NEW YORK STATE
CONSERVATIONIST
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AUGUST/SEPTEMBER 2020



SUPER SNIFFER to Fight Invasives

Strides through an Urban Trail

Summer Sights
Damselflies and Dragonflies

Is a Tree in Your Future?
How to Plant it Right



Dear Readers,

Two-thousand-and-twenty has been one of the most challenging years many of us have ever experienced. While New York continues to successfully navigate our response to the COVID-19 pandemic, much of the country is experiencing record-breaking environmental and health threats, including wildfires (California), severe storms and hurricanes (Gulf Coast states), and increasing coronavirus caseloads (Sun Belt and now the Midwest). For all of these reasons and more, this summer New Yorkers are getting outside to enjoy our state's abundant natural resources in record numbers.

As we move into fall, many people are able to enjoy their favorite sights and sounds of the season. Whatever your favorites, in this issue of the *Conservationist* you can learn more about some of New York's pollinators and the important roles they play in agriculture and in our ecosystems (pg. 2). You can also read about dragonflies and damselflies (pg. 15) and enjoy a beautifully illustrated pull-out that depicts these marvelous insects.

The brilliant colors of the monarch butterfly make it one of the most iconic insects of New York. Learn more about this familiar butterfly (pg. 22) and its metamorphosis from a caterpillar to adult.

Habitat loss is the biggest threat to wildlife, worldwide, and DEC continues to lead efforts in protecting New York's vital natural resources. Discover how you can help by simply planting native vegetation, and how to successfully plant a tree (pg. 19). This article also highlights some of the important benefits a tree can provide.

Another threat to New York's wildlife and ecosystems is non-native, invasive species. Check out the article on an innovative technique to locate and eradicate invasive species using man's best friend (pg. 6). You can also read about a Wildlife Management Area (WMA) located in Genesee, Niagara, Orleans, and Erie counties (pg. 26) that is a popular destination for the outdoor enthusiast and an important migratory stopover for waterfowl and other wetland-dependent birds. DEC manages this WMA to provide habitat for several threatened and important wildlife species.

In addition, you might be inspired by a greenway trail that has transformed and revitalized a community (pg. 10). The trail, which features native trees and shrubs to nurture pollinators and wildlife, provides access to nature, while inspiring community values.

At DEC, we continue our efforts to help address the historic and often disproportionate burden of environmental pollution borne by low-income communities and communities of color. On page 24, you'll learn about DEC's Environmental Justice Program and how community impact grants will assist groups working on these issues in communities across New York State.

As summer transitions to fall, I encourage all New Yorkers to Play Smart • Play Safe • Play Local. I hope you will have opportunities to explore and enjoy New York's spectacular outdoors, but please do so in a manner that ensures safety is your top priority. And also remember to be a strong steward of the outdoors and take steps to protect and preserve the areas you visit, so we all can enjoy the beauty and opportunities nature provides.

Sincerely,
Basil Seggos, Commissioner

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Participants in Rochester's annual Walk @ El Camino



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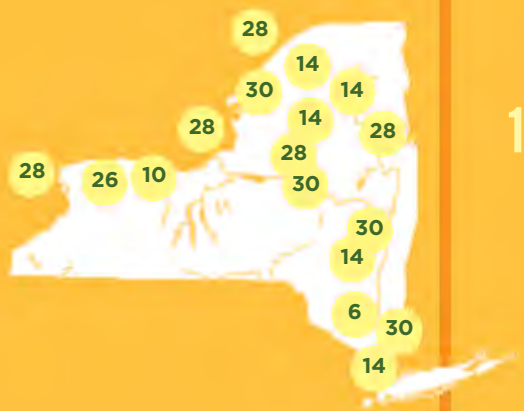
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Backyard Pollinators

Going Native and Providing a Haven

BY MOLLY JACOBSON;
PHOTOS BY AUTHOR

When the weather warms up, many of us notice bees visiting the dandelions on our lawns or orchard apple blossoms. Some are familiar honeybees, while others are massive, fuzzy bumblebee queens. Many are less recognizable, a flurry of blue, red, or even bright green gathering nectar and pollen with little time to lose. New York has more than 400 species of wild bees, and a great number of them could be found right in our own backyards, if we invite them.

Pollinators play a vital role in our ecosystems, transferring pollen from one flower to another, thereby helping the vast majority of our plants to reproduce. This creates an abundance of vegetation, seeds, nuts, fruits, and habitat for larger wildlife. They are also indispensable for agriculture, pollinating almost all our produce (making delicacies like coffee and chocolate possible) and much of the forage for grazing livestock.

Honey bee

Bees—Excellent Pollinators

Pollinators come in many forms, from bats in desert areas and hummingbirds in the tropics, to primarily insects here in temperate regions. Bees, wasps, flies, beetles, butterflies, and moths all contribute to pollination, but out of all of those, bees do it best. They have dense, branched hair on their bodies that allows them to collect pollen more effectively than any other insect.

When bees are mentioned as pollinators, most of us likely picture the classic honeybee meandering from flower to flower. However, honeybees (*Apis mellifera*) are relative newcomers, brought to North America by European colonists some 400 years ago. This is important because our wildflowers rely on special relationships they've forged with wild, *native* bees over millions of years. All of New York's bees—mason bees, bumblebees, digger bees, mining bees, and many others—have an ecological role to play in making our wilderness diverse and healthy. We are finding that native bees can be excellent at pollinating crops too, with some even more efficient than honeybees.

The life of a native bee is quite different than that of a honeybee. Honeybees are more of an exception than the rule, with large hives, workers and queens, and a focus on the production of honey. But only about 10 percent of native bees are social, where multiple females (usually a mother and her female offspring) raise young bees cooperatively. Out of those, a scant few have sizable colonies, such as worker caste bumblebees. The majority of bee species—three-quarters—are solitary, where a single female builds a nest and gathers food, in the form of loaves of compacted pollen, for her young.

Most solitary bees nest in the ground, digging multi-chambered burrows in loose soil. Many species prefer sandy areas, and aggregations of nesting bees are common sights on hiking trails, stream banks, and along powerline rights-of-way. Other bees nest in cavities; some use pre-existing crevices, like woodpecker holes, while others chew a tunnel in the pith of dead plant stems. The remainder of bees are the strange and wonderful cuckoo bees, known as kleptoparasites. They make no nest at all, instead they sneak into the nest of another bee and lay their eggs there. The young then eat the pollen meant for the host's larvae. Cuckoo bees are not as hairy and are often striped or brightly colored, making them easily mistaken for wasps. But they visit flowers and are important native pollinators.

Our wildflowers rely on special relationships they've forged with wild, native bees over millions of years. All of New York's bees…have an ecological role to play in making our wilderness diverse and healthy.

Bees must collect pollen to feed their brood, and the complex, sometimes highly specialized relationships they have with native plants to get pollen seems almost magical. Most wild bees are generalists to some degree, meaning they are equipped to visit flowers of different shapes and sizes. Social bees, like bumblebees, have to be generalists to gather enough food to feed their colony.

Some bees, however, are specialists. They have coevolved with specific plants that has created a close interdependence between bee and plant. Specialists only visit certain flowers, like the aster family, or even a single flower species in the most extreme cases. In New York, there are a number of specialists that visit particular plants like willows, blueberries, and goldenrods, as well as many woodland flowers. These choosy bees can only be found when and where their host plant is in bloom, and they need native plants, making them unlikely visitors to most suburban backyards. Yet they are critical for biodiversity, and together with generalists they ensure that every flower gets pollinated.



A nomad cuckoo bee.



Future for Pollinating Bees

While wild plants rely on native bees, the reverse is also true. Without a diversity of native wildflowers to meet the needs of every bee, pollinators can start to disappear, which has negative consequences for ecosystems and agriculture. Since the arrival of European colonists, the face of North America has changed drastically—nearly half of the land area is now used for high-intensity agriculture, like corn and soybeans, and a portion of the rest has been affected by urban development. Most bees cannot survive in these environments, as they do not provide the abundance of food for generalists, nor the diversity of food for specialists.

Those few pollinators that we often see in our gardens are the rugged survivors; only a handful of species that can quickly adapt to human presence are able to persist. Within the past 30 years, populations of several once-common bumblebees found here in New York have declined sharply, including the yellow-banded bumblebee (*Bombus terricola*) and the yellow bumblebee (*Bombus fervidus*). In 2017, the rusty patched bumblebee (*Bombus affinis*) was added to the federal endangered species list, and more bee species are likely to follow suit in our lifetimes. Still, not enough information exists to know if other native bees are declining at the same rate, making it difficult to protect them effectively.

More and more, studies are showing that we need a diverse landscape to support our native bees. This means more than just lawns, fields, and meadows; other ecosystems like woodlands, marshes, bogs, shrubby thickets, and alpine tundra all have their place for pollinators. Some bees move across the landscape to find new blooms, from forests when snow still blankets the ground in early spring, to wetlands when all else has withered in mid-fall. In addition, many bees (such as sweat bees) may nest in logs on the forest floor, then forage in an adjacent meadow. Each one of these habitats will host specialists of their own, too. National Wildlife Refuges, state forests and parks, wildlife management areas, and other protected lands here in New York that preserve or restore wildlife habitat also provide critical sanctuary for wild bees by hosting the diversity of plants they need. But pollinators make a huge difference, right in their own backyards.

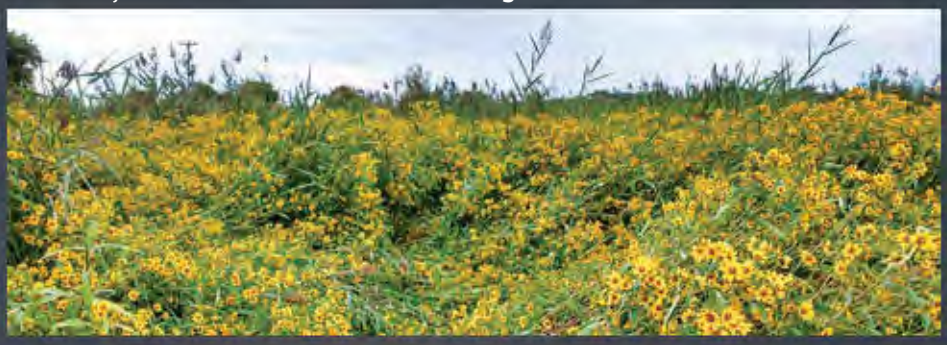
Helping Pollinators

Habitat loss is the biggest threat to wildlife and pollinators, worldwide. One of the easiest and most important things we can do to help our native bees is to simply choose native plants. Whether you have a hundred acres, ten, or less than one, gardening and landscaping with native plants, instead of ornamental (non-native) ones, will make your land a safe haven for pollinators. Turfgrass lawns offer little to no resources for native insects, with detrimental effects across the food web for wildlife, like birds and mammals. Replacing an infrequently used portion of your lawn with native grasses, flowers, shrubs, or trees will greatly enhance its ability to support biodiversity. Plus, it will make your yard more unique and interesting year-round!

Whether you have a hundred acres, ten, or less than one, gardening and landscaping with native plants, instead of ornamental (non-native) ones, will make your land a safe haven for pollinators.

Sweat bee (*Agapostemon texanus*)

In the fall, wetlands come alive with a dazzling show of color.



Perennials like milkweed, bee balm, coneflowers, and asters attract an abundance of bees. So do flowering shrubs and trees, like willows, native viburnums (e.g., arrowwood or nannyberry), dogwoods, and cherries. Choose a variety of plants that bloom at different times of the year, so bees will always have resources. In addition, native plants are hosts for larval butterflies and moths—monarch butterfly caterpillars, for example, only eat milkweed. Native plants need little maintenance, since they are adapted to our climate and conditions, and will help you reduce or eliminate the amount of fertilizers and pesticides you may be using in your yard.

You can also provide nesting habitat for bees by leaving patches of bare, uncompacted earth, cutting dead stems in mid-spring so bees can access them, and allowing logs, rocks, and snags to remain on your property. Bee hotels, which can be handmade or store-bought, offer another alternative if you do not have much land. Lastly, leaving some leaf litter provides overwintering habitat for many insects, including queen bumblebees.

Restoring small patches of habitat in our yards is just as important as big tracts of conservation land. The goal is to restore a diverse landscape bit by bit, with each backyard becoming connected to the larger whole and forming corridors of intact habitat for all native wildlife to live in or pass through safely. The more people embrace our native bees, the more habitat we will create together.

So spread the word—native pollinators need us, and we have the power to help.

Molly Jacobson is a student working on her Master's degree in conservation biology at SUNY College of Environmental Science and Forestry in Syracuse.

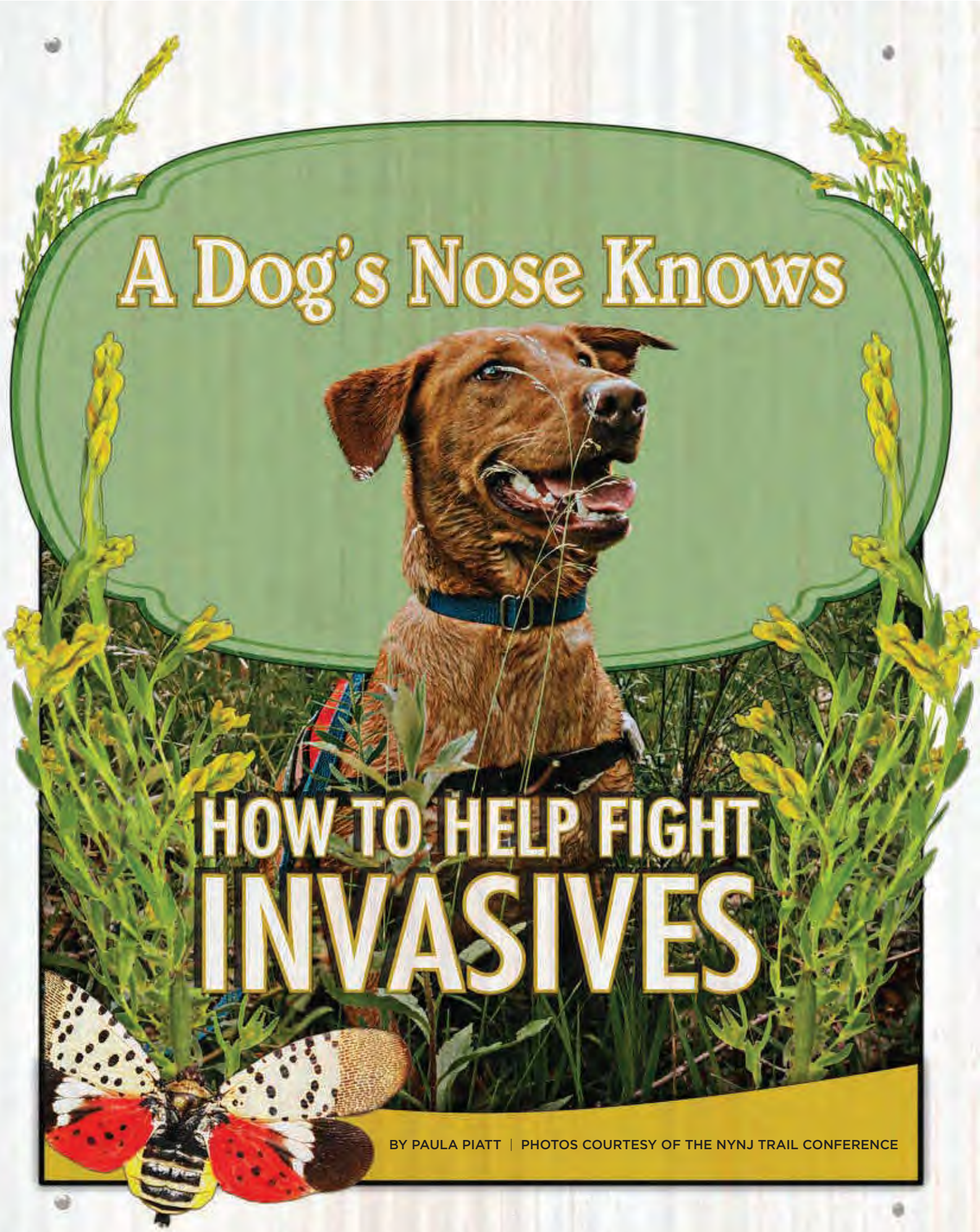
NYS—Protecting Pollinators

In 2015, Governor Cuomo created a Pollinator Task Force to develop a plan to help the pollinators in New York State. In addition to the benefits to native wildlife and the overall health of the environment, pollinators are also important to agriculture. The Task Force released the New York State Pollinator Protection Plan in 2016 with recommendations of how everyone, from State agencies to businesses and individual citizens, can help pollinators survive and thrive. You can view the plan at: **www.dec.ny.gov/docs/administration_pdf/nyspollinatorplan.pdf**.



Small carpenter bee

A Dog's Nose Knows



HOW TO HELP FIGHT INVASIVES

BY PAULA PIATT | PHOTOS COURTESY OF THE NYNJ TRAIL CONFERENCE

Quietly. Slowly. I'm absolutely sure I haven't made a sound. It's out of the wrapper—a cheese stick—ready to snack on. I'm sure I'm alone to just savor the moment, but then I feel them—two eyes, staring, pleading.

From one floor and three rooms away, Finn magically appears. "Aren't you gonna share?" she seems to ask, with those dreamy eyes.

Sound familiar? If you've got a dog, well then, you know. Just like Finn knows, or at least her nose knows. And we've been putting those noses to good use for quite some time—using them to sniff out illegal drugs, explosives, missing people, and cancer.

Now, it's conservation's turn.

Invasive species that harm our environment continue their march across the landscape, and New York is particularly vulnerable in the lower Hudson Valley, as goods from across the globe arrive in the region. Unwanted hitchhikers—invasive plants, insects, microorganisms—come with them in shipping crates, on palettes, in a ship's ballast water, and even on the shoes of visitors.

And, as any conservationist will tell you, they stink. Dia thinks so, too. The two-and-a-half year-old Labrador retriever is the newest line of defense in the New York-New Jersey Trail Conference's fight against invasive species.

The nonprofit is the host organization for the Lower Hudson PRISM (Partnerships for Regional Invasive Species Management), one of eight PRISMs that encompass all of New York. This work complements their efforts to build, maintain, and protect trails, and includes more than 2,000 volunteers that help maintain a network in excess of 2,150 miles. PRISMs are funded by the Environmental Protection Fund, in direct contract with DEC.

"We know that the sooner you can detect and deal with invasives, the more likely you are to be successful," said Linda Rohleder, director of land stewardship for the trail conference and coordinator for the Lower Hudson PRISM. "The dogs help us find things earlier and be more thorough with our removals."



Dia searches railroad tracks for the invasive spotted lanternfly.

Dia and handler Joshua Beese now patrol the Lower Hudson region—primarily Harriman and Bear Mountain state parks. With 52,000 acres and over 200 miles of trails, it's a lot to cover. Conference volunteers and crews search for and remove the obvious invaders. Dia then comes through and sniffs out what they've missed.

"We go through, thinking an area is clear and she'll find something that is smaller than what we can see or it's hiding under a bush; she's even found invasive plants that are outside the search area," says Beese. The potential of her impact was evident with her first search—34 sites in a 31-acre area. It had already been scoured by the early detection rapid response team and a number of plants were pulled. Taking about 90 minutes per acre, Dia turned up more than 1,200 plants missed by the human search.

Her current targets include Scotch broom, an aggressive perennial shrub that displaces natives, leading to the loss of grassland and open forest habitat. Additionally, its flowers and seeds are toxic. It was Dia's first detection test, chosen because it's an evergreen plant. With training starting in October, they needed an invasive that Beese could identify himself to make sure Dia was indicating the correct plant.

Dia can also detect slender false brome, a grass that outcompetes existing vegetation and can prevent tree seedling establishment. According to Rohleder, this species was chosen, in part, because it is so hard to find.

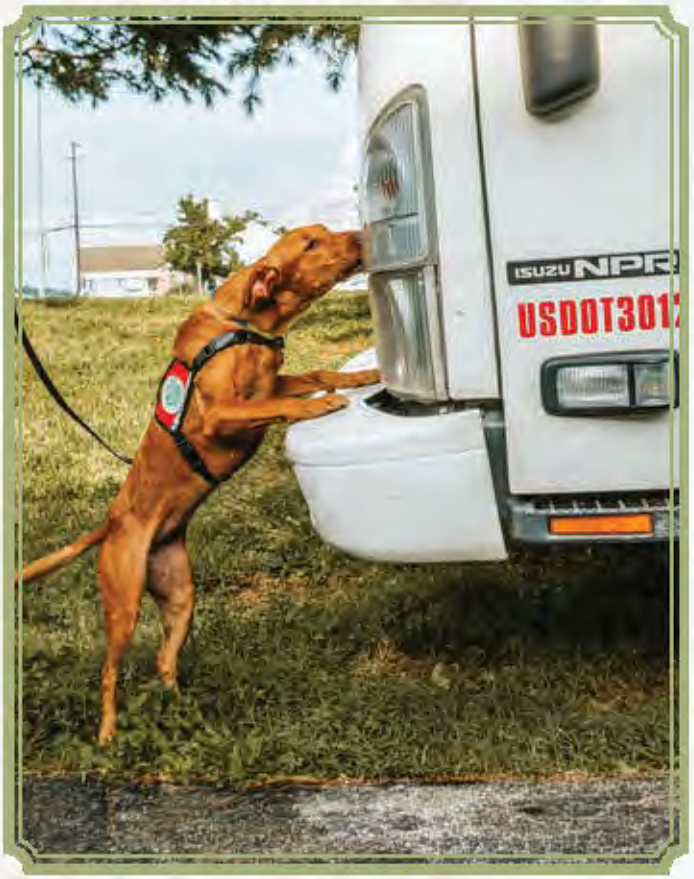
"Our crews were having a lot of difficulty with this one," she said. "Even if you're fairly good at identifying plants, grasses can be your downfall. We weren't sure that the dog could do this, but she does just fine. She can distinguish this grass from other grasses."

In a 12-acre site, Dia turned up almost 1,000 plants, including a small clump 300 feet off the trail. During training in Letchworth State Park, she found a site that searchers didn't even know was there.

Just what is it about these dogs, and how do you go from being a simple canine companion to a super sniffer?



Dia earns a reward.



Dia in a "new" search area with her transportation.

"The key is called play drive," said Beese, who came to the trail conference with a background in emergency search-and-rescue, having worked with the Federal Emergency Management Agency (FEMA) and the New Jersey Task Force One Urban Search and Rescue. "Essentially, it's a complete obsession with the toys, and the desire to keep playing with the toy and the handler endlessly," he said.

Add to that some athleticism—conservation dogs need the endurance for field work—and a work ethic that won't quit. There can't be a second thought of heading into a tangle of high grass and brambles.

"The woods are a dream for Dia. She doesn't stop and her agility is absolutely incredible," he says of the Wisconsin Lab initially bred for hunting field trials.

She was 11 months old when she came east with Beese in August 2018. She spent about a month bonding and mastering basic obedience, and then they traveled out west for some training with Working Dogs For Conservation, a Montana nonprofit.

"This work is a lot different than the search-and-rescue work I was doing," Beese says of the training. "It gave me a chance to see what these dogs could do. There were a lot of new skills I had to acquire."

As extraordinary as this skill seems, the training is actually as simple as putting the scent between the dog and its toy. Samples of the plant are placed in small boxes and the dog is rewarded when it sniffs out the correct scent. With a nose that is reportedly 10,000 to 100,000 times more acute than ours, it's really not about the smells.

"There's a guideline out there that dogs can learn about three scents a year, but it's more about teaching all of those scenarios that go around the scents; it can't just be that they can just find the scent in the box," said Beese.

Case in point is the third invasive in Dia's nosy repertoire—the spotted lanternfly. An invasive from Asia first detected in neighboring Pennsylvania in 2014, it primarily feeds on the Tree of Heaven, but has also moved on to grapes, hops, maple, walnut, and fruit trees. And it can hide anywhere.

"If you're training out in the woods, you can't just bring the dog to a car and tell them to search. You have to teach those skills," said Beese. "Now, instead of searching the ground for invasives, I had to teach the dogs to extend their body up the trunk of a tree. We also were searching train cars and finding the invasives hiding under the rails, so you have to teach the dogs to run their noses all the way along the rail."



Dia wearing RexSpecs to protect her eyes from contact with potentially harmful plants.



Dia with her handler, Joshua Beese.

Soon after, the team was asked to participate in roadside vehicle inspections with DEC, New York State Department of Agriculture and Markets, and the State Department of Transportation. It was a great time for Beese to add his Belgian Malinois, Fagen, to the team. Trained for search-and-rescue in a more urban environment, it was just a matter of tweaking his indication response from a bark to a sit.

Rohleder is energized by the work of the dogs. While the PRISM has had an invasives stewardship program since 2011, the introduction of Dia and Fagen promises to be a game changer. "This is just going to increase our effectiveness and efficiency," she said.

Both dogs are now training on oak wilt, a fungus that attacks all oak trees, but is especially deadly for red oaks, killing the trees in less than six months.

"One of the other great things about the Conservation Dogs program is involving the dogs in education and outreach," said Rohleder. "The dogs allow us to engage new audiences and introduce the concept of invasive species in a memorable way."

Because who doesn't like dogs? Even with those two, staring eyes.

Paula Piatt is a freelance writer from Pennsylvania with a soft spot for dogs, especially her own Labrador retriever, Finn. An advocate for the outdoors, she enjoys hunting, fishing and introducing others to nature.

PRISMs for Protection

The fight to prevent and control invasive species in New York requires a coordinated, collaborative effort. DEC is helping lead that effort through PRISMs (Partnerships for Regional Invasive Species Management), bringing a variety of partners together to combat invasives. These organizations include resource managers and users, non-government organizations, industry experts, concerned citizens, and other state agencies. Collaboratively, the PRISMs plan invasive species management activities, develop early detection and rapid response capabilities, implement eradication efforts, support research, promote education, and more. Volunteers—and, of course, dogs—are a crucial tool to help achieve these goals.

Current PRISMs include: the Adirondack Park Invasive Plant Program, the Capital Mohawk PRISM, Catskill Regional Invasive Species Partnership, Finger Lakes PRISM, Long Island Invasive Species Management Area, Lower Hudson PRISM, St. Lawrence-Eastern Lake Ontario PRISM, and Western New York PRISM. To learn more about New York's PRISMs, visit: **www.dec.ny.gov/animals/47433.html**.







STRIDES THROUGH AN

Urban Trail

BY MELISSA CORCORAN HOPKINS | PHOTOS COURTESY GENESEE LAND TRUST

How do you transform abandoned city lots into a community resource?

Create a nature trail.

In a win for the environment and residents of Rochester, a 2.25-mile greenway trail has transformed and revitalized formerly abandoned lots into a community treasure. Thanks to The Thomas R. Frey Trail at El Camino, and the community action that it inspires, families now have a place to meet and kids have a place to play. Like its medieval European namesake, El Camino de Santiago, this multi-use trail is a pilgrimage of hope and renewal.

Rochester has joined the country's rails-to-trails movement, giving more city dwellers access to nature by converting an abandoned freight railbed, in the City's northeast quadrant, into an accessible, public trail. The northbound trail runs east of the Genesee River and connects urban neighborhoods to the river. It begins just north of the 90-foot High Falls and returns to the river and the Riverway Trail at Seneca Park, with links to other trail systems being developed.

For each of the past six years, on National Trails Day in June, Rochesterians of all ages turn out for the 5K Walk @ El Camino. This rite of spring showcases the successes the community shares and the challenges it faces. The trail inspires everyone: kids pedal in trike and bike clubs; families hike; seniors stroll; residents share community gardens; native trees and shrubs nurture pollinators and wildlife; and youth and college students groom the trail. Along the way, the trail tells a story. In a 2013 Wall/Therapy project, artists painted murals on commercial buildings and a faux festive carpet on the footbridge crossing Route 104. In these murals and on the pavement, multi-lingual, inspirational quotations encourage travelers on the path.

June 2019 was my third year walking the El Camino 5K. Each time, I meet more change agents shaping the El Camino story. At the front check-in table this year, friendly teens helped me register and I picked up flyers about Foodlink and Healthi Kids, two community programs that support healthy living. Then I approached the trailhead where folks were waiting for the 5K to begin. We all wore our El Camino t-shirts, covered with the sponsors' logos (Genesee Land Trust, Project HOPE, Conkey Cruisers, City of Rochester, Ibero-American Development Corporation).





Change Agent, officer Moses E. Robinson



The El Camino trail was rededicated to Thomas R. Frey for his commitment to neighborhood revitalization.

As I sat down on a rock nearby to pin on my registration number, a police officer with a solid frame and steady gaze strode over and introduced himself. "Hello, I'm Moses," he said, as he reached out his hand and led me through a five-step handshake. Officer Moses E. Robinson gave me his card, which featured his photo and focus: EQ, Emotional Intelligence, working with youth, corrections, and school safety.

A petite lady in a white jean jacket introduced herself as Hilda Rosario Escher. She pointed to the modest, but sturdy building next door, with the word HOPE painted in huge letters on the side. She explained that when her family moved to Rochester from Puerto Rico, she learned English there at the Ibero-American Action League (IBERO), and then stayed on to coordinate the bi-lingual program. She continued to take on projects and ultimately stayed for 40 years—12 years as its CEO.

The Ibero-American Development Corporation (IADC) builds and manages commercial and residential property, with state, federal, and foundation grants. While the trail was in its planning process, IADC acquired abandoned lots in the neighborhood and built 50 new affordable-housing units, called El Camino Estates. Hilda recalls how community needs have emerged, "Kids used to play in the IBERO parking lot; they needed a park!"

Genesee Land Trust (GLT) staff, volunteers, and partners manage the logistics of the Walk. GLT is a partnership powerhouse—a non-profit conservation organization that is supported by contributions from community members and the Rochester Community Area Foundation. GLT is ever scouting for land and waterways to preserve, like this location.

Thomas R. Frey is a former board member of GLT, and was key in creating the El Camino trail. As a retired Monroe County Executive, businessman, and conservationist, he advocated for change wherever he saw a need. In 2000, GLT embarked on unexplored territory for the local land conservation organization, acting as a catalyst to create a greenway trail—A ribbon of green—brightening the urban landscape.

Tom Frey and Gay Mills (GLT's Executive Director) worked with neighborhood stakeholders to create support for the trail. Over 12 years, GLT galvanized a collaborative team to reach three community milestones. First, it worked with neighborhood partners, city departments, and state and federal legislators to secure federal funding for Rochester to convert the abandoned rail corridor into a city park trail, which ultimately opened in 2012.

Second, GLT secured a grant to make a gateway to the trail. In 2008, working with neighborhood block clubs, schools, and a local business, they built Conkey Corner Park. Named for Conkey Avenue, the park anchors the trail and community activity.

In 2010, the partners achieved a third milestone when they built a state-of-the-art playground. They worked with IADC's newly-formed Project HOPE to build a playground surfaced with mulch, planted with bulbs and native flowering trees, and framed by hardscape benches, aided by grants from the Greater Rochester Health Foundation and Rochester Garden Club. GLT and IADC help the City and residents to maintain the playground, a place where local kids can enjoy the outdoors in a safe environment.



Kids now have a place to play—local children enjoy the state-of-the-art playground maintained by the cty and residents.



The multi-use trail inspires everyone: kids peddle in trike and bike clubs; families hike; and seniors stroll.

The trail, park, and playground are assets that continue to generate momentum. In 2012, after construction of El Camino was completed and the trail was ready to open, local resident and nurse Theresa Bowick rallied people of all ages to live a healthy and active lifestyle. She started a local bike club, El Camino Conkey Cruisers, with donated bikes. In 2016, Project HOPE of IADC produced an El Camino neighborhood revitalization plan, with the Rochester Community Design Center, GLT, and Conkey Cruisers. The action plan calls for programs to build healthy lifestyles and relationships. DEC provided support for stewardship and programming of the trail via two NYS Conservation Partnership Program grants in 2012 and 2015 totaling $53,000.

In 2017, the El Camino community rededicated the trail to Tom Frey posthumously, for his commitment to the neighborhood's revitalization. That same year, AmeriCorps awarded GLT a crew from the National Civilian Community Corps to provide a month of maintenance to the trail and park, in honor of Tom Frey.

At 9:00 a.m., the Walk began. TV cameras captured representatives from the neighborhood, city, county, and state, all there to celebrate the El Camino Walk and community strides. Dozens of kids ran with their arms outstretched to break the starting-line paper banner. Behind them, friends and families set their own pace with strollers, scooters, walking sticks, and canes. Police officers on horseback and bikes escorted us.

The trail is lined with flowering wonders, including blooming fringe trees, pink catalpa, serviceberry, phlox, and columbine. Urban box gardens contained fragile sprouts, where expectant markers forecasted the growth of collards, garlic, onion, and tomato. From previous visits, I know that the trail provides easy access to Conkey Corner Park, Seneca Park, and the Genesee Riverway Trail, which expands a visitor's ability to explore the area, including the option to cross the Genesee River over a spectacular trestle. It's a wonderful oasis in the middle of the city—a place for urban dwellers to connect with nature, and we are all here to celebrate it.

On the trail, I came alongside a tall, reserved young man named Stanley Glover. As the GLT Ambassador Youth Program Leader, Stanley worked with local teens in the Landscaper Apprentice Program. They maintain El Camino's trails year-round, with help from local college



Girl Scouts serving water to participants of the 5K Walk @ El Camino.



A faux carpet on a foot bridge, painted by local artists as part of a Wall/ Therapy project.



Another Change Agent, Stanley Glover, the Genesee Land Trust Ambassador Youth Program Leader.

students and the community. Stanley mentioned that he grew up in this neighborhood and recalled, "There was a lot of evil here." A mom named Wanda commented, "The trail keeps the kids busy," and an elderly gentleman who has lived here for 50 years added, "This trail transformed us and gave us hope."

I heard horns and conga drums at the finish line before I saw them, and I passed under an arc of rainbow balloons with kids cavorting and cheering us home. When the walk was over, everyone was hungry and we grabbed food from the corner deli and waiting food trucks.

The nature trail at El Camino is a wonderful resource for hikers and bikers and I enjoy exploring it throughout the year. While I'm strolling, enjoying the views, I can't help but wonder—what if we can work to make more nature trails, more El Caminos? The pilgrimage is born of local vision; plant a seed and enlist stakeholders to nurture it. Transformation is homegrown, as Gay Mills envisions, in a ribbon of green, a trail of hope.

Melissa Corcoran Hopkins is a writer, teacher, kayaker, and native Rochesterian: **HopkinsBeyondWords.com**



On National Trails Day for the past six years, Rochesterians of all ages turn out for the 5K Walk @ El Camino.

PLEASE VISIT

Myelcamino.org and **Geneseelandtrust.org** for maps, photos, and stories.

New York State Trails

New York State has many multi-use trails, including paths, rail trails, and greenways. Some are short local paths, while others are part of longer regional or statewide trails. There are more than 1,200 miles of trails located across New York State, including 110 multi-use trails, and chances are there is one close to you.

If you are looking for places to hike, bike, walk, run, or cross-country ski, or seeking a new trail to explore, check out DEC's website at: **www.dec.ny.gov/62.html**.




Carl Heilman II

On Patrol

Real stories from Environmental Conservation Police Officers and Forest Rangers in the field

Wildfires—Greene, Herkimer, and St. Lawrence Counties







Each year, DEC Forest Rangers are called upon to fight wildfires. On June 10, Greene County 911 contacted DEC's Central Dispatch requesting Forest Ranger assistance with a wildfire in Kaaterskill Clove. Two Forest Rangers responded and arrived on scene to help local fire departments suppress the .3-acre fire. On June 11, Forest Rangers and five fire departments were called regarding a wildfire near the Town of Helena, in Brasher State Forest. The intensity of the fire increased due to dry fuels and steady 15- to 20-mph winds. ATVs, small brush trucks, and two pumps were utilized to suppress the .75-acre fire. On June 24, four Forest Rangers responded to a request to assist the Old Forge Fire Department with a backcountry wildfire on Panther Mountain, in the Town of Webb in Herkimer County. Utilizing a State Police Aviation helicopter, volunteer firefighters and Forest Rangers extinguished the one-acre wildfire.

In 2019, DEC Forest Rangers extinguished 74 wildfires that burned a total of 212 acres. Dry weather throughout the summer has increased the risk of fires, and DEC urges New Yorkers to practice the utmost safety when burning wood and brush outdoors.

Wilderness Rescue—Essex County





On July 18, two hikers got stuck on the Trap Dike Route trail at Lake Colden in the Adirondack High Peaks, and contacted DEC's Ray Brook Dispatch for assistance. The hikers exited the Trap Dike too soon and became stranded on the south side. Two Forest Rangers, the Lake Colden caretaker, and the New York State Police Aviation unit responded to assist. They performed a hoist rescue to bring the hikers safely to the base of the Trap Dike. The Lake Colden caretaker then paddled the stranded hikers and Forest Ranger Mecus to the end of Avalanche Lake, where they safely hiked out.



Illegal Commercialization of Wildlife—Queens County

Earlier this year, ECOs Lovgren and Parmelee and Investigator Harvey conducted an undercover investigation in Queens. The ECOs and the Investigator arranged a purchase of two stools made of elephant feet, an illegal commercialization of wildlife, which is a Class E felony under New York State Environmental Conservation Law. DEC has played an active role in New York's continuing efforts to stop the commercialization and poaching of elephants. The items were seized as a result of the undercover investigation, and will be used for educational purposes.

Clam Bust—Queens County

Earlier this summer, while patrolling Gateway National Park, ECOs Jarecki and McCarthy observed a large group of people taking shellfish from Jamaica Bay, an area that is not certified for shellfish harvest. The ECOs contacted U.S. Park Police for assistance with issuing summonses to 36 people. More than 2,000 illegally harvested clams were returned to the water.

Acrobats of the Air

New York's Damselflies Dragonflies



BY COLE GILBERT AND FRANCES FAWCETT

To many, the sight of dragonflies and damselflies represents peaceful days of summer, but these fierce, territorial predators are anything but peaceful. Dragonflies and damselflies have voracious appetites and are efficient hunters, no matter their stage of life.

New York is home to approximately 200 species of odonates—dragonflies and damselflies. Damselflies are smaller and delicate, with well-separated eyes. They rest their similarly shaped fore and hind wings over their abdomen, or slightly spread. Dragonflies are larger and robust, with large eyes typically meeting on top of the head. At rest, they hold their differently shaped fore and hind wings out to the side.

Life Stages and Feeding

Most damselflies and dragonflies overwinter as eggs. Female damselflies and some dragonflies, such as darners, insert eggs into plants emerging from or under the water. The majority of other dragonflies lack egg-laying tubes and simply drop eggs into water or stick them onto nearby dry surfaces. When spring rains come, a tiny non-feeding prolarva will jump out into the water. It may exist for only a few minutes before molting into a nymph that, depending on its species and amount of summer warmth, will be a submarine killer for several months to years.

Nymphs breathe through abdominal gills. Damselfly nymphs have three plate-like gills extending from their abdomen, which they wag to increase flow over the gills and to propel themselves through the water. In contrast, dragonfly nymphs have gills protected inside a chamber at the tip of their abdomen. They breathe by drawing oxygenated water in and out. When frightened, they expel jets of water and zoom away.

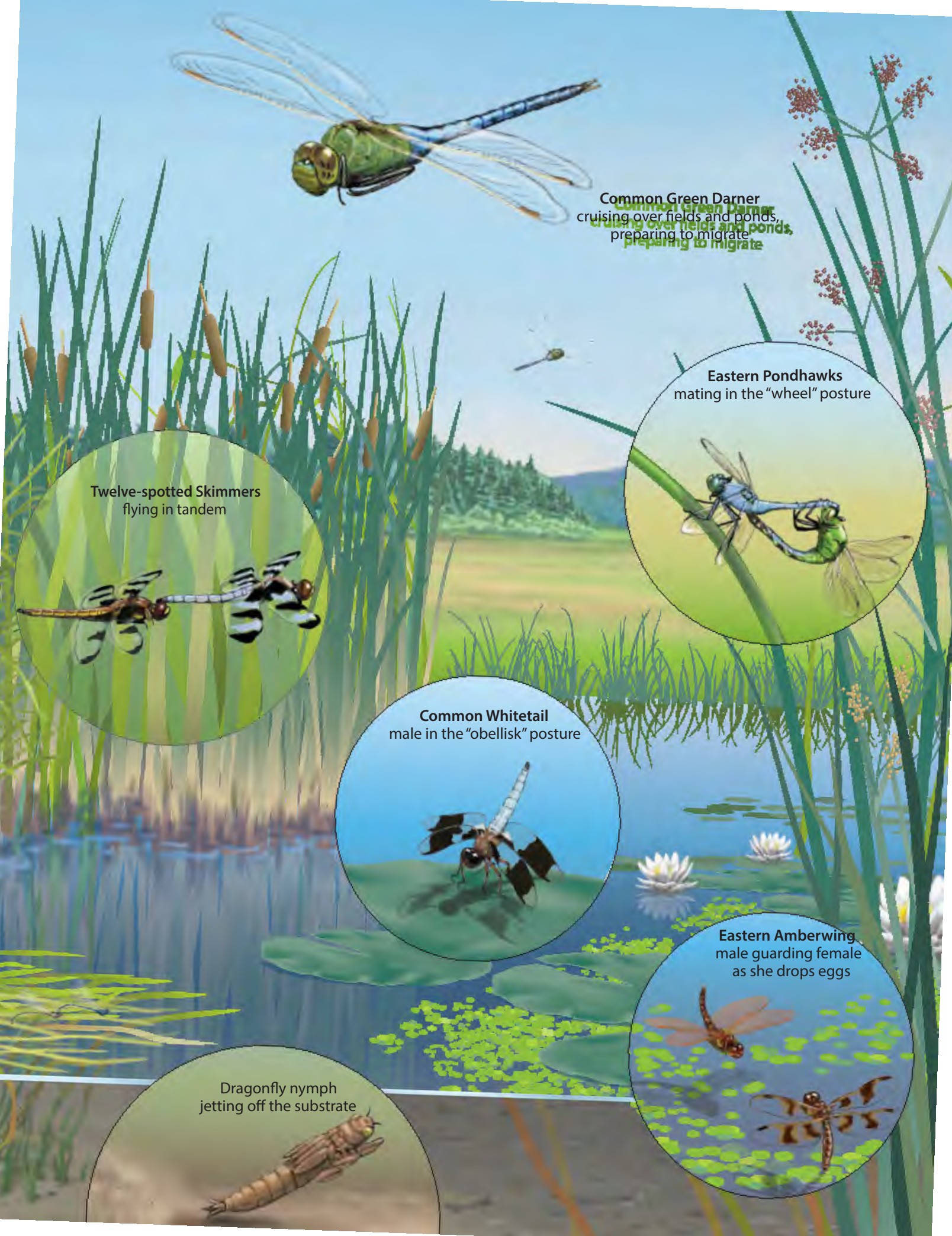
Nymphs feed ravenously on aquatic worms and arthropods. Large dragonfly nymphs even catch tadpoles and minnows. All nymphs catch prey with an extendable lower lip that is normally cocked, forming a toothy mask. Using visual depth perception to determine when prey is in range, the lip shoots out, grasps the prey, and pulls it back to waiting jaws.

Nymphs make good "pets" in an aerated aquarium. If fed well, they will molt about a dozen times, with their external wing pads getting larger each time, until they eventually become adults. Mature nymphs climb emergent plant stems or stones, split their cuticles down the back, and the adults crawl out. The adults hang for a while, expanding their wings with blood, like butterflies do.

If you spot any shed skins around a pond, look closely for thin white threads arising from the split. These are remnants of tubes that moved air from gills throughout the body.

New York's Damselflies and Dragonflies




Common Green Darner
cruising over fields and ponds,
preparing to migrate
Eastern Pondhawks
mating in the "wheel" posture
Twelve-spotted Skimmers
flying in tandem
Common Whitetail
male in the "obellisk" posture
Eastern Amberwing
male guarding female
as she drops eggs
Dragonfly nymph
jetting off the substrate


Elaine Taft

Bluet damselflies ovipositing in tandem.

Newly emerged adults take a few days to harden. Some spend several weeks maturing, flying in fields far from water. One of our largest dragonflies, the common green darner, migrates; arriving from the southern U.S. or Mexico, in late April or early May, ready to mate. The next generation of adults, from eggs laid the previous year, emerge in mid-summer and migrate south in September, often in swarms of 100s.

Reproduction

Damselfly and dragonfly reproduction is unusual. Before males go "courting," they transfer sperm from testes at the tip of their abdomen to a secondary organ seen as a bump under the second abdominal segment. Males of some species, typically damselflies, perform aerial displays in front of females. If she likes his display, she lets him clasp her behind her head. Males of many other species, especially dragonflies, do not court, but simply clasp females that enter their territory. Clasping results in tandem flight with males leading, which presents a problem of transferring sperm to the female. That's why the male loads his secondary organ before "courting," but the tandem-flying female must bend her abdomen up to her male's in order to transfer sperm, a behavior called the "wheel posture."


James Craft

Female black saddlebags skimmer *(Tramea lacerta)* resting.

Before the male transfers sperm, tiny spines in his secondary organ rake out any sperm that the female may have stored from previous matings. The male has vigorously defended his stream or pondside neighborhood, and he does not want his efforts to result in females laying eggs here that were sired by another male. In his zeal to ensure paternity, the male damselfly typically remains clasped to a female while she inserts fertilized eggs into vegetation. He may even go underwater with her. A dragonfly male may remain clasped as the female drops eggs in the water or glues them onto surfaces, or he may let go and hover near her, lest another male swoop in and clasp her.

Behavior

Male dragonflies of different families defend their territories in different ways. Darners and emeralds tend to cruise continuously up and down their territory. You can almost set your watch by a male's regular rounds. On his sojourn, he may catch small flying insects with his six spiny legs, but he continuously exerts energy patrolling his neighborhood. Conversely, male skimmers perch patiently on rocks or tall vegetation, keeping a keen eye (or 30,000 eyes) out for prey or intruders. If spotted, the skimmer sallies out like a guided missile to repel intruders or catch prey that it eats after returning. Female skimmers do this too, and some species, aptly named pondhawks, even capture other dragonflies.

Perching in the hot afternoon sun, looking for prey or intruders is stressful, but a skimmer doesn't want to seek shade and abandon hard-fought-for perches. It adopts a resting posture called the "obelisk posture," doing a headstand pointing its abdomen directly at the sun to minimize its exposure. In the morning after a cool night, skimmers bask with their bodies perpendicular to the sun's rays to absorb as much solar heat as possible, but it is a very different story on a sultry, peaceful afternoon.

There is much to observe and learn about the amazing behavior of these consummate predators. So grab a lawn chair, a cold beverage, and some sunscreen, and enjoy a front row seat at one of nature's great summer dramas, put on by damselflies and dragonflies.

Cole Gilbert is a professor in Cornell University's Department of Entomology. **Frances Fawcett** is a professional artist and scientific illustrator (francesfawcett.com)

Note: Check out DEC's website at **www.dec.ny.gov/animals/31061.html** for information on New York State's Dragonfly and Damselfly Survey.

HOW TO Plant a Tree SUCCESSFULLY

BY CHRISTINA MCLAUGHLIN
AND DAN GAIDASZ

Did you know that fall is a great time for planting trees? If you missed the spring planting season, there's still time to get trees in the ground this year. Planting in the fall gives trees a chance to establish roots before winter and avoids the harsh heat and drying sun of peak summer.

There are so many great reasons to plant a tree! Adding trees to your home boosts its curb appeal and can increase its value, and a well-placed tree can even save you money on air conditioning costs. You can calculate the benefits a tree can provide with this online tool from Arbor Day Foundation: **www.arborday.org/calculator/**.

Trees clean the air, capture carbon, and improve public health—just looking at greenery like trees can reduce stress. But planting a tree isn't quite as simple as digging a hole and putting in a seedling—not if you want to ensure a healthy tree that will benefit you for years to come. So here are four important steps to planting the right tree, in the right place, and making sure it has a long and healthy life.



Cutting the wire basket around a ball and burlapped tree is important, so the tree's roots can grow.

Step 1: Pick a Site

Deciding where to plant your tree is the first and most important step in planting. Planting a tree is a long-term commitment. To minimize risks to surrounding structures and maximize benefits from the tree, there are several things to consider when selecting a planting location. Picking a site that is appropriate will ensure that your tree can be enjoyed for decades to come.

Consider your space and where you'd like to plant. Grab a pen and paper and answer the following questions about your potential tree site:

- Do you have overhead power lines nearby that you need to be aware of?
- Are there underground utilities?
- How far from buildings and structures (yours and your neighbors) is the site?
- Is the ground flat or sloped?
- What do you know about your soil? Consider its type, acidity level, and compaction. The easiest way to find out about your soil is to request a soil test kit from Cornell Cooperative Extension (CCE). Find your local CCE by visiting the website: **https://cce.cornell.edu/ localoffi ces**
- How well does the site drain when it rains? Does it regularly have standing water or is it very dry?
- How many hours of sunlight does the spot get? Put a flag, cone, or other item in the potential planting spot and watch it on a sunny day to get an idea.
- What is the width and length of the planting space? How much space will the tree's branches occupy as it grows?

Having answers to these questions will help you pick the right spot for a tree. Large trees (those taller than 70 feet at maturity) should be planted at least 15 feet away from structures.

College of St. Rose

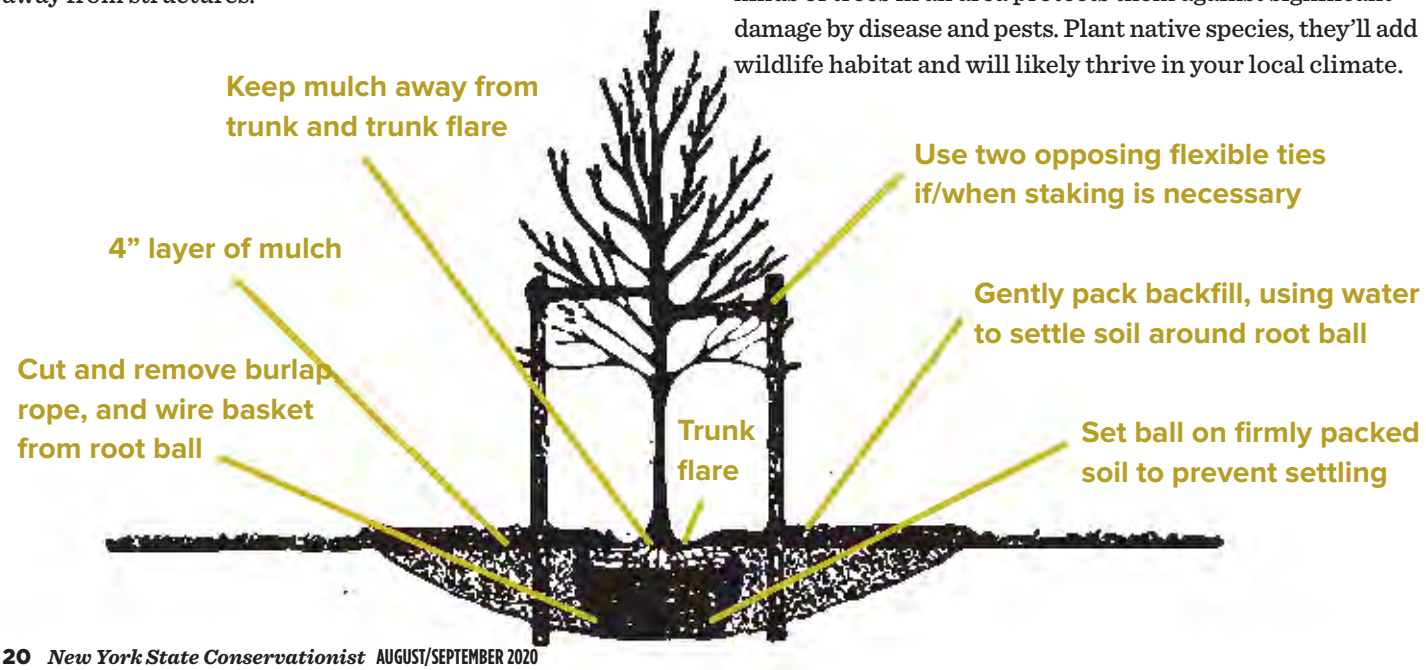


Trees clean the air, capture carbon, and improve public health; so plant a tree today—there's still time to get trees in the ground this year.

Step 2: Pick Your Tree

Now that you have selected a site, you need to pick out a tree. There are several things to consider when selecting a tree to plant. First, determine your hardiness zone to narrow down what plants grow well in your local climate. You can do this by visiting this interactive map from the U.S. Department of Agriculture (USDA) at **https://planthardiness.ars.usda.gov/PHZMWeb/**, and entering your zip code. Pick a tree that will grow well in your zone.

Second, consider the site you selected and review any concerns about overhead power lines or nearby structures. Look at the expected height and size of the full-grown tree and determine if it will fit in your space. Select shorter trees or shrubs if there are overhead lines. If you only have a small space, avoid trees that are large when fully grown, like sugar maples. Look around your neighborhood and try to pick a tree that is unique to your street—having a lot of different kinds of trees in an area protects them against significant damage by disease and pests. Plant native species, they'll add wildlife habitat and will likely thrive in your local climate.



Step 3: Plant Your Tree

Now that you've selected a site and tree, you are ready to plant. Before you stick a shovel in the ground, make sure you know where underground utilities are located, as they could be damaged or pose a hazard to you as you dig (call 8-1-1 or visit **www.digsafelynewyork.com** for more information).

The tree you've bought might be balled and burlapped, container grown, or bare root. No matter which form it is, be sure to water it and keep its roots moist until you are ready to plant. Each form has its pros and cons, and a specific way that it should be planted.

Balled and burlapped: Dig a hole as deep as the ball and two to three times its width. Once the ball is centered in the hole, remove the twine and wrap from it. Backfill the hole, firmly pack the soil, and water deeply.

Container grown: Dig a hole three to four times wider than the container. Remove the tree from its container and carefully untangle and loosen the roots and soil. Vertically cut any roots that encircle the root ball to prevent it from potentially strangling itself. Plant the tree and firmly pack soil around it, then water deeply.

Bare root: Soak tree roots in water for a few hours, or up to 24 hours, before planting. Dig a hole wider than the roots are long and as deep as the root system, then loosen the soil in the hole. Plant the tree, firmly pack the soil, and water deeply. Make sure the tree is not planted too deep. The root collar should be at, or slightly above, ground level. Do not pile mulch or soil against the tree trunk—deep piles of mulch, known as mulch volcanoes, kill trees.



Do not pile mulch or soil against the tree trunk—mulch volcanoes can kill trees.

DEC Supporting Trees

DEC's Colonel William F. Fox Memorial Saratoga Tree Nursery is a great resource to promote healthy trees and productive plants in New York State. The nursery grows and/or restores rare, endangered, and unusual species, and provides seedlings to support forest regeneration.

The Nursery currently produces more than 1.5 million seedlings annually and maintains over 200 acres of seed production areas and orchards across the state. More than 6 million seedlings representing over 50 species are currently growing at the Nursery. In conjunction with DEC's Trees for Tribs program, the Nursery has helped plant trees to stabilize and beautify riparian areas (streamsides), which improves water quality, controls erosion and prevents flooding, and supports wildlife habitat.

See **www.dec.ny.gov/animals/61320.html** for more information.

Step 4: Care for Your Tree

To keep your new tree healthy and help it establish roots, make sure to water it at least once a week if it has not rained, and more often if the weather is hot and dry. Mulching around the base of the tree will protect it from lawn mowers and weed whackers, and help maintain moisture—but, remember, don't pile mulch against the trunk. If deer are a problem, protect the tree with a tree tube or fencing for the first few years. If your tree needs extra support, protection, or help staying anchored, you can stake it, but be sure to remove the stakes by the next growing season.

As you care for your tree during the first few years of its life, keep in mind the phrase "Sleep, Creep, and Leap." The first year, the tree will sleep—it may not grow much above ground while its roots develop and establish. The second to third year, the tree will creep—it will begin to grow a little as it settles into its space. The third to fourth year, the tree will leap in size, as it has established itself and begins to thrive.

The benefits that trees provide are innumerable and incalculable. By following these simple steps, you can experience these benefits at your home. For more resources and help on planting and caring for your urban or suburban tree, visit DEC's Urban and Community Forestry webpage: **www.dec.ny.gov/lands/4957.html**.

Christina McLaughlin and **Dan Gaidasz** work in DEC's Lands and Forests office in Albany.

A Monarch Metamorph

BY JESSICA CANCELLIERE | PHOTOS BY ELIZABETH MARSHALL

The iconic monarch butterfly (*Danaus plexippus*) is one of the most familiar and beloved insects in North America, famous for its spectacular annual migrations and bright colors that send a warning signal to predators. For many, our deep appreciation for monarchs stems from our fond childhood memories of observing them in the classroom. Educators have long realized the value of bringing these charismatic creatures into the classroom to let children witness, firsthand, the stunning transformation from caterpillar to butterfly. Observing monarchs up close, as children, creates a strong and lasting connection with the butterfly, and brings science into our lives in a personal way.

The fantastic, abrupt change in form from larva to pupa to adult, known as complete metamorphosis, occurs in many insects, including flies, wasps, beetles, moths, caddisflies, and others. The monarch, however, perfectly embodies this transformation, and continuously fascinates and mystifies even those prone to stomping on, cursing at, swatting at, or ignoring insects altogether.

In May, we begin to see the Mexican monarch migrants return to the North. By early June, the females have deposited their eggs individually on milkweed leaves, and by midsummer, the striking yellow-black-and-white banded caterpillars adorn most milkweed plants. Eventually, the mature caterpillars attach themselves to the milkweed plant with silk threads, then transform into a remarkable green-and-gold chrysalis. About six weeks after the egg was laid, an adult butterfly emerges from the chrysalis. It will soon be part of a new generation that will begin the species' long journey back to Central Mexico for the winter.



From the outside, few changes are apparent until the final day, when the black, orange, and white wing patterns of the adults are visible through the chrysalis.

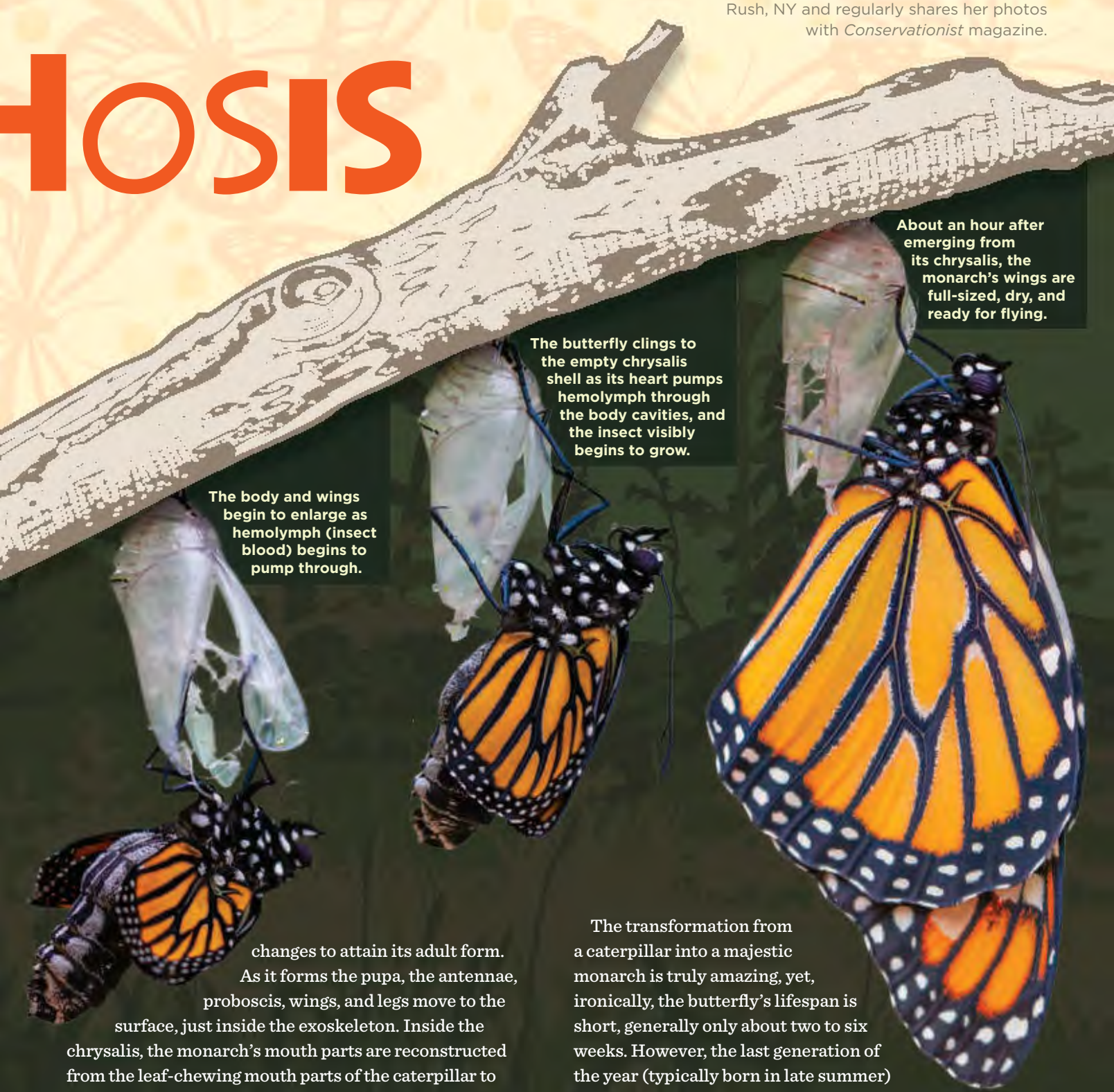
As the chrysalis cracks open, the monarch slowly emerges with tiny, crumpled, wet wings.

The Process of Metamorphosis

The transformation from pupa to adult takes about 9 to 15 days. Most of the physiological and morphological changes that produce an adult monarch actually begin in the larva (caterpillar). The wings and other adult organs develop from tiny clusters of cells already present in the larva, and by the time it pupates, the monarch has already begun the major

Jessica Cancelliere is a Research Scientist in DEC's Forest Health Diagnostic Lab in Delmar. **Elizabeth Marshall** lives in Rush, NY and regularly shares her photos with *Conservationist* magazine.

Hosis



changes to attain its adult form. As it forms the pupa, the antennae, proboscis, wings, and legs move to the surface, just inside the exoskeleton. Inside the chrysalis, the monarch's mouth parts are reconstructed from the leaf-chewing mouth parts of the caterpillar to the nectar-sucking proboscis of the adult butterfly. The emerging butterfly will have six legs instead of the eight it had as a caterpillar, and its eyes will grow larger to provide better vision for finding flowers to feed from. Flight muscles will reorganize in the thorax, and reproductive organs will also form.

The transformation from a caterpillar into a majestic monarch is truly amazing, yet, ironically, the butterfly's lifespan is short, generally only about two to six weeks. However, the last generation of the year (typically born in late summer) do survive longer and often overwinter in California or Mexico. The main function of a female monarch is reproduction, and during its brief life, it will lay up to 300 eggs. Soon after, the eggs hatch and a new metamorphosis will begin, leading to the next generation of these beloved butterflies.



The Guardians of Flushing Bay, Inc., Queens



The Guardians of Flushing Bay, Inc., Queens



New York's Investments in a HEALTHY ENVIRONMENT & JUSTICE

BY ROSA MENDEZ, DIRECTOR OF DEC'S OFFICE OF ENVIRONMENTAL JUSTICE



Volunteers Improving Neighborhood Environments, Inc. (VINES), Binghamton

"Injustice anywhere is a threat to justice everywhere. We are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly."

The words of Martin Luther King, Jr., inscribed in stone at the national memorial in his name in Washington, D.C. served as a rallying cry during the Civil Rights movement of the 1960s. More than a half century later, they serve to inform and inspire a similar fight for fairness: the modern-day Environmental Justice (EJ) movement.

Across America and amid the COVID-19 pandemic, issues surrounding climate change and social justice are colliding. Environmental experts and advocacy groups are joining together, with leaders in communities of color that have been historically disenfranchised and disproportionally impacted by pollution and environmental degradation, to root out systemic environmental injustice and build a cleaner and green future for all. New York State is leading the way and setting the national standard for programs and policies that ensure environmental justice for everyone. The State is advancing a comprehensive plan to completely overhaul a system that for far too long has profited and protected polluters at the expense of the environment and the most vulnerable among us. And not only are programs and policies being developed to address the challenges we face and achieve the change we seek, they are being backed by the resources necessary to implement and sustain them. At the heart of New York's environmental justice agenda is the landmark Climate Leadership and Community Protection Act (CLCPA), a bold plan that will transition the state to a clean-energy economy of the future. Strategic investments are being made to modernize infrastructure and incentivize cutting-edge advances that will enhance capabilities and expand the capacity of clean, renewable energy technology. It's a smart plan guided by science that will reduce our dependence on dirty fossil fuels and ultimately eliminate their use and the harmful emissions they produce. What's more, beyond protecting public health and the environment, the plan is designed to fuel a growing green economy deeply rooted in sustainability and based on shared prosperity for all, bolstering the state's economy. To ensure inclusion, the CLCPA established a Climate Justice Working Group to provide representatives from EJ communities statewide with a seat at the energy policy planning table. The Act also contains benchmarks set in statute that require investments into EJ communities that have historically been excluded from accessing the resources needed to protect disadvantaged New Yorkers.

Complementing the CLCPA and work of the Climate Justice Working Group is a round of recent Environmental Justice grants awarded to assist 21 communities with key projects to create clean, healthy, and sustainable communities. Grant recipients include organizations in the Capital Region, Central New York, Hudson Valley, Long Island, New York


Sure We Can, Inc., Brooklyn


Grassroots Gardens of Western New York, Buffalo


Groundwork Hudson Valley, Yonkers




Kite's Nest, Hudson

City, and Western New York. This assistance focuses on ways to help these communities overcome long-standing environmental degradation issues, such as poor air quality, residential proximity and exposure to waste or hazardous materials, and even the lack of fresh produce. We often don't give a second thought to such items, and are unaware, or forget, that some communities do not have access to such basic, vital products and services.

In October 2019, DEC selected WE ACT, a New York City-based organization founded in 1988, to manage the State's new Administration of Environmental Justice Capacity Building Grants program. The program is providing critical funding to help smaller organizations build their EJ programs and expand their ability to address local causes of pollution and provide needed services to ensure individuals and families are not negatively impacted due to where they live. Overall, 18 community-based EJ organizations in the state are receiving funding to advance projects such as electric vehicle infrastructure and charging stations, and water infrastructure projects. The investments will also promote critical scientific research to help these EJ communities prepare for climate change impacts and improve their neighborhoods.

New York State and DEC are committed to leading efforts to create a clean, healthy, and accessible environment, one that includes everyone, no matter where they live. Investments in our EJ communities empower individuals, strengthen communities and local economies, and build a better system and better state for all New Yorkers. As Governor Cuomo recently stated, "We have an obligation to help ensure every New Yorker has a clean, safe, healthy environment to call home."



About DEC's Office of Environmental Justice

Created in 1999, the Office of Environmental Justice (OEJ) works to advance DEC's environmental justice policy and help low-income and communities of color address their environmental justice concerns. OEJ operates on the principles that communities and populations should not be disproportionately exposed to adverse environmental impacts and should be meaningfully involved in the decisions that affect their environment. In addition, OEJ facilitates consultation with Indian Nations on issues relating to protection of environmental and cultural resources within New York State.

OEJ also administers a grant program that provides competitive funding opportunities to community-based organizations to support and empower local communities as they develop and implement solutions that: address environmental issues, harms, and health hazards; build community consensus; set priorities; and improve public outreach and education. DEC has incorporated Environmental Justice considerations into all aspects of its activities, making it a fundamental goal.

For more information on DEC's Environmental Justice program, see **www.dec.ny.gov/public/333.html**.

TONAWANDA WILDLIFE MANAGEMENT AREA

BY HEIDI KENNEDY

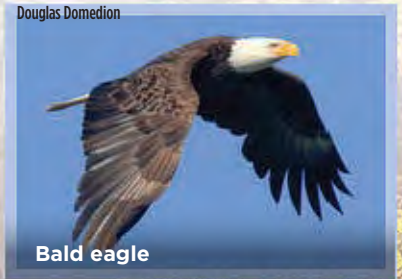
Located midway between Buffalo and Rochester is an almost 20,000-acre complex of state and federal conserved habitat that is comprised of two Wildlife Management Areas (WMAs) and the Iroquois National Wildlife Refuge. The western-most portion of this complex is the 5,643-acre Tonawanda WMA. It has a lot to offer outdoor enthusiasts and is a popular destination for hunting, trapping, recreation, and wildlife observation.

Tonawanda WMA consists primarily of marsh impoundments and other wetland areas, but it also includes large grasslands and forested areas. With its extensive system of marshes, the WMA is an important migratory stopover for waterfowl and other wetland-dependent birds in the Atlantic Flyway, and many wetland-dependent wildlife species breed there. Several endangered and threatened species, species of special concern, and species of greatest conservation need (SGCN) use the various habitats in the complex. The area has been designated an Important Bird Area by Audubon, and is also a designated NYS Bird Conservation Area.

Within Tonawanda WMA's system of marsh impoundments, habitat is manipulated by moving water through a series of control boxes to adjust water levels and conduct drawdowns and reflooding of marshes. A marsh drawdown is when water is slowly removed from a marsh to expose the soil. DEC conducts marsh drawdowns to provide aquatic food plants for wildlife—primarily migrating waterfowl—and to stimulate emergent vegetation if a marsh has become too open. In the late summer and fall, if water is available, the marshes are reflooded.

Tonawanda WMA provides great opportunities to view a variety of migrating waterfowl, songbirds, shorebirds, marsh birds, and raptors. Waterfowl migration, which is a popular attraction, peaks in the spring, in late March and early April. In the fall, migrating waterfowl can be seen over a longer period, but activity often peaks in October. During the late summer and fall, great egrets feed and roost in the WMA.

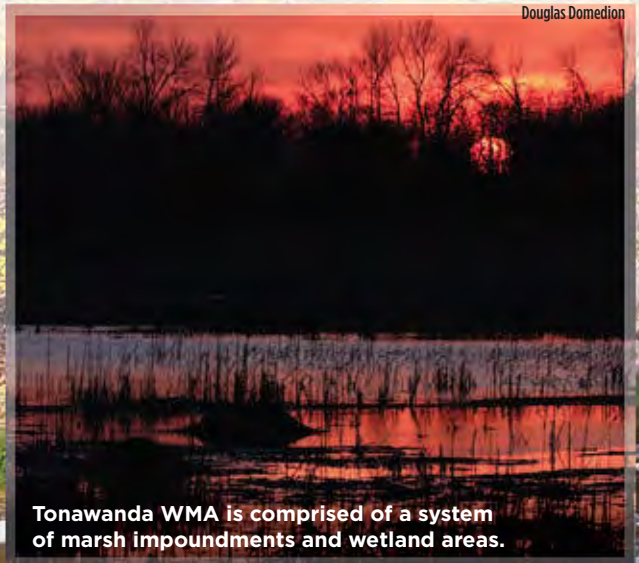
The area provides breeding habitat for multiple species of waterfowl, including wood ducks, mallards, and hooded mergansers. DEC wildlife staff maintain wood duck boxes and mallard nesting structures to increase nesting success for these species. Several New York state-listed species also nest on Tonawanda WMA; the complex is one of only a handful of locations in New York where the state-endangered black


Douglas Domedion

Bald eagle


DEC photo

The WMA contains an accessible waterfowl hunting blind.


Douglas Domedion

Tonawanda WMA is comprised of a system of marsh impoundments and wetland areas.


Douglas Domedion

Great egret

tern still nests. Other listed marsh birds nesting in the area include least bittern, pied-billed grebe, and American bittern. Bald eagles, osprey, and protonotary warbler (a high priority SGCN), also nest here.

Grasslands adjacent to wetlands offer nesting habitat for waterfowl, and larger fields provide habitat for grassland-nesting bird species, such as sedge wren and Northern harrier. During the winter months, the grasslands and emergent wetlands provide cover and foraging habitat for a variety of species, including Northern harrier and short-eared owl. In addition to birds, the area provides habitat for a variety of mammals, reptiles, amphibians, and fish. Muskrats are an important part of the marsh ecosystem in the WMA—keep an eye out for their houses made of mud and cattails.

Waterfowl hunting is an especially popular activity in this WMA, and waterfowl hunters are always encouraged to scout ahead of time because conditions in marshes change from year to year. The area also provides opportunities for quality upland game hunting for species such as white-tailed deer and wild turkey, and DEC releases ring-necked pheasants in grassland fields in the area. Trapping, especially for muskrat, is also a popular activity.

With its diverse habitats, abundant wildlife, and varied recreational opportunities, Tonawanda WMA and the surrounding complex is a must-visit destination for outdoor enthusiasts.

Heidi Kennedy is a DEC Wildlife Biologist in the Iroquois field office in Basom.

LOCATED IN the Town of Shelby, Orleans County; Town of Newstead, Erie County; Town of Royalton, Niagara County; and Town of Alabama, Genesee County

SIZE: 5,643 acres



Site Features

NOTES: Open year-round. However, portions of the WMA may be closed to the public during certain times of the year to protect sensitive species. Special regulations apply to some activities, including hunting and trapping. For more information, visit **www.dec.ny.gov/outdoor/24442.html**.

ACCESSIBLE FEATURES: There are multiple parking areas, viewing areas, overlooks, trails, and kiosks. An accessible waterfowl hunting blind, at the end of a short trail, is available by permit for seniors and people with disabilities.

HUNTING: Permits are required to hunt waterfowl the first weekend of duck season. No waterfowl hunting is allowed in the waterfowl refuge area. Hunting pheasants is not allowed on Tuesdays and Fridays during the season.

TRAPPING: Permits are required for trapping, and there is a trap limit for muskrat and wetland mink.

DIRECTIONS: Tonawanda WMA can be accessed from multiple roads, primarily from Route 77/Lewiston Road in Genesee and Niagara Counties. Due to its size, there are parcels in four different counties, including Genesee, Niagara, Orleans, and Erie.

CONTACT: For information, call DEC at (585) 948-5182 or visit **www.dec.ny.gov/outdoor/24442.html**.


Douglas Domedion
Black tern


Douglas Domedion
Wood duck


Douglas Domedion
Muskrat





Hemlock Woolly Adelgid Found in Adirondacks

DEC recently confirmed the presence of an infestation of the hemlock woolly adelgid (*Adelges tsugae*) on Forest Preserve lands, in the Town of Dresden in Washington County. This is the second known infestation of this pest in the Adirondacks. The hemlock woolly adelgid (HWA) is a tiny insect from East Asia that attacks hemlock trees, causing considerable ecological damage and potentially significant economic and aesthetic losses. DEC asks people to be on the lookout for invasive species around the state and report any sightings of invasives like HWA. For more information on HWA, including identification, control techniques, and reporting possible infestations, visit DEC's website at **www.dec.ny.gov/animals/7250.html**.

Become a WAVEr

New York State's streams and waterways provide drinking water and recreational opportunities, sustain our fields, forests, and wildlife, and power our industries. You can help detect changes in the health of one of New York's waterways by becoming a WAVEr, part of a citizen-based water quality assessment and monitoring program (Water Assessments by Volunteer Evaluators or WAVE) developed by DEC. With guidance from DEC, WAVE participants select their own sampling sites and use a net provided by DEC to collect "stream bugs" to assess water quality in wadeable streams across New York. Sampling is done once per site, anytime between July 1 and September 30, and your efforts will help detect changes in the health of a waterway. Anyone can be a WAVEr—no science background is required. WAVE training is now available online; get trained on the WAVE method today from the comfort of your own home. To learn more, visit: **www.dec.ny.gov/chemical/92229.html**.

Play Smart • Play Safe • Play Local



New York State continues to encourage people to engage in responsible recreation during the ongoing COVID-19 public health crisis and to remember to PLAY SMART • PLAY SAFE • PLAY LOCAL. Everyone can help stop the spread of COVID-19 by recreating locally, practicing physical distancing, showing respect for all outdoor adventurers, and using common sense to protect themselves and others. Getting outdoors is a healthy way to stay active, spend time with immediate household and family members, and reduce stress and anxiety when practicing social distancing. DEC and New York State Parks recommendations for getting outside safely incorporate guidance from the Centers for Disease Control and Prevention and the New York State Department of Health. To support this effort, DEC and New York State Parks are encouraging New Yorkers to take the pledge to enjoy the outdoors safely and responsibly. To learn more about PLAY SMART • PLAY SAFE • PLAY LOCAL, visit **www.dec.ny.gov/outdoor/119881.html**.



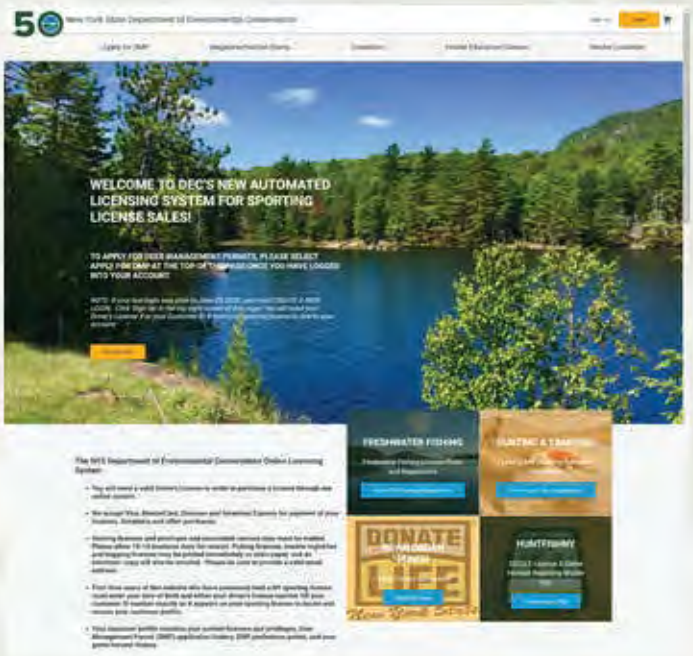
New York Waterways Among the Nation's Top Fishing

In its July/August issue, *Bassmaster* magazine identified four New York waters as being among the nation's best bass fishing spots of the decade. The fishing areas include Lake Erie, Lake Champlain, the St. Lawrence River, and Oneida Lake. Each year, the magazine bases its rankings for the best fishing areas in the country on research of the writers, input from state agencies that manage the fisheries, and data collected from anglers for lakes where bass tournaments were held. Congratulations New York for having some of the best fishing in America (which most anglers already knew).



State Proposes Significant Action on Climate Change

DEC Commissioner Seggos recently announced a major step in New York's efforts to transition to clean energy and reduce climate change by proposing regulations to reduce greenhouse gas (GHG) emissions and implement the Climate Leadership and Community Protection Act. New York is leading the nation in aggressively combatting climate change by reducing harmful GHG emissions and stimulating a green economy. The proposed regulations would establish statewide emission limits on carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. New York is on a path to reach its goals of reducing greenhouse gas emissions to 40 percent below 1990 levels by 2030 and to 85 percent below 1990 levels by 2050, and achieving a zero-carbon emissions electricity sector by 2040. You can review the proposal at: **www.dec.ny.gov/regulations/propregulations.html**.



DEC's New Online Licensing System

DEC recently launched a new, automated system that makes it simpler than ever for sportsmen and sportswomen to purchase fishing, hunting, and trapping licenses, either online or over the phone. The system includes user-friendly information to help people locate license vendors, receive instant copies of fishing and trapping licenses, enter and view harvest information, and more. It is designed to meet the needs of New York's large sporting community, allowing them to focus on enjoying the abundant fishing, hunting, and trapping opportunities available throughout the state. To purchase a license using the automated system, call DEC's customer service hotline (866-933-2257) or visit **https://decals.licensing.east.kalkomey.com/**. New Yorkers are encouraged to engage in responsible recreation close to home during the State's ongoing response to COVID-19.









A Successful Harvest

I'm submitting some photos of our local berry picking harvest. We find that berry picking is a good social distancing outdoor activity that can provide you with fresh fruit, jelly for home canning, and a good hike for exercise. Does DEC endorse berry picking as an environmentally friendly activity?

MIKE LUKE | POUGHKEEPSIE, NY

Those look delicious. Picking local berries is certainly an environmentally friendly alternative to buying them at the grocery store. If you are picking them on private land, make sure you have the permission of the property owner first. On State land, people can forage for "personal consumption." They can pick berries and eat them themselves, but they can't pick them and sell them or distribute them. Of course, if a plant is protected, that would not apply.



Under Construction

I found this unusual looking nest being built on my neighbors' sill. I was wondering what type of wasp or other insect builds these? I have never seen anything like this before. It starts normal and then has a 1-inch cylindrical shoot hanging down about 15 inches.

JOE LUKER | NEW HARTFORD, NY

This appears to be a bald-faced hornet nest in the early stages of construction. As construction progresses, it should take on the more normal, round appearance.



Ask the Biologist

Q: I have seen many bobcats over the years but never one with this coloring. What are your thoughts?

GERT FEDERICI | CHENANGO COUNTY

A: *It's interesting, I've been sent quite a few pictures of bobcats with minimal spotting lately. I'm not sure why that is. Bobcats, in general, range from very spotted to almost no spots, and we do have a good number in New York that have minimal spotting. Generally, the older animals tend to be a bit darker in color and have less spotting than younger individuals.*

—AMANDA BAILEY, DEC WILDLIFE BIOLOGIST



Birds of a Feather



My husband and I watched two juvenile ruffed grouse make themselves right at home in our Thousand Island (Wellesley Island) cottage garden. They were so comfortable that I had time to grab my camera and shoot photos (with a telephoto lens). It was quite a show! The first one we noticed was flinging dirt every which way, as it took a sand bath, never leaving the depression it created in the garden soil. We didn't see the second one at first, as it was resting in a depression of its own in a shady spot, but then it got up, puffed up its plumage, and went about exploring the garden, at one point walking to within 15 feet of where I was standing.

Based on the ruffed grouse information on the DEC website, we believe we might have witnessed some atypical public behavior by two unusually fearless juveniles.

ERIN GREENE | JEFFERSON COUNTY

These appear to be young birds taking advantage of a "nice spot" (dust bathing and foraging on seeds and insects), who haven't learned to be as wary as their adult counterparts. I wouldn't be surprised if there was an adult hen or other brood mates somewhere in the vicinity.

MICHAEL SCHIAVONE, DEC WILDLIFE BIOLOGIST

Room With a View

This spring, a pair of ravens built this nest atop our 80-foot tall silo ladder. They successfully raised and fledged three chicks, and all five birds remain in the area. Will they return next year to nest, like our local flock of Canada geese does?

BILL SIEBELS | GOUVERNEUR

Yes, ravens will often use the same nest site in successive years, but not necessarily every year and not necessarily the exact same birds. It is possible that one of the juveniles will return as an adult to use the nest site at some point, unless the adults are still claiming the territory for themselves.





A Great Catch

I thought I would share a picture of a great day of fishing I had in Putnam County with my son and daughter last August. After helping me land a 16-inch rainbow trout on my fly rod, my daughter Juliet landed this beautiful 19 ½-inch brown trout (first trout) on her new spinning rod. This incidentally was her last cast of the day, which she pleaded with me to let her try one more time.

Thank you for the great fishing New York has to offer!

JAMES QUERCIA | HOPEWELL JUNCTION

Thanks for sharing this great photo with us, and congratulations to Juliet on her catch. Fishing really is all about the smiles (see the June/July issue for an article on the topic).

CONTACT US!

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Back Trails

Perspectives on People and Nature



Bjørnen Drikker Vann (The bear drinks water)

BY DAVE NELSON

I've heard that people can be divided into three groups when it comes to coping with COVID's work-from-home restrictions: bakers, workout-aholics, and gardeners. I don't bake, and I'm a softie when it comes to the rabbits, deer, and woodchucks with whom we share our rural property. Those baby woodchucks are so darn cute, after all!

So I decided to do something different with my commuting time savings: I took up Norwegian.

Early each day, while the house is quiet, I spend a little quality time outside with hot coffee and an online app. The app asks me to translate simple sentences: Drikker bjørnen vann? "Does the bear drink water?" I type. *Ding*, indicating a correct answer. Et elg er et dyr. "A moose is an animal." *Ding*.

As the saying goes, for every cloud there's a silver lining. During our COVID isolation, we've had incredible wildlife sightings. My "home office" overlooks a 15-acre pond; there's always something good to see. And this year, we're home to see it.

Muskrats are a daily occurrence; beavers come and go; and deer are quite common—does, fawns, and the occasional buck splash in the shallows. The bird life is great and varied: male wood ducks preen their beautiful feathers while females raise their broods, little ones in tow, as if on a string. Great blue and green herons stalk the shorelines. Masked male yellowthroats sing "witchity witchity" from the shrubs, while catbirds mew. Phoebes hawk insects from their perches, and harriers and accipiters make occasional flyovers, momentarily silencing birdlife. Kingfishers rattle; an osprey and even a bald eagle occasionally fish the pond. Snapping turtles vie for dominance, and watersnakes swim from one shore to the other. Being home this year makes us realize just how much we usually miss.

Once in a while, we have a truly exceptional sighting. Occasionally, we see otters—this year we saw an adult with two little ones. Their antics and energy abound and are always enjoyable. A bobcat came to visit the pond early this spring—it sat on its haunches under a tree for protection from a drizzling rain, while we watched with binoculars.

Still, we have not seen a moose. (Vi ser ikke en elg. "We do not see a moose.")

Just last week, while I was on a call with a colleague, a big black shape materialized from the cattails at the far end of the pond. As it came into the open, I could see it was a large bear. It lowered its head, took a drink from the pond, and slipped back into the reeds as quickly as it arrived.

And then I realized, I had my answer to the question posed earlier by the app: Drikker bjørnen vann? "Does the bear drink water?" Ja, bjørnen drikker vann. "Yes, the bear drinks water." *Ding*!

I guess it's true: you're never too old to learn—and I also learned you can ha det gøy ("have fun") while doing it.

Someday, kanskje vi ser en elg. ("Maybe we'll see a moose.")

With apologies to native Norwegian speakers, former *Conservationist* editor **Dave Nelson** feeds cottontail rabbits lettuce, beans, and pepper plants when he tries to garden in rural Albany County.

BE A HABITAT HERO

2020 Habitat & Access Stamp



Artwork by: Angela T. Baron



Whether you are an angler or hunter, birder or photographer, purchasing a $5 Habitat & Access Stamp is the perfect way to preserve New York's wildlife heritage and increase public access for fish and wildlife-related recreation.

For more information, talk to your NYSDEC license-issuing agent, or visit our website at **www.dec.ny.gov**

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Laurie Dirkx



See page 22

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