



DELAWARE WILD LANDS NEWS

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Planters prepare to distribute and plant 50,000 tree seedlings at the Great Swamp.

Delaware's Diminishing Habitats Get a Boost

DWL Completes Two Habitat and Forest Restoration Projects

Delaware Wild Lands is making exceptional progress in restoring and expanding forests and early successional habitat -- both of which provide critical wildlife habitats and are disappearing rapidly across the State. This spring and summer, we completed:

- An **early successional habitat enhancement project and planting of 1,000 trees and shrubs** at the Sharp Farm (New Castle County) and
- A **forest restoration project including the planting of 50,000 trees** within our wetlands restoration site at the Great Cypress Swamp (Sussex County).



DWL staff paddled seedlings to the planting site because of exceptionally wet conditions.

At DWL we know it is not enough to own land -- we must also work to ensure our lands provide vibrant wetlands and wildlife habitat, clean air and pure water, healthy farms and forests, and opportunities for research and education.

At the Great Cypress Swamp, in addition to our ongoing wetlands restoration work, **we are expanding our forest resources to make this habitat more attractive to and suitable for a greater diversity of wildlife.** To achieve this goal, we are fostering forest resiliency by varying the age class of trees within our forested swamp and increasing the variety of tree species within the forest. (Think of an orchestra and how one missed note is masked by the sounds of many instruments and melodies.)

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DWL builds habitat and character at the Sharp Farm!

To this end, we planted 50,000 trees in our 300-acre Field 7 restoration site. This brings the number of trees planted as part of this effort to 165,000! Though we have undertaken large-scale plantings before, this year's experience was unique.

Due to the success of our wetlands restoration efforts, the Swamp is increasingly wet and our trees had to be planted on "hummocks" where they would not be drowned out by persistent standing water. Since the planting, we have been graced with abnormally wet conditions and our trees are flourishing!

The success of this tree planting project, and our restoration efforts overall, are linked to **DWL's multi-pronged approach to conservation and management**. Careful monitoring and manipulation of water levels, made via a network of water control structures in the ditch system surrounding the restoration site, has resulted in our holding an unprecedented amount of water, creating ideal conditions for Atlantic White-cedar and Baldcypress plantings. This **water also created ideal habitat for innumerable reptiles and amphibians, mammals, and birds and an increasing diversity of flora and fauna overall.**



Newly planted Atlantic White-cedar seedling.

In southern New Castle County, well-known as one of the most rapidly developing areas of Delaware, beautiful skies and the smell of freshly tilled soil greeted a hearty group of community members, three enthusiastic Boy Scout troops, and committed volunteers from the Appoquinimink Chapter of Ducks Unlimited. **Together, sharing meals, shovels, and stories, we planted 1,000 native trees and shrubs at Delaware Wild Lands' 430-acre Sharp Farm including Winterberry, Elderberry, Bayberry, and Red cedar.** These bushes and trees will provide critical sources of food, shelter, and habitat for songbirds, wild turkey, eagles, owls, deer, and the many other species that depend on the vitality of the Sharp Farm. Indeed, the good weather matched the productivity of the workforce that weekend. Following the planting volunteers worked through the weekend to enhance the natural grass habitat that serves as an important transitional zone and protective cover for wildlife travelling between farm fields and forests. A special thank you to the Fair Play Foundation and their contributions to protecting and restoring the unique character and diverse habitat of the Sharp Farm!

What's to come? Reforesting more acreage; collecting, germinating, and nourishing our own Baldcypress stock to plant throughout the wettest areas of the Swamp; and continued caretaking to ensure that forest and early successional habitat – and biodiversity – flourishes at the Sharp Farm, the Great Cypress Swamp, and across all of Delaware Wild Lands' properties.

The Swamp is home to a menagerie of frogs and toads including Carpenter frogs, Southern Leopard frogs, Fowler's toads, and Gray tree frogs, and green frogs like this.



Heron and egrets flying above the treeline of our Field 7 site are a common site.

Delaware Wild Lands' Eye in the Sky

New drone assists DWL's wetlands and forest restoration projects

Drones are the talk of the town lately -- for news reporting, questions about safety and privacy, advertising real estate, and more -- and all for good reason. The opportunity to see the landscape from the perspective of a soaring eagle is extraordinary!

Thanks to the generosity of a Board member, DWL joined the craze and purchased a DJI Inspire 1 quadcopter to capture aerial photographs for our newsletters and mailings and post scenic images and video on Facebook, Instagram, and Twitter. In the process we discovered **this technology is far more than just a promotional tool – it is helping increase the efficiency and effectiveness of our conservation and restoration efforts.**

This spring, using the drone, we used (almost) real-time aerial imagery to

determine the boundaries for our planting of 50,000 Atlantic White-cedar trees at the Great Cypress Swamp.

The planning and ground-truthing phase, needed for large-scale tree plantings at the Swamp, typically requires multiple days of staff time. **Using the drone, staff instead completed the task with two site visits:** one to fly the drone over the reforestation site and take pictures and another to flag the areas for planting.

To the north of the Great Cypress Swamp, in Kent County, lies DWL's Milford Neck Dead Woods wetland restoration project. Planning a restoration project in such a dynamic and rapidly changing coastal environment is challenging, particularly when the most current and publicly available aerial imagery is already two years old. **Footage of Milford Neck taken with our drone is helping us understand the paths of water flow and has given us a cost-effective way to acquire up-to-date imagery.**

You will see more from the drone as we integrate this imagery into our conservation and restoration projects across the state. In the meantime, find us on Facebook (facebook.com/delawarewildlands) and Instagram and **enjoy this unique perspective of the precious natural resources and landscapes protected by Delaware Wild Lands!**




A mosaic of forest and wetlands restoration projects in Sussex County.



DWL's 12-acre Betts Farm wetlands restoration project, looking west.



Spawning horseshoe crabs at DWL's Milford Neck property.



Looking north to DWL's 430-acre Sharp Farm property, with the Appoquinimink River to the east.

View brief videos clips of recent DWL projects taken from our new drone:

Betts Farm (New Castle County): <https://www.youtube.com/watch?v=SKftA3xFrr4>

Milford Neck (Kent County): <https://www.youtube.com/watch?v=39-YLdJA6CU>

Great Cypress Swamp (Sussex County): https://www.youtube.com/watch?v=tA0_1baUvYI

The American Kestrel at Risk

DWL Joins Partnership to Help Assess Local Populations

Article by Jonathan Schoolar

The population of American Kestrel (*Falco sparverius*) is declining across North America, with a total loss of perhaps 50% over the last 50 years. **Kestrel populations in the Mid-Atlantic region have been particularly hard hit and are down nearly 90% over the same period.** The culprits responsible for this loss are likely to include pesticide accumulation, loss of nesting and hunting habitat, and increased predation from growing predatory raptor populations; however more research is necessary.

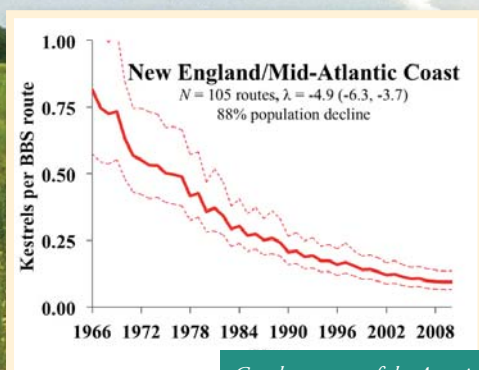
The Brandywine Zoo, in cooperation with the Peregrine Fund's American Kestrel Partnership, initiated a program to erect and monitor kestrel nest boxes across the state. The goals of this project are to **conduct primary research focusing on the presence (or absence) of kestrels across Delaware habitats, investigate the ecosystem features that support successful nesting sites, and increase the overall nesting opportunities for kestrels.**

Prior to the involvement of Brandywine Zoo there were no nest boxes for American kestrel being monitored in Delaware. **Delaware Wild Lands is pleased to join the Brandywine Zoo and American Kestrel Partnership by hosting kestrel nest boxes on our conserved land and participating in this citizen science research project.** Together we hope to fill a large gap in the Peregrine Fund's data about kestrels in the Eastern Flyway and determine how DWL can work to best support this declining species.



Volunteer Matthew Taormina erects kestrel nest boxes at DWL's Betts Farm.

Data collected as part of this citizen science project include nest location, habitat type, height and orientation of nest box, number of eggs laid, and fledged chicks, and will be logged into the American Kestrel Partnership's online database.



Graph courtesy of the American Kestrel Project.
<http://kestrel.peregrinefund.org>



Vital role of pollinators in agriculture and food production

DWL hosts resident bee colonies, nurtures milkweed plantings, and expands pollinator habitat

Article by Kendall Manning, DWL Intern

Populations of honeybees, and other critical pollinators, are still on the decline and are **raising concerns about the vitality of agricultural crops and food production for wildlife and bird species**. In Delaware alone, the decline of pollinators puts at risk agricultural production valued at \$1.283 billion. In addition, nearly half of Delaware's resident beehive colonies are also used to pollinate California's almond crops. Native grasses, berry bushes, and other vegetation that serve as food sources for birds and wildlife also need pollinators to thrive. Unfortunately, honeybees are not the only pollinators in peril. **Bats and butterflies also play a vital role in pollination and are plummeting in number and distribution.**



One of our Sharp Farm queen bees inspects her brood.

In Delaware specifically, the Delaware Division of Fish & Wildlife reports substantial mortality rates in three bat species: northern long-eared, little brown, and big brown bats.

Monarch butterflies, too, are facing threats to their population. This iconic butterfly species is battling a plethora of issues affecting their range and habitat, including deforestation, habitat loss, and widespread pesticides usage. Most importantly, though, **monarch butterflies have been affected by the die-off of their primary food source: milkweed**. The lack of food sources and forage for Monarchs is causing significant stress to the population worldwide.

To address these critical issues, **DWL has expanded the number of honeybee colonies residing on our properties, buffered our fields with a variety of flowering plants and food sources beneficial to pollinators, and planted more than 200 locally-sourced milkweed plants**. For more information on how you can help, visit www.monarchjointventure.org/get-involved/create-habitat-for-monarchs and batconservation.org/help/bat-houses.



Pollinator plantings line a field at DWL's Roman Fisher Farm.

Bat populations throughout the northeastern U.S. and Canada are on the decline because of a fungal disease called white-nose syndrome (WNS), which is characterized by a fungus that latches onto the skin of hibernating bats, grows, and, ultimately, kills them. Though inroads are being made to cure WNS, rapid spread of the fungus has almost completely wiped out several bat species, **resulting in more than a 90% decrease in the number of bats in some areas.**



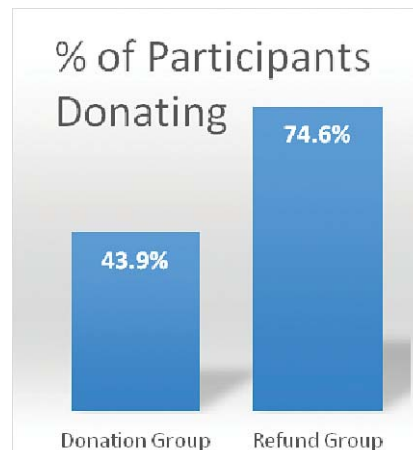
Forty-five minutes in the life of a Monarch caterpillar. Photos by Bob Bauer.

DWL and UD Advance Research about Economic Decision-Making

Using Behavioral Science to Increase Charitable Giving

Recent research from the University of Delaware shows making **one simple change can increase charitable donations by as much as 31%**. How? Change the status quo.

As part of their course requirements, 190 undergraduate students from Dr. Kent Messer's class attended a guest lecture given by Kate Hackett, DWL's Executive Director. Following the lecture, Dr. Messer explained to the students that, **as part of a research study, the students would have an opportunity to make a charitable donation to DWL** using the students' class earnings from earlier in the semester. Dr. Messer then divided the class into two groups. For half of the students, Dr. Messer gave each student their earnings in cash and then asked them how much, if any, they would like to donate to DWL.



These students (the "Donation Group") put the pledged amount of money in an envelope. Dr. Messer notified the other half of the students (the "Refund Group") that their money would be automatically donated to DWL unless they completed

a simple form requesting their money be refunded.

The results? **Students whose money was donated automatically and who had to request a "refund" were more likely to donate and donated a larger sum of money.** That is, approximately 75% of students in the Refund Group made a charitable gift to DWL and the average donation was \$3.71 per person, compared to the 44% of students in the Donation Group who made a charitable donation in the amount of \$2.03 per person.

This research shows that **a simple change in the status quo of charitable donations, or how charitable gifts are made, increased the percentage of givers and the average amount given.**

Delaware Wild Lands is pleased to partner with the University of Delaware's Center for Experimental & Applied Economics, advance knowledge about charitable giving, and be the beneficiary of the students' generosity!

UD student considers the amount of his charitable donation to DWL. Photo by Lindsay Yeager.

Sale of Custom Collector's Shotgun Advances Land Conservation in Delaware

Proceeds donated to DWL

Not all phone calls to our office deliver news like this:

"Hi, Kate. Grier Wakefield here from Artemis Outfitters. I just mailed Delaware Wild Lands two checks totaling \$9,500." Hearing a pause on the phone and recognizing the confusion, Grier continued, "A long-time supporter of Delaware Wild Lands asked me to sell a custom Perazzi 12-gauge shotgun on consignment and donate the proceeds to DWL. Inspired by his creativity and generosity -- and DWL's recent accomplishments -- I am donating my commission as well."

DWL sends out a hearty thank you to our anonymous donor and Artemis Outfitters for your ingenuity, generosity, and partnership! We are both grateful and enthusiastic about the unique character of the contribution.



This support will result in measurable improvements for conservation and will help **secure vibrant wetlands and wildlife habitat, clean air and pure water, and healthy farms and forests.**

Artemis Outfitters provides a full suite of services, ranging from appraisals and evaluations to estate sales and liquidations to cleaning, repair, and service. **We hope others will explore new ways, like this, to make lasting contributions to conservation without increased financial austerity.**

OUT AND ABOUT ON DELAWARE WILD LANDS' PROPERTIES





DELAWARE WILD LANDS NEWS

Delaware Wild Lands' Board of Directors:



Charles F. Gummey, Jr.

Delaware Wild Lands is wholly committed to the conservation and restoration of the natural features that define Delaware. The increasing diversity of plant and wildlife on DWL's properties is a testament to our accomplishments. We also recognize the real catalysts of our work: the people who make Delaware Wild Lands focused, effective, and successful. People like Charlie Gummey, whose hands-on pragmatic approach to conservation and his deep respect for people permeates the fabric and culture of our organization.

When Charlie enters a room, one quickly notes how his hallmark stature and smile fill the room. Beyond introductions, Charlie easily and deftly settles into the business at hand demonstrating his aptitude for finance, budgeting, conservation, strategic planning, and fundraising, all while bringing lightness and laughter to the table. For many years, Charlie has inspired Delaware Wild Lands to achieve aspirational results in conservation while maintaining a fundamental commitment to the staff and supporters who make our successes possible.

Charlie has not only advanced land conservation in Delaware and throughout the region, he also fosters sports and educational opportunities for at-risk youth and supports improvements to our urban and suburban environments and cultural amenities. He actively contributes to the work of numerous civic, cultural, conservation, and educational organizations that make the First State first rate. At Wilmington Trust, Charlie served as Executive Vice President in the Trust Department, helping others define and achieve their lifetime goals while making meaningful contributions to communities and causes around the globe.

Charlie has made many indelible contributions to Delaware Wild Lands and conservation through his passion and commitment to our state. Through his passion and commitment to community, empowering youth, and protecting and enhancing our natural resources, Charlie continues to make positive and lasting contributions to Delaware Wild Lands and our state from the ground we walk on every day to the hopes and dreams of the coming generations.

If a job needs to be done, whether it's getting the ball into the end zone or rallying the team, Charlie is the one to get it done. Charlie is an accomplished leader, a good listener, an enthusiastic supporter, reliable teammate, and most of all a valued part of Delaware Wild Lands' past and future.



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How to give a donation to DWL

Delaware Wild Lands relies on the support of those who are committed to achieving great conservation in the First State.

Please support the work of Delaware Wild Lands with a tax-deductible contribution. Contributions can be submitted using the PayPal link on our website (www.delawarewildlands.org) or by sending a check to our office (Delaware Wild Lands, P.O. Box 505, Odessa, DE 19730).

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