

SUMMER 2023

NEWS

Delaware **Wild Lands**



D E L A W A R E W I L D L A N D S . O R G

NOTES FROM

Kate Hackett

Delaware Wild Lands'
(Outgoing) Executive Director



Of the many places I have lived and visited, Delaware has a uniquely spectacular spring. The abundance of blossoming trees; fragrant flowers; sedges, grasses, and forbs; and diversity of flora is mesmerizing! How these foundational elements of our natural systems support the profusion of migrations and emerging wildlife makes each week in Delaware an interesting new adventure. It's a jubilant time for nature, full of wonder and discovery and great optimism and anticipation for what comes next.

This spring, at DWL, we are imbued with this same sense of optimism and anticipation as we welcome our incoming Executive Director, Marcia Fox. Marcia started at the end of May and is already making valuable contributions that are improving DWL's work and capacity. She is a Delawarean, knows our partners, and is familiar with the substantive elements, approach, and methodologies used in our conservation work. She brings to Delaware Wild Lands a lifelong commitment to conservation, pragmatic experience, and new ideas and energy. I invite each of you to get to know her and to stop by DWL's Main Office to meet her.

As I am wrapping up my time at DWL, I feel strongly that a Delaware spring is a sight to behold but is certainly not the only spectacular aspect of our great State and this region. Over the past six decades, beyond measure, Delaware Wild Lands, our staff, Board, supporters, and partners, have made an indelible and lasting impact on the landscape! By supporting and working with DWL, today and in years past, you have contributed to a legacy that will long outlast any of us.

Truly, it has been my privilege and honor to lead Delaware Wild Lands. From our inception, in 1961, to now, we have many achievements to boast about: protecting the ethereal beauty and ecology of the Trussum Pond complex, our battles with Shell Oil to protect forever the productivity of the Delaware bayshores and marshes, and successes working with Governor Peterson to pass the Delaware Coastal Zone Act of 1971 and then the Tidal Wetlands Act of 1973. More recently, DWL accelerated our rate of land protection, protecting more land in the past 10 years than the previous 20. We also worked with partners to protect 23,000 acres of wildlife habitat along the Delaware Bayshore from the Thousand Acre Marsh to Woodland Beach (New Castle County). We protect the nursery grounds and critical foraging areas for migratory birds, waterfowl, and horseshoe crabs at Milford Neck (Kent County). Our restoration efforts increased the biological diversity of the Great Cypress Swamp (Sussex County) by more than 124%; and we uncovered and witnessed, firsthand, the role the Great Cypress Swamp plays in supporting transcontinental bird migrations that can be greater than 3,000 miles in length. Looking inwardly, we more than doubled our number of donors, grew staff, and increased State and Federal grant funding.

None of this would be possible without you...and there is much work still to be done.

Read further for highlights of the work underway at DWL, and then join DWL in creating something that is much greater than any one of us can achieve alone.



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Cover Photo: Yellow-billed cuckoo in the Great Cypress Swamp (Sussex County, DE).



Greetings from DWL's Incoming Executive Director:

Marcia Fox

I am honored and humbled to join Delaware Wild Lands (DWL) and lead the organization in its new chapter. I bring over twenty years of experience in program management, partnership engagement, and policy analysis. Before joining DWL, I administered several programs related to water quality protection, drainage, and stormwater at the Delaware Department of Natural Resources and Environmental Control. I played a vital role in Delaware's efforts to clean up the Chesapeake Bay and most recently initiated two new programs focusing on riparian buffers

and backyard conservation. I've spent most of my career improving land management so that our living resources can survive and thrive.

As a native Delawarean, I understand the importance of conserving Delaware's natural habitats and creating a legacy for generations to come. I grew up fishing and recreating on our waterways. My childhood home abutted Blackbird State Forest and I spent time hiking the trails and watching the illustrious seasonal changes. In my career, I've combed the shores of our

bay beaches tagging horseshoe crabs, conducted bat research at Bombay Hook National Wildlife Refuge, and fostered numerous relationships to accelerate water quality progress. I currently reside in Dover and spend most of my time with my family, tending to my native plants, and enjoying the benefits of bringing the natural world home to my backyard and community.

Delaware is my home and that is why DWL's mission inspires me, and I plan to collaboratively work with all of you to continue these efforts.



RESTORATION

DWL's Armstrong Tree Planting: Then, Now, and Tomorrow

It is a great feeling to plant a tree, and as one plants a tree it is common to reflect on the future. What is often overlooked in this moment, however, is the years of stewardship required to ensure that tree survives. Three years ago, DWL planted 1,200 trees in marginal agricultural land at the headwaters of Augustine Creek on DWL's Armstrong tract. Today we continue to monitor and maintain these trees to ensure they are still here tomorrow.

Once a tree is planted, the next goal is to make sure that tree survives to maturity, and for some trees that can take 50 years! Trees may need protection depending on the site and the size and species planted. At Armstrong, DWL installed tree tubes on each tree to reduce mortality from herbivory and strong winds. Tree tubes provide protection and enhance growing conditions and may make other management methods easier (e.g., applying herbicide, mowing).

Another way to ensure survival is decreasing the amount of competitive vegetation within the tree planting site, including undesirable native and non-native species, that will compete for water, nutrients, sunlight, and space. This can be achieved by spot spraying herbicide or mechanical removal (e.g., mowing, cutting). DWL has used both techniques at Armstrong, removing common non-native invasive species

such as Autumn olive (*Elaeagnus umbellata*), Bradford pear (*Pyrus calleryana*), and Canada thistle (*Cirsium arvense*).

Three years later, DWL has performed maintenance and multiple survival and growth surveys on the trees at Armstrong. Today, approximately 85%

of the trees have survived, the tree tubes have been removed, and 15 green treefrogs and 12 native Carolina mantis egg cases have taken up residence. Local wildlife assessments have shown great success; however, we will continue to monitor and steward the site for many years to come.



Armstrong tree planting with tree tubes and recent maintenance in year one



Top: The removal of tree tubes in year three

Left: New Residents at the Armstrong tree planting site include a green treefrog and native Carolina mantis egg case (bottom)





Banding Together for Barn Owls

Jordan Brown, DNREC Division of Fish and Wildlife and Susan Eggert, Master Naturalist

Barn owls are a very distinct owl species, easily identified by their medium size, white and cinnamon grey plumage, heart-shaped face, and dark eyes. They have a raspy or screech-like call, a sound that might be akin to the cries in a horror film! Male barn owls are often smaller, showcasing more light-colored plumage than females, which display more cinnamon around their facial disks. These owls eat primarily small mammals (e.g., mice, bats, rabbits) but on occasion also take small birds (e.g., starlings, blackbirds). Barn owls nest in cavities such as tree hollows, snags, caves, barns, and sheds, and will also use constructed nest boxes. Egg-laying occurs most often in the spring, but has been documented during every month of the year.

In Delaware, barn owls are listed as a Species of Greatest Conservation Need, and our populations in Delaware have a “Vulnerable” status. Species decline is attributed to habitat loss, such as the change from agricultural fields and grasslands to urban and suburban development, which decreases the amount of suitable nesting sites and diminishes prey availability.

Delaware Wild Lands (DWL) recently partnered with the Delaware Department of Natural Resources and Environmental Control’s Division of Fish and Wildlife (Division) to expand available nesting for owls by building and installing four owl nest boxes on



Adult Barn owls (credit – DNREC DFW)



DWL properties in southern New Castle County. Since 1996, the Division has installed and monitored nest boxes, primarily on state and federal lands, to gather data on breeding populations within the state.

Susan Eggert, a Delaware Master Naturalist volunteering with DWL, constructed the nest boxes. "Constructing the boxes helped me expand my basic woodworking skills but what really motivated me to assist was knowing that their placement could provide needed habitat with the goal of increasing the barn owl population in Delaware." Eggert also expressed that being included as a member of the team beyond the construction meant that she could participate

in selecting appropriate sites for placement and installation. "Installing the boxes required a real collaborative approach. Some boxes were attached directly to buildings and others were mounted on posts. A combination of engineering and 'high-level' ladder skills came together to get all the boxes securely installed. By far the most satisfying aspect of the project was witnessing the seamless partnership between DWL and the Division and working beside the knowledgeable, dedicated staff members from each organization." The Division will monitor these nest boxes throughout the year, collecting data on breeding pairs and young through monitoring and banding efforts.



DWL and DNREC install a Barn owl box at DWL's Fortner Farm



Mutualism at Milford Neck

Hidden in the dunes at Milford Neck is a fascinating relationship between one plant and one insect. Commonly found in the dunes along the southern Delaware Bay and Atlantic coastlines grows the yucca plant (*Yucca filamentosa*). Other common names include Adam's needle and Spanish bayonet, describing its leaves as rigid, long, and of slender

appearance. Less frequently seen though is the yucca moth (genus *Tegeticula*) that is aptly named based on its mutualistic relationship with yucca, a relationship that is the key to survival for both species.

Without yucca, yucca moths would lose their food source. Without yucca moths, yucca would lose its only pollinator. After

mating in the spring, female yucca moths visit the large white flowers of yucca and prepare to lay their eggs. A female moth will visit many flowers in search of one that has not been used by another. When she finds one that is vacant, she will deposit pollen she carried from another flower, ensuring pollination and fertilization have been completed,



Yucca plants growing in the dunes at Milford Neck



Yucca moth (photo credit: National Wildlife Federation)

and then lay her eggs. When the eggs finally hatch, the larva (or caterpillar) will eat the recently developed yucca seeds. After filling up on yucca seeds, the yucca moth larva burrows into the soil to overwinter.

Though the yucca and yucca moth relationship is a classic and well-studied example of mutualism and coevolution, there are many other relationships happening at Milford Neck that are often unnoticed and perhaps underappreciated. For example, the relationship between spawning horseshoe crabs and migratory shorebirds. As various species of shorebirds migrate each year along the coasts of Delaware, they depend on the eggs of horseshoe crabs to refuel for their long journeys. Another example is the relationship between the tidal marsh and dune systems and the surrounding communities. These coastal features are our communities' first line of defense against storm surges, flooding, and erosion.

Delaware Wild Lands' (DWL) Milford Neck Preserve is a refuge full of captivating and exciting species, interactions, and resources. Since the late 1980s, DWL has protected nearly 3,500 acres of beach, tidal marsh, forest, and farmland at Milford Neck. Though it faces many threats, including rising sea levels and habitat degradation from trespassing and illegal activities, DWL continues to protect and enhance these natural areas through strategic restoration and management to safeguard Delaware's natural resources, including those seen and unseen.



Right: Large white flowers of Yucca



RESTORATION

The Hickman Farm: Strategic Restoration in an Important Wildlife Corridor

Since our inception in 1961, Delaware Wild Lands (DWL) has been dedicated not only to restoration and conservation, but also to traditional land uses such as forestry, agriculture, and hunting. As such, we never take lightly the decision to remove fields from agricultural production. The Hickman Farm is a 25-acre agricultural field on the western edge of our Great Cypress Swamp holdings and is nestled between the main stem of the Pocomoke River and Baldcypress Branch, one of four major tributaries of the Pocomoke River watershed. Despite its fertile black soils (characteristic of much of the land in and around the Swamp), farming here was not without its challenges, including crop damage from white-tailed deer. Considering both deer damage to crops and the potential benefit to water quality in the Upper Pocomoke, we decided it was time to restore high-quality habitat at this location.

The Hickman Farm is surrounded by woods and connected both to the Pocomoke River corridor and to the 10,800-acre Great Cypress Swamp. According to the Delaware Department of Natural Resources and Environmental Control's (DNREC) 303(d) list of impaired waters, several stream segments within the Pocomoke River watershed are impaired. Stressors to the watershed include non-point sources of pollution – like nitrogen and phosphorus

– that come from many different diffuse sources and can be difficult to manage. However, best management practices like wetland restoration slow the flow of pollutants and allow plants to absorb nutrients prior to entering waterbodies, like the Pocomoke River and Baldcypress Branch. Projects like wetland re-establishment on the Hickman Farm will return a former wetland to its natural, historic state, improving water quality downstream and ultimately the health of the Chesapeake Bay. In turn, these restored areas will provide critical habitats for fish, birds, mammals, and invertebrates, which help to sustain life and biodiversity in the Great Cypress Swamp.

Our restoration plans for the Hickman farm are two-fold: First, we will undertake a modest hydrological restoration project. This effort will entail sculpting out a shallow wetland impoundment, blocking off the existing drainage ditches which flow into the Pocomoke, and “rolling” the edges of

those ditches out into wide, shallow swales. These swales will serve two purposes, first, they will provide seasonal wetland and wet meadow habitat which will serve a diverse array of wetland-dependent plant and animal species, and second, they will act as fire breaks between sections of the farm where we intend to use controlled burns as part of our management regime. The second part of our restoration will involve a mix of reforestation and the creation of early successional and meadow habitats. For this part, we will plant more than 6,000 trees and shrubs and more than 12 acres of native meadow grasses and wildflowers. This project will be completed in partnership with DNREC using Environmental Protection Agency funds, awarded through a special Chesapeake Bay Infrastructure Investment and Jobs Act solicitation for wetland restoration projects. Funds are provided to DWL through a memorandum of agreement with DNREC to implement restoration practices for nitrogen load reductions.



Southeast aerial view of the Hickman Farm



RESEARCH/EDUCATION

Native Plant: Nodding Lady's Tresses (*Spiranthes cernua*)



Nodding Lady's Tresses Orchid in bloom at the Great Cypress Swamp

They may not look like you'd expect from a species in the Orchidaceae family, but Nodding Lady's Tresses are a Delaware-native species of Orchid. These perennial orchids typically bloom in late summer or early fall with a vertical row of white flowers forming a spiral around a central spike that can reach a height of nearly 2 feet. Each flower is about 1/3 of an inch in length and consists of 3 sepals and 3 translucent-white petals which can be almost crystalline in appearance. Nodding Lady's Tresses are pollinated by several common species of bumblebee but are also capable of self-fertilization. Plants spread slowly via rhizomes and form small colonies typically in bogs or wet fields with moist, acidic soils. Relatively common throughout the entire Eastern United States (and found as far West as Texas), we have found colonies of this orchid in and around several of our wetland restoration sites in the Great Cypress Swamp. They were first identified in the Swamp by Delaware Wild Lands staff in 2017.



RESTORATION

A snapshot from 60+ years of DWL's conservation work: Spruce Road Dam (1973)

The Spruce Road Dam structure was the first of many water control structures and ditch plugs installed at the Great Cypress Swamp by Delaware Wild Lands (DWL) after purchasing the property in 1973. The massive network of ditches, intended to drain the Swamp and make the land more "economically productive,"

predate DWL's ownership of the property, and show up in the 1936 aerial photos. The installation of this structure represents the beginning of DWL's decades-long hydrological restoration efforts, which include our Field 7 wetland restoration (started in 2011) and the Long Field restoration (started in 2020).



DWL's Peter Martin and Kim Carmine working on the Spruce Road Dam in the Great Cypress Swamp circa 1978



DWL WISHLIST

- **Leather work gloves, various sizes** (Stewardship)
- **Storage totes** (Stewardship & Outreach)
- **5-gallon fuel cans** (Stewardship)
- **64GB and 16MB SD Cards** (Stewardship, Research & Outreach)
- **Exterior screws, various lengths** (Stewardship & Research)
- **Drill bits, various types** (Stewardship & Research)
- **Batteries, AAA and AA** (Stewardship & Research)
- **Wheelbarrow** (Stewardship)



Habitat for... Wood Ducks?

The wood duck is one of the most spectacular and distinctive waterfowl species in North America. They are cavity nesting ducks, and prefer nest locations in tree cavities in bottomland hardwood forests. In the early 1900s, these beautiful ducks were on the brink of extinction due to over-hunting and habitat loss.

At Delaware Wild Lands (DWL), we have a long history of expanding nesting habitat for wood ducks beginning in 1988 when we installed over 250 wood duck nesting boxes at our Augustine Creek Complex. Our work has been ongoing ever since, installing,

maintaining, and monitoring even more wood duck nesting boxes. We have also teamed up with seven other states and the University of Delaware, Delaware Division of Fish and Wildlife, and Nemours Wildlife Foundation to advance and expand research about wood duck nesting habitat and document wood duck nesting behavior.

Today we can report that the population of wood ducks is healthy and that creating habitat works – even in ways we did not initially anticipate. Wood ducks are not the only ones who love wood duck boxes!



American kestrel



Honeybee hive



Eastern screech owlets



White-footed field mice



Hooded merganser



Eastern screech owl



RESEARCH/EDUCATION

Out and About on DWL's Properties



Blue crab



Great horned owl



Groundhog



Bald eagle



Marbled salamander



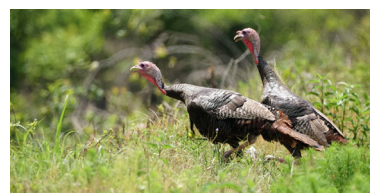
American lady



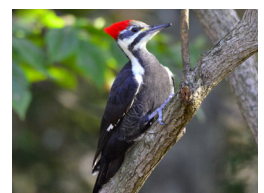
Juvenile wood ducks



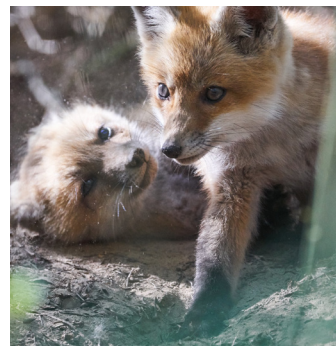
Great blue heron



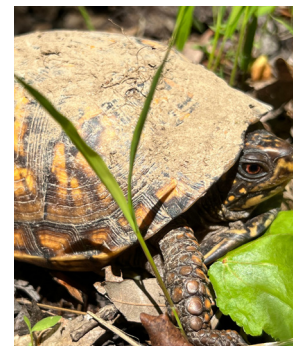
Wild turkey



Pileated woodpecker



Red fox kits



Eastern box turtle



PARTNERSHIP

Delaware Wild Lands' Board of Directors: Rick Fischer



A lifelong Delawarean, Rick Fischer grew up among the splendor of the First State's natural resources. At an early age, he developed a deep appreciation for the lands, waters, saltmarshes, and forests of southern Delaware. He experienced the beauty and productivity of these resources as a hunter, fisherman, businessman, pilot, real estate consultant, and United State Coast Guard Master. One might say, Rick had a view of it all, literally and figuratively. Notably, Rick understands well the interconnectedness of Delaware's communities and natural resources and how Delaware's natural and human communities can work together and complement each other. This perspective is important at DWL as we seek to work with landowners and our broad community to protect Delaware's natural heritage and important lands and waters throughout the State. It is through this lens Rick reliably brings to DWL thoughtful insights and guidance related to DWL's

purpose, strategic vision, finances, and organizational priorities to keep Delaware Wild Lands accountable and focused.

As a teenager, Rick hunted lands at Milford Neck that were eventually purchased by DWL so he is very familiar with and supportive of the value DWL places on preserving traditional uses of the land. Like DWL, Rick places a high priority on investing in initiatives and efforts that yield tangible results. A lifetime of on-the-ground perspective, combined with his tenure on DWL's Board of Directors, has helped facilitate and expand DWL's impact-driven work with particular emphasis on and consideration of DWL's land acquisition projects. He is a strong proponent of protecting the most critical habitat and natural resources while recognizing the need for facilitating development in and around already developed areas. Rick has great respect for tradition and preserving the reputation, history, and cultural legacy of Delaware and also welcomes the application of new ideas and science that can enhance DWL operations and increase the effectiveness of DWL's conservation and restoration work. He is an ardent supporter of philanthropic efficiency and efficacy in operations...and sees these as critically important characteristics of DWL's work. No doubt DWL's work is made stronger, more effective, more strategic, and more efficient because of Rick's involvement in and leadership of Delaware Wild Lands.

Rick lives in Lewes with his wife, Kim. When he is not in the DWL Board Room or serving on committees, Rick can be found offshore with a fishing rod at the ready.

3 easy ways to contribute

1/ Monetary Donation: In addition to accepting cash donations and Donor Advised Funds, DWL accepts the transfer of marketable securities [Mutual Funds, Stocks, Bonds, and Exchange Traded Funds (ETFs)]. These types of donations may qualify for a tax deduction.

2/ Planned Giving: Did you know you can name DWL as a beneficiary of your life insurance policy or include us in your will? It can be as easy as a phone call to your insurance carrier or attorney.

3/ Real Estate: DWL loves landscapes...so we are always pleased to accept donations of land! With permission from donors, we also accept donations of boats, buildings, and other assets, that can be sold and then use the proceeds to further DWL's conservation mission.

We encourage you to contact your financial advisor, estate attorney, or tax consultant to discuss how these transactions can benefit you. DWL also has staff and advisors available to help you and answer questions. For more information, contact Marcia Fox, DWL Executive Director, at 302-378-2736 or mfox@dewildlands.org.

FALL 2022

NEWS

Delaware
Wild Lands



**It's never
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learn about
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