While recent winter hive losses still remain somewhat high, the number of those losses attributed to CCD has dropped from roughly 60 percent of

SO, WHAT CAN WE DO ABOUT ALL THIS?

1. **Support Integrated Pest Management (IPM)** on your farm and do not use neonicotinoids. Neonics are a common seed treatment in cash grain (corn and soybean) farming systems in Maryland, and they are water soluble. They pollute surface water runoff and are then taken up by native plants along field margins, thus contaminating the nectar and pollen used by bees.
2. **Plant a seasonally successional diversity of wildflower habitat** in your garden or around your farm using regionally adapted clean seed. Good examples are mountain mint, beebalm and many native asters.
3. **Support Integrated Vegetation Management (IVM)** along roadsides and utility rights-of-way (ROWs)—electric, oil and gas lines. An estimated 61 million acres of potential wildlife habitat can be managed through IVM. Currently, <2% is managed as such.
4. **Do not purchase neonic-treated bedding plants.** Plant native species in your garden and not “rubbish” species like begonias and pansies, which look nice but produce little or no nectar or pollen.
5. **Encourage local beekeepers to use Darwinian beekeeping.**
6. **Do not pay more money for organic honey;** there is no such thing unless you know that the hives have been placed at the center of a >12,000-acre estate! Bees can travel 2–5 miles from a hive.
7. **Reduce Nature Deficit Syndrome (NDS)** in our children. Read *Last Child in the Woods* by Richard Louv.

total hives lost in 2008 to 31.1 percent in 2013; CCD is not mentioned in initial reports for 2014–2015 losses (epa.gov/pollinator-protection/colony-collapse-disorder). Thus, CCD is not the important threat that it used to be, probably due largely to our increasing knowledge of other environmental and biotic effects causing bee losses.

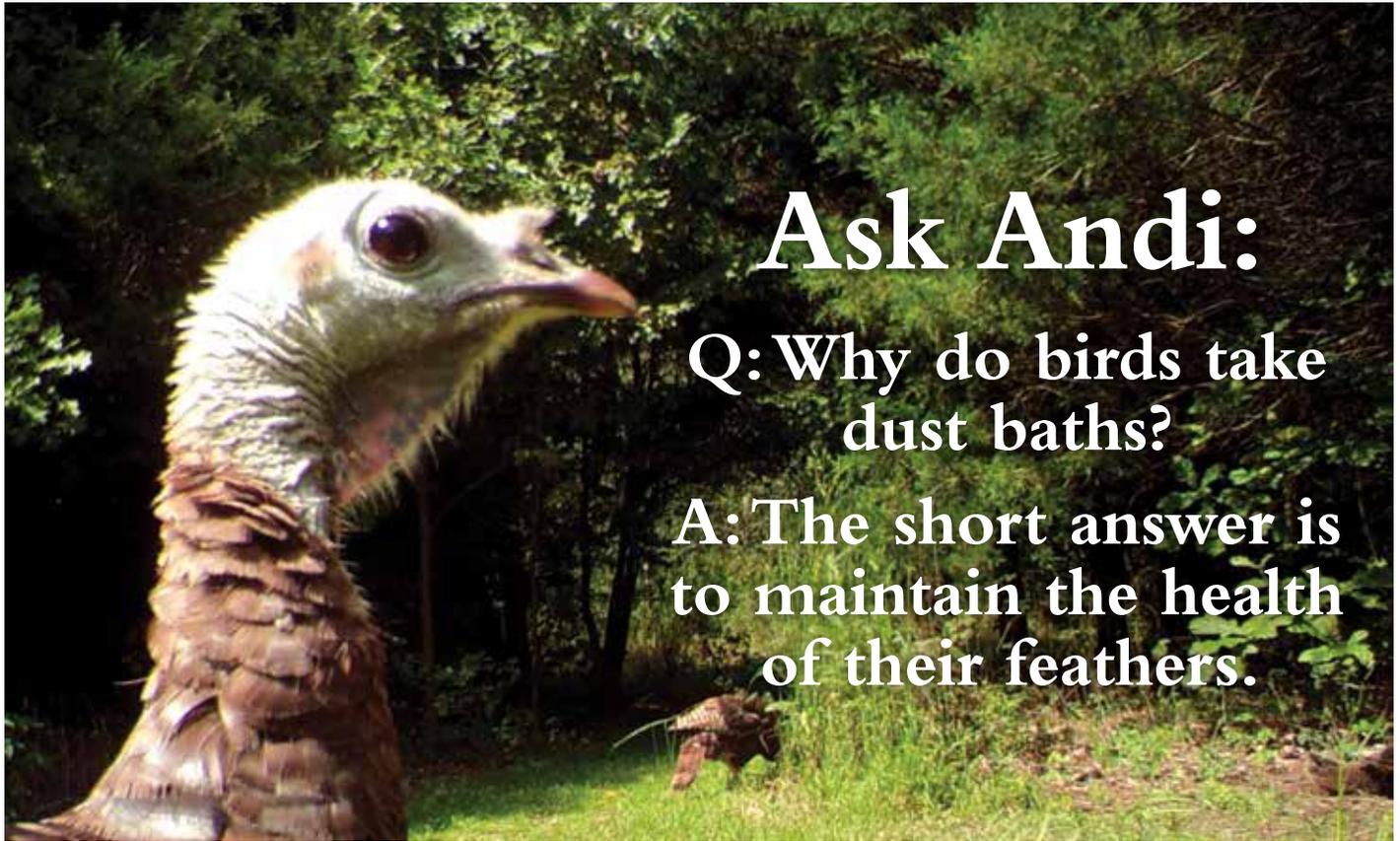
The Varroa mite was introduced into the U.S. in 1987, most likely via South America, from Asia. Introducing a pesticide treatment into the hive to combat one damaging organism, the Varroa “disrupts the equilibrium to catalyze a chain reaction that we have barely begun to understand.” Our current knowledge of the ecology within the beehive has been likened to our understanding of microbiological “medicine in the 17th century.” By treating with chemicals, we interrupt a system that had been solving problems “far longer than humans have been travelling around the sun.” Treating bees is an attempt to cheat evolution. In fact, it has the reverse effect, making evolutionary pressures even greater. (The quotes have been taken from a wonderful book titled *Save the Bees*

with *Natural Backyard Hives* by Rob and Chelsea McFarland, a most worthwhile read.)

So, when a hive is treated for Varroa with an organophosphate (OP) miticide/acaricide (which is also an insecticide, and, remember, bees are insects) by a beekeeper, many other organisms are affected, creating an ecological discordance. If you look at the chemical analysis of current beeswax, you will notice that the most common materials found are OPs and fungicides (applied by apiarists and agriculture), not neonics. Hive wax and honey contamination are good indicators of environmental stressors on honeybees. However, neonics are water soluble and readily run off site, affecting neighboring wildflowers and, to a greater extent, our native bees, particularly their genetic detoxification mechanisms. Queen bee behavior and larval development have also been shown to be affected by neonics, so the problems for honeybees can be chronic rather than acute, the latter being more applicable to our native solitary bees. In the end, though, all bees will suffer to a degree. ●



Girl Scout Troop 1335 of Queen Anne’s County joined CWH’s Andi Pupke to learn about the life cycle, habitat needs and migration of the Monarch butterfly. They also helped tag Monarchs in the field, which will help in the research CWH conducts each year to help save our Monarch population. The Girl Scouts are working toward their Gold Award by participating in this Environmental Journey. Scouts pictured are, from left, Sydney Christian, Katie Schwiw, Caroline Hazuda and Julia Grace Redpath.



Ask Andi:

Q: Why do birds take dust baths?

A: The short answer is to maintain the health of their feathers.

By Andi Pupke, Education & Outreach Director

Birds of all kinds need to maintain the health of their plumage. You may think that a bird flapping frantically in the dust and creating a cloud is injured. Really, it is keeping up on its grooming. This is part of the preening process that keeps its feathers in top condition.

The dust that is worked into the bird's feathers will absorb excess oil and prevent the feathers from becoming matted. The dust is then shed easily to keep the plumage clean and flexible for more aerodynamic flight and efficient insulation. Dry skin and other debris can also be removed along with excess dust, and regular dusting may help smother or minimize lice, feather mites and other parasites.

Birds take dust baths more frequently in arid habitats and during hotter seasons when water for bathing may be scarce. To begin the process, a bird begins by scraping its feet in dry, fine, crumbly dirt or sand to create a wallow. Lowering its body to the ground and rolling, swaying or rocking may deepen the shallow depression. The bird will flip its wings vigorously to spread dust over its entire body. During this motion, the feathers may be fluffed and the tail spread so the dust can more easily reach the skin.

When the bird is done dusting, it may fly to a safe perch and shake off excess dust. It will then spend time preening and sunning while conducting more extensive grooming. ●



WE'RE MOVING!

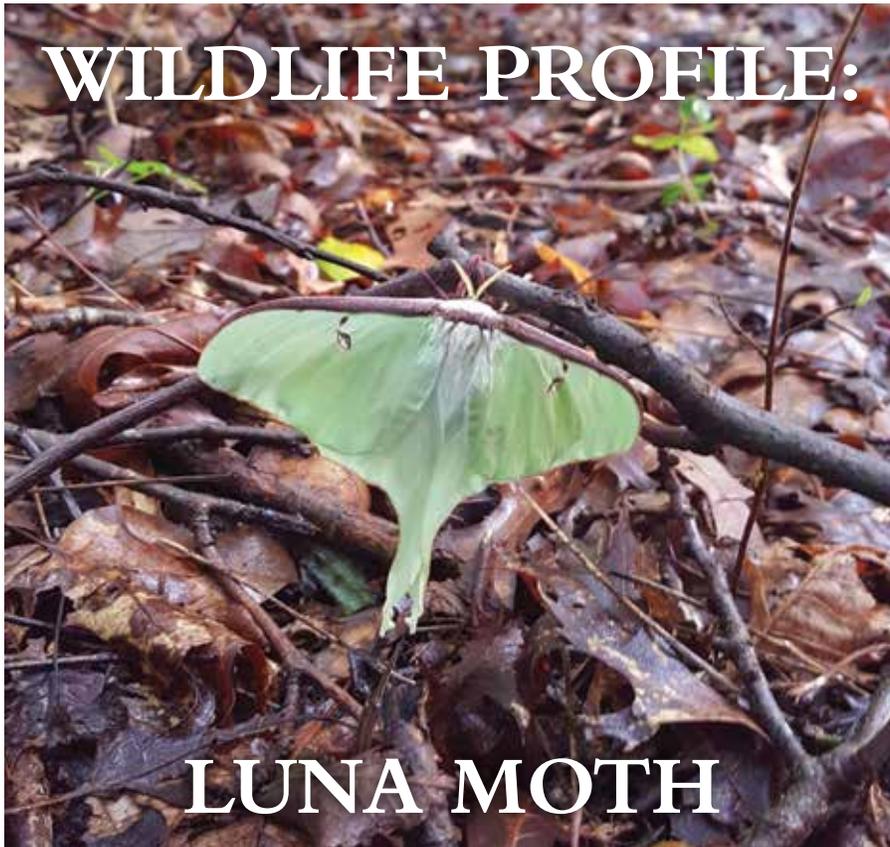
CWH is moving to our Barnstable Hill Farm on Kent Island. Our new office is located at 1201 Parson Island Road, Chester, MD 21619. Our phone number remains the same: 410-822-5100.

GO GREEN!

Receive Newsletters Electronically

Help us save trees and use more of our funds to benefit wildlife and the Chesapeake Bay by having your copy of *Habitat Works* delivered via email. Simply send an email to info@cheswildlife.org with "Newsletter by email" in the subject line, and be sure to include your name and address in the message so we can check it against our mailing list. Upon receipt of your email, we'll send a reply to confirm your request for an electronic version of the newsletter.

WILDLIFE PROFILE:



LUNA MOTH

By Andi Pupke, Education & Outreach Director

The Luna moth (*Actias luna*), also known as the American Moon Moth, is one of the largest moths in North America. Its wingspan can reach 3–4.5 inches, and its interesting bright green color and unique markings make it notable if you're lucky enough to catch sight of one. The large transparent eyespots on their wings make the Luna moth seem exotic, but they are fairly common in the Eastern United States and very southern Canada.

The Luna's habitat consists of deciduous hardwood forest. Host plants for the caterpillar include a variety of trees, including white birch, persimmon, sweetgum, hickories, sumacs and others.

The adult female moth will lay up to 200 eggs in its lifetime on the surface of a leaf of the host plant. When the eggs hatch in 8–13 days, the caterpillar begins eating the leaves. Bright green in color with narrow yellow stripes, it will shed its skin five times as it grows during this stage of its life cycle. Once it reaches its full size, it will spin silk, incorporating leaves that it rolls into its papery brown cocoon. It goes through complete metamorphosis in the leaf litter below its host tree.

Adults will emerge from their cocoons in April. The second generation of adults will emerge in July; occasionally, there is a third generation in the southern areas of its range. Adults have no mouth and do not eat. They live about one week as adults and overwinter in the pupal stage.

The adults are strong flyers and are attracted to light. They are large enough to cast a shadow if they fly between you and a light source. Luna moths are a moth of the late night, and breeding takes place after midnight. They are also associated with an abundance of folklore. They are said to represent not only spiritual growth and transformation, due to going through metamorphosis, but also wisdom and intuition. This may be because of their association with the moon and the lunar phases.

Loss of habitat through deforestation and use of insecticides impacts Luna moth populations. It is critical to protect the forest where they live. ●

Donate Stock and Receive a Charitable Deduction

Donating appreciated stock is an excellent way to support CWH, the Bay and wildlife. This simple donation process allows you to take advantage of tax laws to reduce taxes and maximize your gift to CWH.

For example, Mr. Roberts invested \$5,000 in stock several years ago. Today, the stock is worth \$20,000. If Mr. Roberts sells the stock, he would pay \$3,000 in capital gains tax (20% of the profit from the sale of the stock). If he donates the stock to CWH, though, he would receive a charitable deduction for the stock's full fair-market value (\$20,000). This donation would provide a \$5,600 tax savings for someone in the 28% tax bracket. In the end, Mr. Roberts's tax bill is \$8,600 less, and CWH receives a terrific gift that will benefit wildlife.



Painted turtle. Photo courtesy of David Judd.

To learn more about stock donation, call our office at 410-822-5100.



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Chesapeake Wildlife Heritage held its annual Monarch tagging workshop on September 16 at CWH's Barnstable Hill Farm.

Those in attendance helped staff tag Monarchs on their way to Mexico for the winter. Participants also learned about the life cycle of the Monarch and how they can help scientists from around the continent track the butterflies' astounding generational migration.

We discussed habitat requirements for the survival of the Monarch and looked at a newly planted pollinator meadow that CWH has restored. CWH has worked with many landowners to plant large and small pollinator meadows to benefit not only Monarchs but many other pollinator species.

