

NEW YORK STATE

CONSERVATIONIST

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A person wearing a bright yellow jacket and dark pants is seen from behind, cross-country skiing through a dense forest. The ground is covered in a thick layer of snow, and the trees are bare and heavily laden with snow. The scene is peaceful and captures a winter activity in nature.

WINTER IN NEW YORK

WINTER WARRIOR | WINTERING REPTILES & AMPHIBIANS | SNOWY OWLS

Dear Reader,

With winter upon us and a new year approaching, it's a perfect time to celebrate the outdoors in New York State. Whether you ski, snowshoe, snowmobile, ice skate, hike, fish, or hunt, the opportunities to enjoy the winter season are almost unlimited.

In this issue, read how reptiles, snakes, and amphibians survive the winter and learn how the natural world has evolved to deal with cold weather. Some of these techniques may surprise you.

Educating people of all ages about New York's environment is one of DEC's primary goals. This issue features an article on the 50th anniversary of the NYS Outdoor Education Association, illustrating how dedicated teachers and educators are using a variety of techniques and programs to inform young people about environmental issues and challenges, and encouraging students to enjoy, appreciate, and protect our natural resources—inspiring the next generation of conservationists.

Another article in this issue will transport you to the outdoors, as you read about the daily trials, challenges, and fulfillment experienced by a member of the Student Conservation Association Adirondack Corps—celebrating its 20th anniversary this year.

For more than 70 years, the *Conservationist* has brought our subscribers stories that help them connect with nature. One of the magazine's most compelling features is that we tell stories with both words and pictures. The article on chickadees in winter, and a photo essay on snowy owls, are perfect examples.

Lastly, I encourage all of you to consider what winter means to you in light of the changing climate. The recently released Fourth National Climate Assessment paints a glum reminder of how the earth is steadily changing around us, and what winter may look like in the coming decades. Fortunately, New York is again leading on the environment, but we need the nation to rediscover its conservation roots.

Thank you for being a *Conservationist* subscriber. Enjoy the December issue.

Best wishes,

Basil Seggos, Commissioner



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CONSERVATIONIST

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Andrew M. Cuomo, Governor of New York State

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**Department of
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Spotted salamander

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Surviving the BIG CHILL

*How reptiles, amphibians, and insects
make it through New York's winters*

BY ALVIN BREISCH AND PETER CONSTANTAKES

Some of us are jealous of friends and family who take off for Florida to avoid the cold, snow, and ice of New York winters. The thought of not donning a heavy coat, hat, boots, and gloves just to go to the market is appealing.

Wildlife, like humans, also react to the changes in the seasons. In the fall, shorter days and cooling temperatures signal some wildlife to migrate to warmer climates. But that's not an option for all of them. So what do those without any fur, feathers or hair, do to keep warm?

Temperature is a key trigger to the behavior of many animals and bird species, and it is likely global warming will eventually affect the actions these species must take to survive winter (see "How Climate Change Affects New York Species" in the October 2018 *Conservationist*).

For many reptiles, amphibians, and most insects, New York is home year-round. Unlike humans, these creatures can't rely on central heating, layers of clothing, or car warmers. Instead, to survive the cold climate, these species have evolved strategies to overwinter right here in New York.

Warm-blooded creatures such as birds, mammals, and humans, are able to maintain a constant body temperature (homeostasis or thermoregulation), but the internal temperature of ectotherms—the so-called cold-blooded species—depends on the surrounding environment. In a process called *brumation*, certain cold-blooded animals such as garter snakes, turtles, and other reptiles and amphibians don't sleep, but rather they slow down or cease their movements for the entire winter season.

The cold-weather adaptations of animals, including insects, fall into two basic categories: freeze avoidance and freeze tolerance. Although these terms may appear to be self-explanatory (get out of the cold versus remain and survive anyway), they are a little more complex than that.

The first step for many species is simply to find an appropriate, livable overwintering site—a shelter or space such as a hibernaculum—where the temperature is habitable (still cold, but hopefully not life-threatening) and the creature can take refuge. Generally, such a site in the Northeast will be underground, below the frost line, such as a small den, but some creatures choose to spend winters under logs, in hollow trees, or in moist, loose soil. Some may choose a spot below the surface of a pond, even if the top has iced over. In a sense, these species have “migrated” to a warmer area, but instead of being hundreds of miles away, it’s a vertical migration of just a few feet to get below the frost line.

A key aspect to surviving a winter as food becomes scarcer during cold months is to reduce the amount of energy needed for the body to function. By lowering their metabolism, heartbeat, or respiration, reptiles and amphibians require less energy (so, less food) to maintain essential bodily functions. Most of these species will not feed at all during the entire overwintering

period, so they must gain enough body mass to survive our long winters, just like black bears do before they enter their winter sleep.

We all know that animal species and insects vary in shape, function, and activities—it’s why we admire and welcome some, while shooing and swatting away others. The difference among these species also dictates how they handle the onset of winter’s decreasing temperatures, not just among those like birds who fly (flee) south, but those who remain. Below, we look at how a few overwintering species can survive when they stay at home.

Frogs

Although there are many types of frogs, the species share one common trait—they are survivors. And as survivors, the various species have evolved different ways to survive the winter cold.

Aquatic frogs like the American bullfrog take the simple route: they hibernate underwater. Instead of breathing with their lungs, as they would in the summer, they get the oxygen they need by absorbing it through their skin. You might find

them lounging on top of the mud or partially submerged since they require access to the oxygen-rich water; however, they do not bury themselves completely in the underwater mud for warmth, since that would cause them to suffocate.

In contrast, terrestrial frogs and toads usually hibernate on land, often burrowing into the ground below the frost line, or—for frogs like the wood frog that are not adapted to digging their own burrow—seeking crevices in logs or rocks, or scooching down in leaf debris (though this is not a guaranteed way to prevent freezing). A blanket of snow will help keep them warm enough to survive the winter.

Like some other overwintering species, certain species of frogs, such as the wood frog, produce their own “antifreeze” that contains a high concentration of glucose to prevent ice crystals from forming in their vital organs. This antifreeze is a component of freeze avoidance. A frog in this state may appear dead—not breathing and its heart not beating—but when temperatures rise above freezing, its organs will warm up, and its heart and lungs will “come back to life.”

“...certain species of frogs, such as the wood frog, produce their own “antifreeze” that contains a high concentration of glucose to prevent ice crystals from forming in their vital organs.”



Frogs are winter “survivors” – some hibernate underwater, others hibernate on land, and some, like the wood frog pictured here, produce “antifreeze” that prevents ice crystals from forming internally in frigid temperatures.

Salamanders

Some small creatures like the red eft and other salamanders hibernate during the winter. Many will follow the “seek shelter and sleep” hibernation option in underground burrows, in logs or rock crevices, or beneath leaves. However, some will choose to head to the bottom of a pond, flowing streams, or spring seeps that never freeze. Cold water actually holds more oxygen than warm water, and salamanders can absorb this oxygen (breathe) through their skin (as can turtles and frogs). A salamander can also decrease its metabolic rate to acclimate to the colder winter environment and raise it when the temperatures get warmer.



Susan L. Shafer

A red eft will spend the winter underground in the forest.

Painted Turtles

Painted turtles are found from the Atlantic to the Pacific, including areas with cold winter climates like New York and Canada. In the first winter after hatching, generally in late summer, these hatchling turtles will hibernate in their natal nest, within 10 centimeters (4 inches) of the surface. Painted hatchlings can control or limit any water freezing in their bodies to extracellular spaces, with cells remaining in a liquid state and able to function normally.

Following that first year, most painted turtles will overwinter underwater, resting in the mud at the bottom of lakes or ponds. These turtles are able to significantly slow their metabolism, reducing their need for energy and oxygen. This allows them to achieve a dormant state, rather than full hibernation.

They can then survive on stored energy and absorb oxygen through their skin while underwater. Studies have found that painted turtles are able to survive underwater for up to five months without needing to surface for air.

“Will reptiles and amphibians be able to adapt to these climate changes that are occurring in what is a very short evolutionary time frame?”



Laurie Dirx

Painted turtles spend the winter below the ice in ponds.



Garter snakes will sometimes hibernate in dens with hundreds or thousands of other garters for additional insulation from the cold, emerging in the spring and forming “snake balls” before dispersing for the summer.

Garter Snakes

Like many other reptiles, garter snakes face a dual threat during cold winter months: cold weather and food scarcity. So they do what many other reptiles do—they hibernate. They search for rock crevices, go deep down into the soil, or, sometimes, take refuge in basements. Garter snakes will also migrate short distances (i.e., up to a few kilometers) to mass together in dens in groups of a hundred or even a thousand, insulated from the cold.

Garter snakes also rely on freeze tolerance, where they flood their cells with “antifreeze” (glucose and glycerol). While it protects cells, the antifreeze does not prevent extracellular fluids from freezing; a garter snake can usually survive if this occurs, even if the amount of body ice content reaches up to 40 percent of its total body water. However, these snakes’ freeze tolerance is also limited to relatively brief periods of time, i.e., about six days at temperatures of -22 degrees Fahrenheit, so there is a danger the snakes could freeze (see “Ask the Biologist” on page 30).

Insects

While the Monarch butterfly is famous for migrating to Mexico for the winter, most insects remain in the state when temperatures get cold. Their survival technique usually involves “diapause,” a period of dormancy where the metabolic activity of the insect slows down significantly, which decreases the amount of energy required. In many cases, an insect will burrow underground or find shelter in tree trunks or under rocks or plant debris, where temperatures are not as cold.

Another technique, often used in combination with finding a warmer overwintering shelter, involves a liquid antifreeze of alcohol glycerol that protects the insect’s tissues. The glycerol is composed of special carbohydrates, known as crytoprotectants, that lower the freezing point of body fluids, which decreases the risk of ice crystals forming. However, for glycerol to be effective, insects must produce the glycerol before the onset of freezing temperatures, much like humans need to put antifreeze in their cars

before chilly temperatures arrive to protect the engines. Glycerol will break down as weather warms, allowing insects to resume normal growth after the winter ends.

Unlike humans, reptiles and amphibians neither dread the onset of winter’s cold temperatures nor welcome the change of seasons. They have developed abilities to deal with the frigid temperatures—sometimes shutting down their internal systems to endure the cold (without movement) for a few months. It’s a unique mode of survival, but one that works well. However, scientists have observed that over the last 100 years, some of our frog species are now calling earlier in the spring—as much as two weeks earlier. This begs the question: Will reptiles and amphibians be able to adapt to these climate changes that are occurring in what is a very short evolutionary time frame?

So, as you board a flight down south to escape winter’s wrath, or wrap yourself in sweaters, hats, gloves, or parkas before heading outside, or crank up the thermostat in the house, it’s fun to think about how creatures in the natural world are adjusting to the cold. Clearly, we warm-blooded humans have artificial methods of dealing with low temperatures. Then again, at this time of year, flying south like the birds, or finding a warm place to sleep through the winter sounds appealing as well.

Alvin Breisch was the amphibian and reptile specialist and director of the Amphibian and Reptile Atlas project for DEC until his retirement in 2009. **Peter Constantakes** is assistant editor of *Conservationist*.



THE CHICKADEE

NEW YORK STATE'S "WINTER WARRIOR"

BY PATRICK J. CHAISSON



The winter woods fell silent as I slowly made my way along a backcountry ski trail. Suddenly I felt as if I was being watched.

It was an eerie sensation. I glided to a stop and looked around for my wilderness stalker. Then it appeared—a small, twitchy bird, staring me down from a nearby hemlock branch.

The inquisitive little fellow cocked its head and hopped in for a closer look. After giving me a thorough inspection, my new friend decided I didn't have any food and noisily flew back into the forest.

I had just encountered a black-capped chickadee. Familiar to birdwatchers and outdoorspeople alike, the chickadee is one of very few passerine (perching bird) species that makes its home here year-round. The one I saw was busy gathering seeds.

A frequent visitor to backyard feeders, the black-capped chickadee (*Poecile atricapillus*) has a black head and bib, white cheeks and underparts, buff sides, and greyish-blue upper surfaces. It measures 12–15 cm (4.7–5.9 in), with a wingspan of 16–21 cm (6.3–8.3 in), and typically weighs 9–14 g (0.32–0.49 oz.). One of seven species of chickadee found in North America, the black-capped is the only one common in New York. They are closely related to another familiar backyard feeder visitor, the tufted titmouse.

The black-capped chickadee can be found across New York State. Look for it in forests, woodlots, parks, and suburban areas. Try not to confuse this species with the Carolina chickadee or boreal chickadee, who have some similar features and have also been observed here.

A hardy bird, the black-capped chickadee is well-adapted to life in the state's subfreezing winter temperatures. During the coldest months, it roosts in cavities such as rotten tree trunks, knotholes, or even old woodpecker nests. If a hole isn't handy, any brushy tangle will do to block the wind.

Once settled into a roost, this little bird can actually lower its metabolism to save energy on long winter nights. This state of lower energy use is called *torpor*, and helps conserve fat, an important source of energy. During torpor, a sleeping chickadee's body temperature can drop 12 °F below normal.

Black-capped chickadees occupy most of their waking hours in search of something to eat. Unlike the rest of the year when they primarily eat insects, in wintertime, seeds make up a large part of their diet. During the year, chickadees will stockpile food in hiding places termed *caches*. These clever songbirds can

memorize the locations of over one thousand cache sites, so they are able to retrieve food stored months ago. Chickadees will also eat berries, suet, peanuts, and even bits of meat off frozen carcasses.

Social animals, chickadees flock in groups of 3 to 13 during winter.



Chickadee Fun Facts

Chickadees get their name from their *chick-a-dee-dee-dee* call. This is called onomatopoeia, or naming something for the way that it sounds. Interestingly, the more “dees” at the end of the call, the more upset the bird is.

Chickadees often can be easily trained to take food, such as sunflower seeds, from your hand.

A group of chickadees can be called a banditry of chickadees, most likely because of the mask-like appearance of their faces.

Chickadees are cavity nesters, often using old woodpecker holes to nest in. They will also dig their own holes in rotting or soft wood, or nest in nest boxes.

There is a definite pecking order, or *dominance hierarchy*, in these flocks. Older birds outrank younger ones, and males dominate over females. High-ranking members get the best food, the warmest roosts, and first choice of mates. Flocks often consist of mated pairs and nonbreeding individuals, but usually not offspring from the adults in the group. Pair bonds may last for years. The flock works together to survive nature's harshest season. When one chickadee discovers a new source of food, it will share this information with the rest of the flock using a technique scientists call *vocalization*.

The black-capped chickadee has three basic calls: the *chick-a-dee-dee-dee* song that inspired its name; a *fee-bee* noise; and a “gargling” sound made perhaps to establish dominance over another bird. Scientists have studied these vocalizations for decades, and recorded dozens of distinct calls. Each one means something different. Some songs may announce “here’s lunch” to the hungry flock, while others

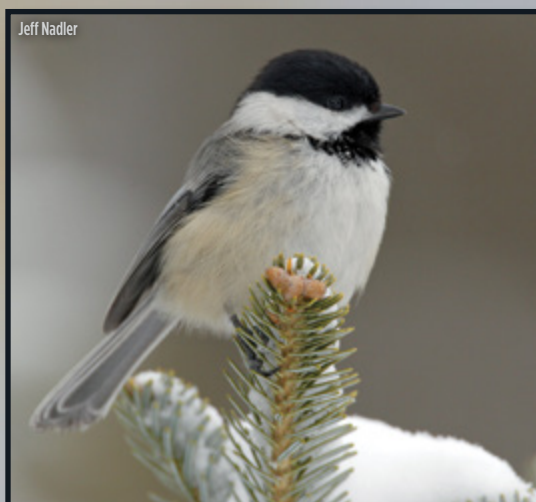
might be used to attract a likely mate. There are predator alarms, all-clear signals, and even one sound that researchers thought was a bird saying “Honey, I’m home” to its companion after spending the day searching for seeds. No one is exactly certain what the chickadee is trying to communicate with all these complex vocalizations, but it’s safe to say this acrobatic perching bird uses song-language to help its flock survive the cold, snow, and food shortages of winter.

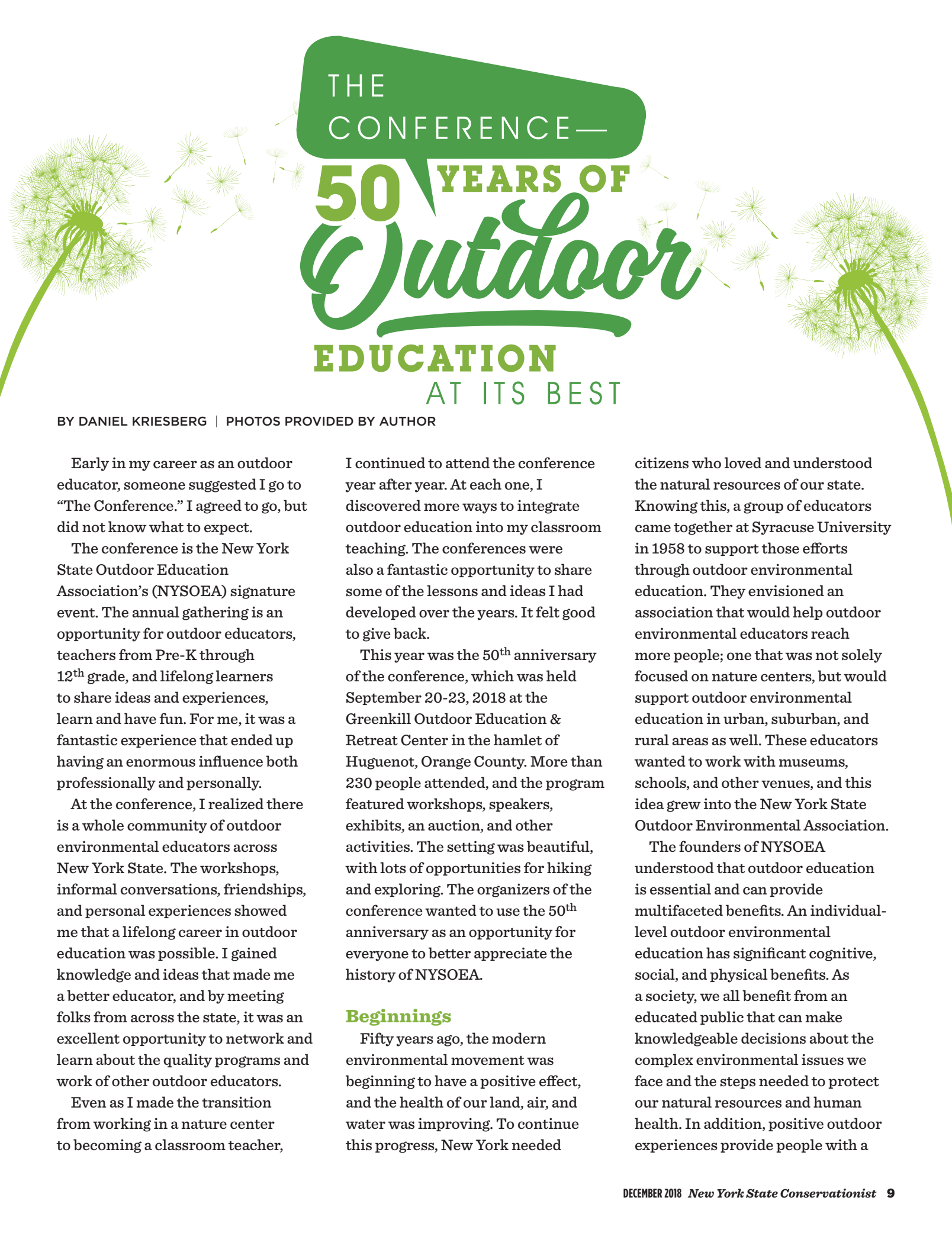
It’s time we give the black-capped chickadee the credit it deserves as a true “winter warrior,” battling frigid temperatures and scarce food supplies during the coldest of seasons. This curious, intelligent songbird also inspires us to go outside and be active. The chickadee knows there’s a lot to explore and investigate this time of year.

Patrick J. Chaisson is a writer and naturalist who enjoys watching the acrobatic antics of black-capped chickadees outside his family camp in Wells, NY.



Tiny bundles of energy, chickadees are constantly on the move in search of food in winter.



The background of the page features two large dandelion seed heads, one on the left and one on the right, with many seeds blowing away in the wind. The seeds are depicted as small, light green lines radiating from the heads.

THE CONFERENCE— 50 YEARS OF *Outdoor* EDUCATION AT ITS BEST

BY DANIEL KRIESBERG | PHOTOS PROVIDED BY AUTHOR

Early in my career as an outdoor educator, someone suggested I go to “The Conference.” I agreed to go, but did not know what to expect.

The conference is the New York State Outdoor Education Association’s (NYSOEA) signature event. The annual gathering is an opportunity for outdoor educators, teachers from Pre-K through 12th grade, and lifelong learners to share ideas and experiences, learn and have fun. For me, it was a fantastic experience that ended up having an enormous influence both professionally and personally.

At the conference, I realized there is a whole community of outdoor environmental educators across New York State. The workshops, informal conversations, friendships, and personal experiences showed me that a lifelong career in outdoor education was possible. I gained knowledge and ideas that made me a better educator, and by meeting folks from across the state, it was an excellent opportunity to network and learn about the quality programs and work of other outdoor educators.

Even as I made the transition from working in a nature center to becoming a classroom teacher,

I continued to attend the conference year after year. At each one, I discovered more ways to integrate outdoor education into my classroom teaching. The conferences were also a fantastic opportunity to share some of the lessons and ideas I had developed over the years. It felt good to give back.

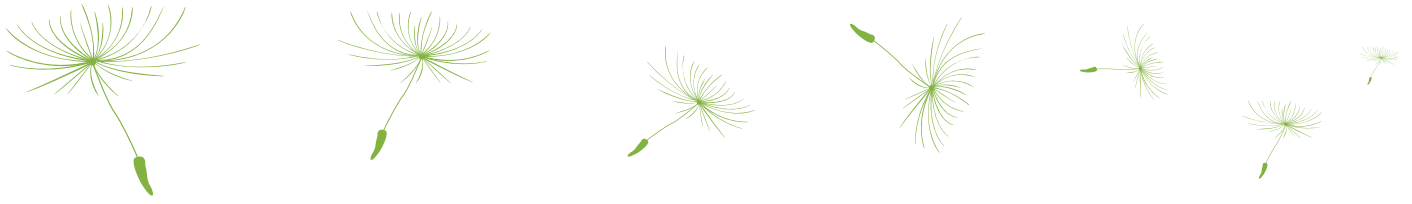
This year was the 50th anniversary of the conference, which was held September 20-23, 2018 at the Greenkill Outdoor Education & Retreat Center in the hamlet of Huguenot, Orange County. More than 230 people attended, and the program featured workshops, speakers, exhibits, an auction, and other activities. The setting was beautiful, with lots of opportunities for hiking and exploring. The organizers of the conference wanted to use the 50th anniversary as an opportunity for everyone to better appreciate the history of NYSOEA.

Beginnings

Fifty years ago, the modern environmental movement was beginning to have a positive effect, and the health of our land, air, and water was improving. To continue this progress, New York needed

citizens who loved and understood the natural resources of our state. Knowing this, a group of educators came together at Syracuse University in 1958 to support those efforts through outdoor environmental education. They envisioned an association that would help outdoor environmental educators reach more people; one that was not solely focused on nature centers, but would support outdoor environmental education in urban, suburban, and rural areas as well. These educators wanted to work with museums, schools, and other venues, and this idea grew into the New York State Outdoor Environmental Association.

The founders of NYSOEA understood that outdoor education is essential and can provide multifaceted benefits. An individual-level outdoor environmental education has significant cognitive, social, and physical benefits. As a society, we all benefit from an educated public that can make knowledgeable decisions about the complex environmental issues we face and the steps needed to protect our natural resources and human health. In addition, positive outdoor experiences provide people with a



greater sense of wonder, connection to and stewardship for the natural world. The organization founders understood there was no way this could happen in an indoor classroom; they were determined to integrate outdoor experiences into the education of children and adults across New York State.

A Mission and Growth

NYSOEA has grown since its beginning fifty years ago—it has focused its mission on promoting interdisciplinary lifelong learning in, for, and about the outdoors, and inspiring an appreciation for the environment by all people. There are now 44 affiliate organizations across New York, with 275 members, and it's still growing.

NYSOEA provides many resources and opportunities for learning. The organization publishes an online magazine, *Pathways*, that highlights the work of member affiliates and is a valuable resource for outdoor environmental educators to learn new teaching methods and improve their knowledge of New York State's natural history. Through the course of the year, NYSOEA hosts weekend workshops and other local events to further its goals, and also celebrates the work of effective and innovative educators through an awards program that honors exceptional educators and artists.

The organizers wanted to use the conference to take outdoor education forward with three strands of workshops:

“New York State has been gifted with incredible natural resources and incredible outdoor recreation opportunities.”



Participants learned something new about the old ways.

“Learn it” workshops helped educators learn and appreciate more about the natural world, and strengthened their own sense of wonder. In this strand, a popular workshop was “Birding for Life,” presented by LoraKim Joyner and Gaile Koelin.

“Live it” workshops gave participants opportunities to consider new ways to experience or educate in the outdoors, and a session on “Roving Interpretation” helped participants learn more about this innovative teaching technique.

“Pay it Forward” workshops focused on making the field of outdoor education stronger for the future, and Maritza Cuevas’s workshop on “How to Cultivate Partnerships” demonstrated ways to connect outdoor education to other community organizations. NYSOEA members also benefitted from a presentation by Virendra Rawat, who traveled from India to tell the participants about the 140 Green Education schools he has opened, including some in the U.S.

The keynote speakers were Judy Braus and Bill Hammond, Ph.D. With more than 50 years in outdoor education, Dr. Hammond shared his wisdom on what we can learn from the history of outdoor education. His perspective of how children used to have informal mentors spoke to the need for today’s outdoor educators to recreate those kinds of experiences.



The conference was a time to reflect and relax.

Ms. Braus' presentation discussed the future of outdoor environmental education. As the executive director of the North American Association for Environmental Education (NAAEE), she shared a vision of outdoor education being more diverse and researched-based, and having an even more significant impact. It was inspiring to be at an incredible gathering of the past, present, and future of outdoor education. As Jeff Sladewski, a student at SUNY Cortland, so eloquently said to the audience "We can look at what is

here today as a tree. Those of us that are starting their careers are the leaves, just branching out; the current educators are the trunk, providing support; and the folks that began outdoor education in New York are the roots. Together we have something beautiful and strong."

It was a weekend of reunions with old friends and time for making new ones. Throughout the conference, you could see the energy passed down from mentors to mentees, who will serve as the mentors of the next generation.

New York State has been gifted with incredible natural resources and outdoor recreation opportunities. While there are still environmental challenges, we have enjoyed much success. To preserve and continue to protect, promote, and improve our environment, we need citizens who will be effective stewards of the land and water. NYSOEA plays an essential role in helping people gain the knowledge, skills, and love to do just that.

Anyone interested in New York's natural history and outdoor education is both welcome and strongly encouraged to attend next year's conference, scheduled for October 31-November 3 at Sharpe Reservation in Fishkill. It's a great way to discover and discuss new ideas on how we can use outdoor and environmental education to garner greater appreciation of our natural resources and build a healthy, sustainable future. To find out more about NYSOEA and the conference, visit <https://nysoea.org/>.

Daniel Kriesberg is a sixth-grade science teacher at Friends Academy, a Quaker school on Long Island.

A FLASH OF



WHITE

THE SNOWY OWL
IRRUPTION OF
2017-2018



Last winter, New Yorkers were treated to an unexpected number of snowy owls. Called an irruption, these striking visitors were suddenly present in areas where they generally don't occur. As a wildlife photographer, it was a dream come true, and I was fortunate to photograph 10 different individuals that were spotted in Washington County, Albany County, Saratoga County, and Schenectady County.

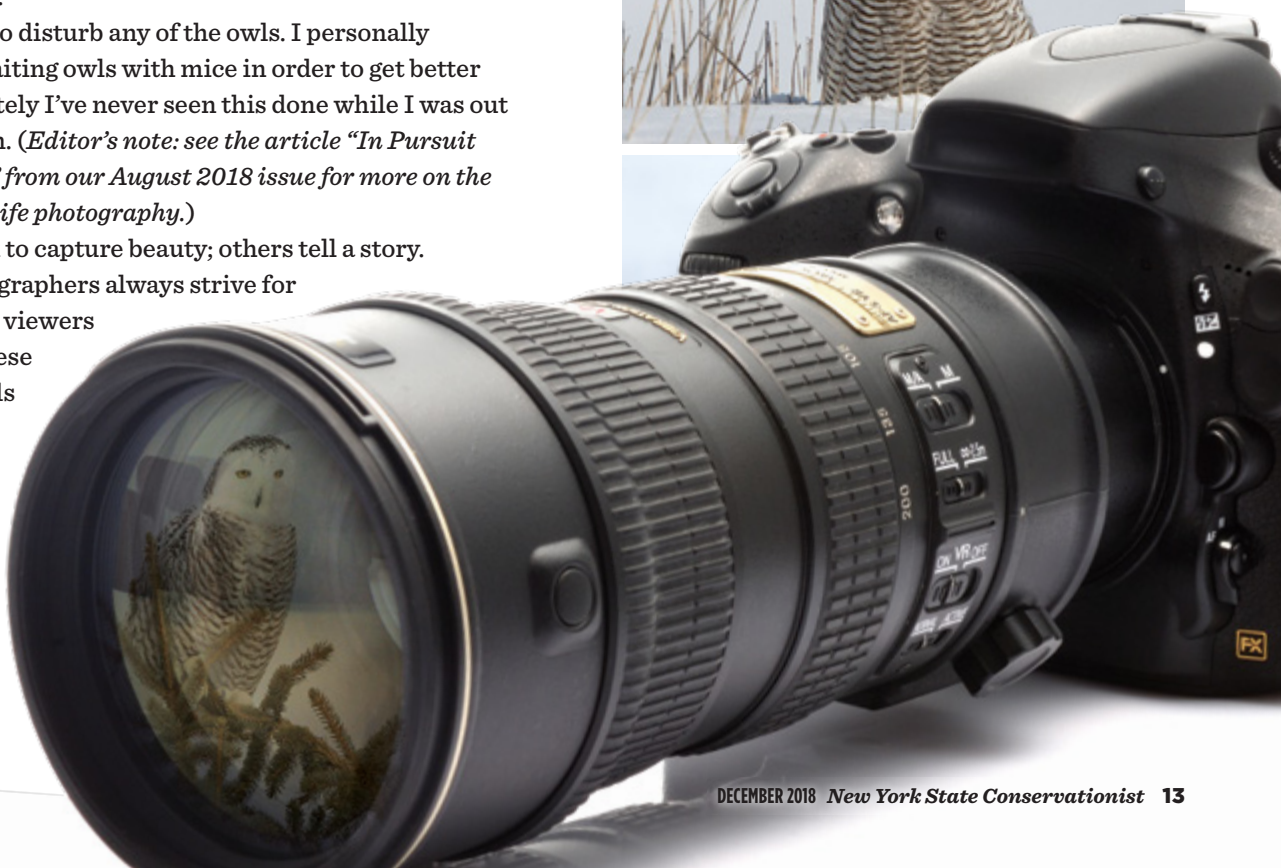
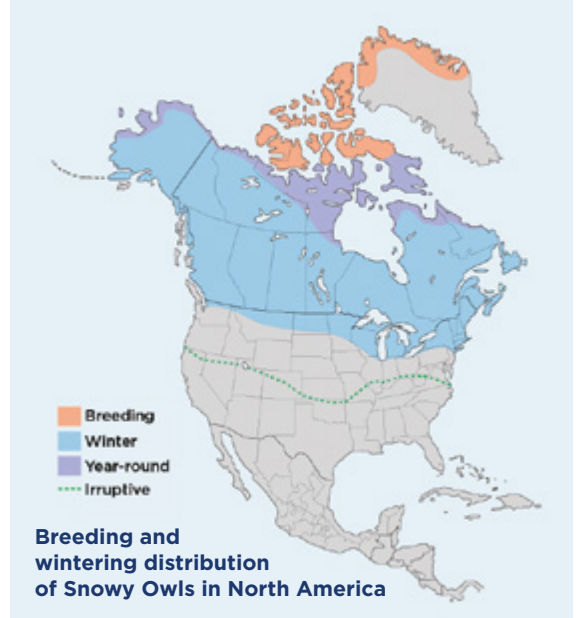
Snowy owl irruptions are somewhat of a mystery, but they seem to happen every few years. Researchers have speculated it could be due to a lack of food resources within their normal range, or perhaps an abundant breeding season creates a larger population that causes snowys to seek additional territory further afield. Regardless of the reason, it's cause for celebration among birding enthusiasts.

Last year's visitors were wintering in wide-open agricultural fields similar in appearance to the treeless habitat in the Arctic where they breed. Since most of the land the owls were spotted on was privately owned, I generally photographed the owls from inside my car which acted as a blind. For some shots, I stood by the car, parked off the road. I used a large 500mm lens, and then cropped the images to create close-up portraits. The straight-on shots of the owls in flight were pure luck, taken of an owl seeking a vole in front of me.

I was careful not to disturb any of the owls. I personally strongly object to baiting owls with mice in order to get better photos, and fortunately I've never seen this done while I was out photographing them. (*Editor's note: see the article "In Pursuit of the Perfect Photo" from our August 2018 issue for more on the topic of ethical wildlife photography.*)

Some photos seek to capture beauty; others tell a story. But one thing photographers always strive for is to present images viewers will enjoy. I hope these photos of snowy owls do just that.

Jeff Nadler is a nature photographer living in western Saratoga County. You can view more of his photos at www.jnphoto.net.



Meet the Snowy Owl

BY JEREMY TAYLOR

Similar in size to great horned owls, snowy owls have piercing yellow eyes, and no ear tufts. Adult females are larger and more heavily barred than adult males.

Snowys are the heaviest owl species found in North America. They average four pounds—a pound heavier than the great horned owl and twice as heavy as the great gray owl (the tallest species in North America).

Unlike most other owl species, which are nocturnal, snowy owls are highly diurnal, meaning they are very active during the daytime. This is in part due to the 24-hour daylight present in their summer range.

Snowy owls nest on the ground, scraping out a shallow area. They have one brood per season, with females laying 3-11 eggs. After an incubation of 32 days, the eggs hatch and the young remain in the nest for 18-25 days. The oldest known wild snowy owl was a female that was banded in Massachusetts in 1992 and recaptured at the age of 23 in Montana.

Snowy owl population numbers vary widely, depending on the presence or absence of prey. Due to the remote nature of their breeding grounds, their population has been difficult to estimate; however a global estimate is that 200,000 breeding birds exist.

Editor of *Conservationist for Kids*,
Jeremy Taylor enjoys birding.



Zaphir Shamma



Zaphir Shamma



Zaphir Shamma



Aaron Winters

On Patrol

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

CONTRIBUTED BY ECO LT. LIZA BOBSEINE AND FOREST RANGER CAPT. SARAH B. GEESLER



How Not to Hunt for Bears—Warren County

On October 12, ECO George LaPoint received a call from a homeowner in the town of Stony Creek stating that his neighbor had shot a bear within 500' of his house and that there was a bait pile nearby. ECO LaPoint and ECO Rob Higgins went to the suspect's residence, where the husband gladly showed them the bear, tagged with his wife's tag. While ECO Higgins walked with the wife to discuss details of the hunt, ECO LaPoint followed an ATV trail and drag marks to a pile of corn, covered in fresh bear blood. As the wife's story crumbled, the husband admitted to shooting the bear well within the 500' of his neighbor's house and over the bait pile. He was issued tickets for illegally feeding bears, taking a bear over bait and illegally taking wildlife. The wife was issued a ticket for lending her tags. The case was heard in Stony Creek Town Court and the defendants paid \$850.

Expensive Dinner—Delaware County

In early September, ECO Nathan Doig received information about an Instagram post referencing a timber rattlesnake being killed in the town of Hancock. Doig located pictures of the dead rattlesnake, along with a video and pictures of it being cooked the evening of the day it was killed. ECO Doig located both subjects and interviewed them. One subject admitted to having shot the snake with a pellet gun, and his mother was cooking it in the photos and video. Given the unusual nature of the case, ECO Doig asked the mother how the snake had tasted, to which she replied, "Good, I ate them all the time in Texas when I was younger." The son was charged with the illegal taking of the rattlesnake and the mother was charged with illegal possession of the snake. Timber rattlesnakes are listed as Threatened in New York State. At a potential cost of \$250 dollars per ticket, it could end up being a very expensive meal.

Morning Flight Out—Essex County

On the afternoon of October 22, DEC's Ray Brook Dispatch received a transferred call from Franklin County 911 from a hiker reporting that a 27-year-old companion from Astoria had injured her knee halfway up Basin Mountain. Forest Rangers Pete Evans and Jim Giglinto responded on a UTV to the Southside Trail of the John's Brook Outpost. The Rangers located the group just below the Slant Rock lean-to at 9:56PM. After the Rangers administered basic first aid, the group continued their hike out, but had to stop at 11PM when the injured hiker could no longer walk. Additional Rangers were called in. The next morning the injured hiker was carried out to John's Brook Valley and then flown by State Police Aviation to Adirondack Medical Center in Saranac Lake.



Signal Shots—Lewis County

On the evening of October 24, Lewis County 911 contacted DEC's Ray Brook Dispatch requesting Forest Ranger assistance to find an overdue hunter in Brantingham. Four Forest Rangers and an ECO responded. The first on scene, Forest Ranger Luke Evans fired signal shots from the road and received a response. Ranger Evans, accompanied by a State Trooper, immediately proceeded in the direction of the shot and located the hunter in good health at 11:10PM. The hunter, who built a fire to stay warm, was returned to his vehicle by midnight. He had become lost after losing his compass and had no flashlight or cell phone coverage.



Quail

in the classroom

BY KEVIN WALSH | PHOTOS PROVIDED BY AUTHOR

My Dad loves to tell the story of how my mother excitedly called him at work to declare our new home came with our very own flock of chickens. It was forty years ago, and we had just moved from New York City to the suburbs of Long Island. Turns out, the chunky, earth tone flock of birds that were contentedly scratching and pecking at the ground outside our kitchen windows were bobwhite quail.

Once a common occurrence on our property, it has sadly been 25 years since our last quail sighting. Every location where I once reliably sighted them or heard their iconic “bob-white” call has grown silent. Turns out, the subject of my mother’s humorous misidentification is quickly vanishing across much of its former range.

Birdwatchers in Northeastern America have been witness to the continuing plummet of northern bobwhite populations. This precipitous decline has been due primarily to loss of habitat as farmland reverts to mature forest or is subdivided for development. Fire suppression practices (which certainly benefit communities) have also resulted in thicker, brushier woodlands; not the open grassier woodlands favored by bobwhite.

Meanwhile, some teachers have been educating schoolchildren about animal life cycles, including birds. To illustrate their lesson, these teachers incubate and rear domesticated ducks or chickens. But when the lesson is over, there can be the problem of who will care for the fully-grown birds.

Enter Long Island-based biologist Eric Powers. Head of Your Connection to Nature—a Long Island-based company whose goal is to help city dwellers appreciate and gain a deeper respect for nature—Powers is an outdoor educator who often leads field trips guiding students through woods and fields to study the flora and fauna. Over the years, he began to notice that students were picking up more ticks.

While conducting a BioBlitz—an event where biologists and volunteers scour parkland to catalog species—at Caleb Smith State Park, Powers discovered that along with the increasing tick population, there was the disappearance of ground-dwelling birds, most notably the bobwhite quail. The BioBlitz also revealed an invasion of a new predator—the house cat. Loss of habitat across Long Island, along with other factors like an ever-growing feral cat population, as well as freely roaming pet cats, decimated the quail. The ecosystem was out of balance.

Beginning in 1999, Ranger Eric, as Powers is locally known, enlisted a number of teachers to raise bobwhite in their classrooms in place of domestic fowl, thus eliminating the dilemma of long-term care. Since then, Powers has continued to rally his legion of volunteers, visiting participating schools each year to educate students about the plight of the northern bobwhite, tick safety precautions, and responsible pet ethics, and to inform them of their upcoming role as quail caretakers.

As a fourth-grade teacher, I jumped on this opportunity to enroll my class in this program. In preparation for our spring venture, I purchased a Hova-Bator incubator and automatic egg turner capable of housing 120 quail eggs. I then obtained a license to “possess/collect” bobwhite quail from DEC (participating schools are required to apply with DEC for this license annually) and ordered eggs.

Over the years, I’ve obtained eggs from bobwhite quail farms as far north as Maine and as far south as Georgia. Every time the eggs have weathered shipping in their little cardboard box, unbroken and viable, to the amazement of the students.

I learned the hard way that it’s crucial to invest in a quality thermometer/hygrometer, since the temperature and humidity must be precise, with the ideal temperature range being 99 to 100 degrees Fahrenheit. An inaccurate temperature reading can lead to deformities, or in our case one year, a complete failure of the eggs to hatch.

“Beginning in 1999, Ranger Eric, as Powers is locally known, enlisted a number of teachers to raise bobwhite in their classrooms in place of domestic fowl, thus eliminating the dilemma of long-term care.”



A courtyard quail coop is home to the young birds and provides a birds-eye view for students to see the birds in action.

With a reliable thermometer now in place, our hatch rate has averaged around 80% each year, and the chicks have hatched precisely on the 23rd day of incubation. Since hatching may begin overnight or on a weekend, we use a live camera that can be viewed anytime via the internet.

A heat lamp and donated fish tank serve as the indoor brooder. From the very start, the students are mesmerized by the antics of the precocial chicks.

At about two weeks of age, most participating schools transfer their quail chicks to a centrally shared outdoor quail coop. But thanks to Eagle Scout Kyle Thompson, we have our own courtyard quail coop, and my students have been able to witness the entire quail life cycle on school grounds.



The author and a student round up the quail for transport to the release site.

The coop enables us to acclimate the birds to the sights and sounds of the great outdoors before releasing them to the potential perils of the wild. We've witnessed red-tailed hawks and crows investigating by day, and discovered great horned owl feathers shed next to the coop at night. Vigilance is practiced without the risk of casualty.

A heat lamp and shelter from the elements are essential. Springtime's unpredictable weather and the absence of a mother to brood over the chicks makes regulation of the young birds' body temperatures a real concern.

The instant the chicks are outside, their keen eyesight and insectivorous instincts are on display, and they readily consume anything that mistakenly enters the coop. To satisfy their growing appetites, students collect insects from home and then combine them with leaves. When first placed in the coop, the neophytes move ever so slowly, their necks fully extended, cautiously inspecting

the heap. Eventually, hunger overcomes fear and a frenzy of oversized feet begin furiously kicking and scratching, revealing the treats beneath. Worms, grubs, beetles, ants, termites, crickets, pill bugs, and daddy longlegs all succumb to our voracious covey of quail. To the delight of the students, tug-of-wars break out as two or more chicks clamp their bills down on the opposite ends of a worm. They slip, slide, and roll about until a winner is declared or a worm equitably snaps in two.

When the chicks reach ten weeks of age, we schedule the release date. This has become a celebratory gathering and source of community pride. Students transport the birds in small animal carriers down park pathways to the release site. Evident in their smiles is pride in knowing they have raised the birds they are about to release. In typical bobwhite style, when the cage doors open the birds bolt to freedom as if they were shot out of a cannon. Occasionally, one or two alight on the head or shoulder of an astonished student before responding to the chorus of locator calls coming from the rest of the flock.

Through the process of raising these birds, my students learn about predator/prey dynamics, the perils of alien species, instinct, adaptations, life cycles, ecosystem balance, and the humane treatment of animals. But for some students, the program's benefits extend beyond mere academic enrichment. I've witnessed students' birdwatching hobbies take flight. Scouring our library shelves for bird books, purchasing binoculars, installing feeders, and reporting their daily sightings to me, their passion unfolds. For others, the experience has provided a much-needed emotional escape. For one student whose father passed away mid-year, collecting insects to feed the quail instilled a sense of peace and purpose to his school day. In some sense, the birds became an extension of his family.





The author (center), biologist Eric Powers (orange shirt), and some students getting ready to release the birds into the wild.

As a birdwatcher, I long to see a return to the days of my youth when the call of “bob-white” announced spring had sprung. (See Editor’s Note below.) This charismatic bird awakened a love of nature from an early age. When danger was detected by the quail visiting our backyard bird feeding station, which often was my movement on the other side of the window, the covey of 10 to 15 birds would scamper into the brush, instinctively forming a circle with all eyes facing outward for a 360-degree view of the potential threat. They were my backyard’s miniature version of musk oxen. No other bird seemed as social as these, meandering the mosaic of my neighborhood as a team. No other bird’s camouflage could match their cryptic concealment, nor the heart-stopping adrenaline rush experienced when they would bolt from cover in every direction from right under foot! With the winter’s first snowfall, I religiously set out to track them down. Following their one foot in front of the other, winding, crisscrossing tracks was this budding birdwatcher’s version of hide-and-seek.

I take pride in the fact that this program is inspiring many students to become our state’s next conservationists. And as a person recently diagnosed with Lyme disease, I take pleasure in knowing the bobwhites we raised and released are enjoying a few ticks.



Kevin Walsh is a fourth-grade teacher in the Mount Sinai School District, and a freelance writer.

Editor’s Note: DEC biologists and other researchers studying quail agree that despite efforts to manage habitat for the best possible outcome for raising and releasing birds, Long Island’s landscape has, unfortunately, been altered to the point that a self-sustaining wild quail population is no longer possible. More research needs to be done to determine the local effect that quail may have on tick populations.

Note: A previous version of this article appeared in the August 2018 issue of *BirdWatching Magazine*.

THE ADIRONDACK CORPS



20
SEASONS
of mountains,
mud, mosquitoes,
and life-changing
experiences

BY REBECCA KAMBIC |
PHOTOS PROVIDED BY SCA

When we wake up, there's fog on the lake. We hear the beat of a grouse thumping its wings. The sun rises and bathes our campsite nestled in the shadow of Pharaoh Mountain. We unzip our sleeping bags to greet the mountains and the morning. But this isn't a typical Adirondack vacation. This morning, an Adirondack Corps trail crew wakes in this campsite. We're here to work.

By noon we're rolling 350-pound rocks through the forest by hand. The mosquitos are waking up and whine in our ears. We're sweaty from swinging a 10-pound double jack hammer, crushing rock into gravel, and we're covered in dirt. Our crew is stationed on the Pharaoh Lake Trail for ten days, and we're building a stone turnpike to repair an extremely muddy section of trail.

The Adirondack Park has its fair share of muddy trails. From the High Peaks to Pharaoh Lakes Wilderness, the Adirondacks have a long list of pressing conservation projects to complete. That's where the Student Conservation Association (SCA) comes in.

SCA is an organization that places young people in conservation positions across the country. SCA partners with government agencies and non-profits to provide hands-on experience in technical skills, leadership, and teamwork. Nationally, SCA operates a variety of programs, from urban community crews to high school crews to individual conservation internships.

In the Adirondacks, the SCA Adirondack Corps is a five-month technical trail skills and leadership development program. Funded by Americorps and partnering with DEC, the Adirondack Corps offers a life lived close to the mountains and

lakes, a chance to learn valuable skills, and the opportunity to become part of a close-knit crew of like-minded individuals. Young adults come to SCA from across the country to complete high-priority conservation projects throughout the park. It is, in short, a life-changing experience.

This year, the SCA Adirondack Corps celebrates its 20th season fielding trail crews. In the past two decades, Adirondack Corps members have contributed over 400,000 hours of volunteer service in the park. For many young people who successfully complete the program, it is also the gateway into a career in conservation and environmental work.

I began my journey with the Adirondack Corps in 2014. Fresh out of college, I signed on to be a crew member for the summer. It isn't an exaggeration to say that the experience changed the course of my life. I left the Corps with the knowledge that conservation work was my passion. It set me on a path to many wonderful places, and ultimately back here to the Pharaoh Lakes Trail on a hot day in July, teaching a fresh group of crew members how to move stone with rock bars.

It's not only the technical side of trail work that I find fascinating—for example, how to achieve maximum contact between two stones in a stone structure—but it's also the impact trail crew programs have on individual lives. How do we create transformative experiences out of dirt work? The answer is a magic formula of teamwork, hard work in the woods, becoming close to the natural environment, learning new skills, and getting things done for a greater good.

The crew at Pharaoh Lake spent ten days quarrying large stones and hauling buckets of inorganic soil to create an elevated, dry tread surface.



Above: Adk Corps crews replace a hiking bridge over Beaver Pond with a sturdy, long-lasting structure. **Below:** Crew members use muscles, not machinery, to construct a dry, elevated, long-lasting "turnpike" on the OK Slip Falls that is more enjoyable for hikers and protects natural resources.



Every day they jumped in the lake to wash off bug spray, sweat, and stone dust, and to ease weary muscles.

As trail workers, a huge part of our work is to get the trail out of the water, or the water out of the trail. This is to prevent erosion, and create a safe, appealing path so that users are less likely to walk around a muddy spot, which can widen the trail and increase their impact on the natural world.

I now work as a project leader for the Adirondack Corps. I love my job. I support both the crew and the project. I make sure the team has the skills and resources they need to be successful. A typical day might find me out on the trail with the crew, but not every day.

“Creating something that will benefit so many people makes me feel useful and empowered.”

They often have opportunities to flex their own decision-making and leadership skills.

In addition to Pharaoh Lake, we worked on a huge variety of projects across the park this year. On the Avalanche Lake Trail, we replaced many unique bridge and ladder structures, shaping timber to fit stone for lasting structures in a timeless place. On Catamount Mountain, we built hundreds of feet of single-tier retaining wall to keep the trail from sloughing down the mountain. On the Northville Placid Trail, we built a 35-foot spanning bridge near the Carry Lean-To. In the West Canada Lakes Wilderness, we cleared and brushed many miles of remote wilderness trail. Most of our crew members had never done trail work, and many of them had never even used a hand tool before their time here. However, we believe



Above: SCA crews replaced the old bridge at 13th Lake Inlet with a much sturdier one. Below: Saws and sweat are part of the experience. Crews stand on the Slim Pond Bridge, which they constructed using nearby timber resources and a cross cut saw.



in our trainings and what they can complete with our support. Our crew members always rise to the occasion.

The life of a trail crew member in the Adirondack Corps is difficult to describe. It's not a normal job where you can go home at the end of the day and put work out of your mind. Suffice it to say, the opportunities for growth never really stop. Every day presents unique challenges. We load up our packs with 70 pounds of food, tools, and gear, and carry it for miles. The mosquitos and black flies bite through our work gloves and head nets as we clear vegetation or lift heavy rocks. Our crews miss contact with family, friends, and outside support networks for 5 or 10 days at a time. They eat soggy tortillas and sweaty cheese. You might be snuggled into your sleeping bag right next to the crew mate you just don't get along with, and they're just as muddy and smelly as you are.

Through the dirt, bugs, and hard work, the crew creates not just trail structures, but tight bonds of teamwork and newfound confidence. The chance to build a bridge or a rock staircase is not an opportunity common to many young people today. Many of our crew members have just graduated from college or transitioned from school. They've spent a lot of time working in the theoretical. For most, trail work is a refreshing shift into the tangible. I remember how I felt when I built my first bridge. Creating something that will benefit so many people makes me feel useful and empowered. I feel part of something that provides and endures.

If you have hiked in the Adirondacks, you have likely tread on the work of an Adirondack Corps crew. The partnership between Americorps, SCA, and DEC has been successful for 20 years, and hopefully the Adirondack Corps will continue to serve the park for many more years.

As spring comes in the Adirondacks each year, so does a group of young adults that commit five months of their lives to each other and to the land.

At the end of our 10-day stay on the Pharaoh Lake Trail, the crew watched weekend hikers pass safely over their newly built (and very dry) stone turnpike. We were hot, tired, and hungry, but deeply satisfied with our work. This is where trail workers thrive: in the mud, in the heat and cold, amidst bugs and birds and bears. The Adirondack Corps offers a chance to help others access the wilderness, to test limits and boost confidence, and to learn new skills. Every morning we wake up with the mountains right in front of us. I can't think of a better job.

Outdoor enthusiast **Rebecca Kambic** is a project leader and coordinator for the Adirondack Corps.

Upgrading the Vanderwhacker Trail; an Adk crew stands on the newly-constructed trail bridge.



Crews immerse in the water as they rehabilitate Fish Pond Dam.

STAFF SPOTLIGHT

Corrie Magee: Building Connections to the Outdoors

Spending time outdoors was important to Corrie Magee while growing up in Western New York. She's never lost that passion, and today, as a DEC forester, you can



often find her outdoors, managing the natural resources she loves and ensuring people have access to New York's amazing lands and forests.

After graduating from SUNY-ESF, the Adirondack Park became Corrie's home, and she "is thankful every day to live and work here." She began her DEC career as a seasonal fisheries technician, then a natural resources planner, and is now a forester in the eastern Adirondacks. Her duties include protecting precious natural resources and promoting strong stewardship of our lands through natural resource analysis, planning, and project implementation.

Corrie is proud of the work she does and says she feels "entrusted to make a difference on the natural landscape, on a time scale much longer than my career or lifetime." Not surprisingly, she enjoys spending time in the field, working on projects that "protect the integrity of the natural environment and strengthen people's connection to it." She says that the "the most satisfying successes" are the most challenging projects, whether it is solving a difficult trail drainage issues or building a new sustainable trail.

Corrie believes DEC's partnership with the SCA Adirondack Corps is one of the best ways to get high-quality projects done on Forest Preserve and conservation easement lands. This close collaboration with Adirondack Corps members and partners is a positive experience she looks forward to every year.

Corrie's early love of the outdoors has never waned. She encourages young people to get involved and consider environmental careers that "provide important chances to leave your comfort zone, make a difference, and grow personally and professionally."

On a personal level, she spends as much time as she can outside, hiking, biking, paddling, or cross-country skiing. On a professional level, she is proud of the work she does and hopes to "someday make a difference on an even larger scale."

PARTRIDGE RUN

WILDLIFE MANAGEMENT AREA

BY KARL PARKER

Partridge Run Wildlife Management Area (WMA) is located less than 20 miles from the New York State Capitol building in Albany, yet it's a world apart from the urban scene and halls of government. This gem is located on the Helderberg Escarpment in rural southwestern Albany County, with the property rising from an elevation of about 1,200 feet on its east side to more than 2,150 feet at its highest point. Much of the WMA is on a plateau and is gently rolling, varying in elevation between 1,600 feet and 1,900 feet. Visitors will find impressive views of the landscape from various points on the property. When you're in the forest, it's hard to believe there are hundreds of thousands of people who live and work in the nearby suburbs and cities to the east.

The Partridge Run area was first settled around the year 1800, and by 1900, more than 70 percent of the area was cleared and farmed. Unfortunately, early residents soon found the area was poorly suited for agriculture: the soils are thin, rocky, and of low fertility. Winters can also be long, with substantial snow accumulation that lingers well into spring.

In the 1930s, abandoned farms on the current site were purchased by the federal government under the Rural Resettlement Act. During the Great Depression, members of the Civilian Conservation Corps planted trees and carried out other conservation projects on the land.

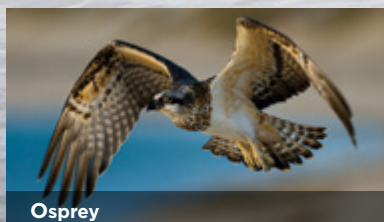
In 1962, Partridge Run was gifted to New York State by the federal government for use as a game management area. Today, the property totals about 4,600 acres, and is managed to provide habitat for wildlife and opportunities for wildlife-related recreation, such as hunting, trapping, fishing, and wildlife observation.

More than 85 percent of the property is natural forest and conifer plantations. There's a long history of timber management on this property. Harvests have been relatively small (generally under 25 acres) or focused on removing mature conifer plantations that are now over 80 years old. This forest management activity has benefitted wildlife populations by creating openings in the landscape, which develop into new stands of young forest.

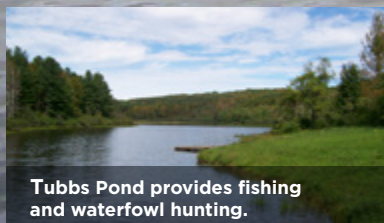
Ironically, although the landscape was once mostly agricultural fields, there are currently less than 70 acres of open fields on the property. However, these fields are very important to wildlife and for human recreation. Existing fields provide habitat for grassland nesting birds and are maintained by periodic mowing, which occurs in late summer, after the nesting season. The larger fields are used for pheasant hunting, which is a very popular activity at Partridge Run WMA. Other smaller fields scattered around the property are often used by deer hunters—both during the archery season and later, when the gun season opens.



This formerly overgrown field was restored using a forestry mower.



Osprey



Tubbs Pond provides fishing and waterfowl hunting.



Biologists study ruffed grouse.

**LOCATED IN THE TOWN OF BERNE,
ALBANY COUNTY; SIZE: 4,600 ACRES**



Site Features



NOTES: Partridge Run WMA is open to the public year-round. A network of trails and administrative roads provides access throughout the interior of the property. Some administrative roads and all trails are restricted to non-motorized access. Some gates are opened in late December after the close of the big game hunting season to allow snowmobile use on designated trails. There are more than 5 miles of DEC roads that are open to registered motor vehicles, except ATVs. These roads are not plowed during the winter. There are no bathrooms or shelters. Camping is not allowed. Please be respectful of other visitors and carry out whatever you carry in.



DIRECTIONS: Located in the Town of Berne, Albany County, the property is accessible from County Route 6 (Ravine Rd.) or County Route 13 (Sickle Hill Rd.)



CONTACT: For more information, call DEC Region 4 Wildlife at (518) 357-2154 or email wildlife.r4@dec.ny.gov. Also, visit www.dec.ny.gov/outdoor/86068.html.

One of the great features of this property is the apple and crabapple trees scattered individually or grouped in semi-wild orchards across the site. Some of these are remnants from early farms, while others were planted by state biologists in the 1960s soon after the state acquired the property. These trees provide an important food resource for wildlife in the fall and are periodically maintained by removing competing saplings and trees that will shade them out.

Partridge Run also contains numerous ponds and small lakes. Many of these were created to provide waterfowl habitat, back before beaver populations had been restored across the state. These waters provide habitat for beaver, fisher, mink, eagles, waterfowl, osprey, herons, and many other wildlife species. They also offer opportunities for fishing, waterfowl hunting, furbearer trapping, and canoeing or kayaking.

A visit to Partridge Run WMA never disappoints, regardless of your intended purpose for the trip. The beautiful scenery, the chance to see a wild, but carefully managed landscape, and the opportunity to encounter and enjoy wildlife always make for a great day.

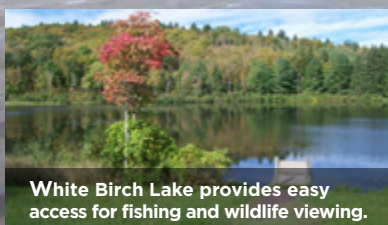
Karl Parker is a Certified Wildlife Biologist in DEC's Schenectady office.



Beaver



Apple trees on the property provide food for wildlife.



White Birch Lake provides easy access for fishing and wildlife viewing.



Wildlife technicians release pheasants.

CHAUTAUQUA FISH HATCHERY

BY JIM RAMBUSKI

Chautauqua Hatchery sits on Prendergast Point, midway on the west side of Chautauqua Lake, off State Route 394. It is DEC's only hatchery that raises pure-strain muskellunge. Walleye and sauger are also raised here, with all three species stocked into a variety of waters throughout the state.

DEC's Chautauqua Hatchery is not the first facility to take advantage of the great muskellunge population found in the lake. The first muskellunge hatchery here was established in Greenhurst in 1888, followed by other hatcheries established in Lakeland (Stow) in 1899; and Stoney Point (Bemus Bay) and Bemus Point in 1893. The main state hatchery moved to Bemus Point in 1904, and later relocated to its present-day location at Prendergast Point in 1950. It is the last remaining hatchery in the area.

There are 21 raceways, 10 troughs, and 12 one-acre earthen ponds on the property that house the fish raised here. Raceways and troughs receive up to 500 gallons per minute of water from Chautauqua Lake, and also from one well.

Each spring, staff obtain walleye sac fry from the Oneida Fish Hatchery and stock them into the hatchery's ponds. The fry feed on zooplankton for about 40 days, reaching a length of one to two inches. At this point, they are collected—approximately 160,000 are collected annually—and sent for stocking into various state waters.

The sauger raised here are obtained as sac fry from hatcheries in Kentucky and West Virginia. Some are fed brine shrimp and placed into indoor raceways, while others are placed into the outdoor ponds or stocked into state waters directly. This year, hatchery and regional staff stocked 481,100 saugers into the Allegheny River system.

Adult muskellunge are trap-netted in April or early May at various locations on Chautauqua Lake or Cassadaga Lake. After we obtain milt and eggs from these large fish, the fish culturists return the muskies to the water unharmed. Adult muskies are about 22 to 50 inches in length, and it can take two or three people to handle them for stripping eggs. Each year, about 2 million eggs are collected and put into incubators. Some are sent to West Virginia, and others are held for stocking at various stages of growth.



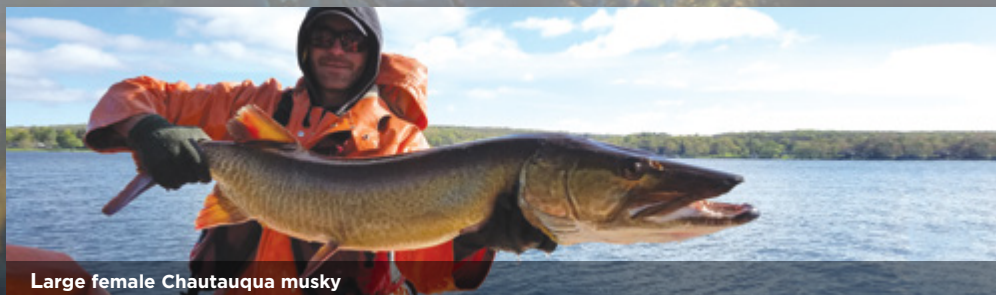
A day's catch on Chautauqua in 1896



Happy angler with 54" Chautauqua musky



12 one-acre ponds at hatchery



Large female Chautauqua musky



Chautauqua Hatchery

**LOCATED NEAR THE VILLAGE OF MAYVILLE
IN CHAUTAUQUA COUNTY; ON THE
NORTHWEST SIDE OF CHAUTAUQUA LAKE**



If You Go

Chautauqua Hatchery is open year-round, Monday through Friday, from 7:00 AM to 3:00 PM. Tours for organized groups can be arranged in advance by calling 716-789-2705.



LOCATION: 5875 Prendergast Blvd, Mayville, NY 14757; five miles north of Interstate 86, off Route 394 in the town of Chautauqua.



VISITOR HOURS: Open 7:00 AM – 3:00 PM, Monday through Friday year-round.



SPECIES RAISED: muskellunge, walleye and sauger



PHONE: (716) 789-2705

Once the eggs hatch, the muskies are placed in troughs. A new boiler system allows the cold well water to slowly be raised to the optimal temperature of 68 degrees Fahrenheit. At ten days, the muskies swim to the surface. The fish are fed brine shrimp and a dry diet of powder-like food. When they reach approximately 5 inches in length (generally early August), they are placed in ponds. The needle-toothed muskies are then fed fathead minnows for two months, which helps them quickly reach 8 to 9 inches in length.

In October, hatchery staff take approximately 26,000 muskies to stock in various locations across the state; the majority are stocked in Chautauqua County. Stocking is done either by boat or trucks using tubing or buckets.

Chautauqua Lake is well-known for its fantastic walleye and musky fishing. And many longtime anglers will tell you it's in large part due to having the hatchery right here.

Jim Rambuski is the assistant manager at the Chautauqua Hatchery.

SPECIES SPOTLIGHT

Muskellunge

- Native only to North America
- Are the largest members of the pike family, and the largest freshwater game fish in New York State.
- Have needle-like teeth and voracious appetites; primarily eat fish, but will also eat frogs, mice, ducks, and even muskrats.
- Are ambush predators—remain motionless in the weeds, springing forward to capture prey that swims by.
- More than 80% of muskies in Chautauqua Lake are from the Chautauqua Fish Hatchery.



Taking eggs



Collecting biological data



Sample from trap nets



Fly Fishing Hall of Famer

DEC's Fran Verdoliva was recently inducted into the Fly Fishing Hall of Fame in a ceremony at the Catskill Fly Fishing Center & Museum in Livingston Manor, Sullivan County. Verdoliva serves as DEC's Special Assistant to the Salmon River, working on fisheries and natural resource matters, including at DEC's Salmon River Hatchery. His long career promoting fishing opportunities reflects his lifelong love of fishing, which he gained growing up around Lake Ontario. He later developed fly rod skills, fishing the world-class waters of the Catskills, including the Delaware and Beaver Kill rivers. Throughout his career, he has used and shared his fishing knowledge to improve fisheries and inspire current and future generations of anglers. Among his many accomplishments, Fran was instrumental in creating the first "fly fishing only" section on public water in New York. A longtime, staunch advocate for ethical fishing, Fran also successfully fought to implement "no snagging" regulations.



A New Frontier (Town)

The first phase in the reconstruction/revitalization of the Frontier Town Campground in Essex County was completed in early October, a major step toward creating a Gateway to the Adirondacks at the site of a long-abandoned adventure theme park. Among the projects were a new equestrian camping area with features that make it accessible to individuals with disabilities; a seasonal day-use area along the shoreline of the Schroon River; and year-round parking for all-season trail access. Located at Exit 29 of the Northway (I-87), the site will serve as a tourism hub in the heart of the Adirondacks, drawing increased visitors to the park. Governor Cuomo committed \$19 million through NY Works to develop the new DEC campground on approximately 91 acres of land owned by the town of North Hudson and Essex County. DEC will operate the campground, which was designed to complement the site's topography and natural features. The Frontier Town Campground, Equestrian and Day Use Area is expected to be fully operational by next summer.



Support Our Trails

DEC is once again offering outdoor enthusiasts an opportunity to demonstrate their support for trails by purchasing a new Red Trail Supporter Patch. The patch is available for \$5 at sporting license outlets or through the DECALS website for individuals who have a sporting license. Sale proceeds will be used to maintain and enhance non-motorized trails across the state.



Take a (First Day) Hike

DEC photo

Mark your calendars—the First Day Hike Program is back, and DEC encourages all outdoor enthusiasts to join in the fun of this growing New Year's Day tradition of welcoming in the new year with a hike. Since its inception in 2012, tens of thousands of people have made First Day Hikes an annual custom, heading outdoors on January 1st to enjoy the beauty and wonders of nature. Each year offers exciting new destinations—the number of participating sites has grown from 18 in 2012 to 60 in 2018, and even more are planned for Tuesday, Jan. 1, 2019. No matter where you live, you can find a First Day Hike to start off your new year in style. Visit DEC's website at www.dec.ny.gov or the State Parks website at parks.ny.gov for times and locations, and then get ready to have fun on New Year's Day.



Hunter Mt. Observer's Cabin Rehabbed

DEC work crews recently completed the rehabilitation of the Hunter Mountain Fire Tower observer's cabin in the Catskills. To preserve the cabin's historic character, work crews used similar building materials and design standards of the existing cabin. The cabin is located near the fire tower at the mountain's summit (elevation – 4,040 feet) and serves as an operating base for DEC Forest Rangers during high elevation emergency operations in the area. During the summer, it is staffed by volunteers who greet hikers and educate the public about New York's fire towers and the historic role they played in combatting wildfires.



A Greener Holiday

For many people, their favorite things about the holiday season are spending time with friends and family, and, of course, giving—and receiving—gifts. As you begin to plan these activities, DEC encourages you to limit the amount of waste you generate and make recycling and reuse part of your holiday routine. For example, consider alternatives to traditional wrapping paper, such as reusable gift baskets, or use recyclable wrapping paper. If you are hosting this holiday, reusable plates and utensils are a great (and sustainable) option. If you celebrate with a holiday tree, opt for a fresh-cut one—it's "greener" than an artificial tree. For more sustainable tips, check out DEC's website at www.dec.ny.gov/chemical/8829.html.



Sticking Around

I have been a subscriber for more than thirty years. We are blessed with bluebirds in our backyard all year round!

LARRY SILER
WESTMORELAND, NY

What a wonderful sight on a snowy winter day. Most bluebirds migrate to southern states in the fall, but they will winter in New York State if they can find enough food.



Picking a Fight

I came upon these 10-point bucks the last week in January 2018.

RAY TAYLOR

The breeding season (or rut) for white-tailed deer in New York runs from October to January, with peak activity occurring in mid-November. These bucks may have been fighting for dominance in the area. They will have lost their antlers soon after and then regrown them in the summer.



Ask the Biologist

Q: Stephen Chase and Ken Werner both sent us pictures of snakes encased in ice and asked: How does this happen?

A: These are fascinating images! Based on the information presented, we can only make assumptions as to what led to these snakes being encased in ice. Given that both were found along the surface of the ice suggests they had entered the water from the surface. It is likely that they were stimulated to emerge during a warming trend. This could be because flood waters following heavy rain or snowmelt inundated their overwintering site and forced them to escape, or they emerged to capitalize on the radiant heat during a warmer, sunny day. Evacuation from a flooded winter retreat may have resulted in the snakes having nowhere else to go. If emergence was not forced, but voluntary, increased body temperature may have encouraged increased activity, and subsequently the snakes found themselves in the water. As temperatures began to drop, and given their exposure to cold water, which would act to slow their metabolism and their ability to move, they could not escape, and became frozen in the ice.

—WILLIAM HOFFMAN, DEC FISH AND WILDLIFE TECHNICIAN

(Read more about reptiles in the winter on page 2.)





Curious Coyote

I checked my trail camera and found a photo of this coyote staring back at me.

ALLEN ERNST

That is a healthy coyote! Coyotes can be found in all areas of upstate New York and in many habitats, but especially woodlands, grasslands, and brushy fields. Coyote howls can be heard most often from late summer through early fall, and again during breeding season in winter. Read more in the "Rise of the Eastern Coyote" in the June 2014 Conservationist.



In Focus

Thought you'd enjoy this photo of a pair of wild ring-necked pheasants in Livingston County, within the ring-neck pheasant habitat focus area that I read about on the DEC website.

MANDY APPLIN

Much of New York State's landscape no longer has the potential to produce wild ring-necked pheasants. DEC designated a roughly 150,000-acre focus area in the Great Lakes Plain, where Genesee, Monroe, Livingston, and Wyoming counties meet. Based on the presence of wild pheasants and the composition of the agricultural landscape in this area, DEC believes it has the greatest potential to maintain or increase wild pheasant numbers.



Something for Everyone

We caught these students enjoying copies of the Conservationist and Conservationist for Kids at a visit to Five Rivers Environmental Center outside of Albany. Photo by Maria Katchmar

Mistaken Identity

I'm pretty sure that the turtles with the cormorant on page 38 of the Aug 2018 *Conservationist* are not painted turtles. They look more like red-bellied cooters, or wood turtles to me. I see lots of these kind of turtles in the tidal Wappingers Creek.

RICHARD GUGUMUCK
POUGHKEEPSIE

You are correct, Richard. The turtles in the photo are a yellow-bellied slider and a red-bellied slider. Thanks for letting us know.

CONTACT US!

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Back Trails

Perspectives on People and Nature

Rodentia outwittingus var. *walnutti*

AS TOLD TO DAVE NELSON

From all accounts, Jeremy Taylor is an animal lover. Before becoming *Conservationist for Kids* Editor, Jeremy worked at PetSmart, dealing in all things animalia retail. He regales us with tales of hefty electric bills to keep his collection of reptiles, fish, and tropical birds warm on winter nights, and tells us how he avoided using his front door for a month when a hen mallard decided to nest on the welcome mat. So it's not surprising that Jeremy feeds wild birds at his new home, adjacent to his parent's farm.

Jeremy's dad, probably an animal lover as well if I had to guess, understands the natural order of things. He raises goats to sell for meat. As is the case with many farmers, he's a bit of a jack-of-all-trades and is pretty handy at fashioning things from sheet metal. So when squirrels raided his birdfeeder, he took action. You see, Jeremy's father absolutely *hates* to feed squirrels and has taken it upon himself to devise ways to prevent squirrels from getting to the feeder.

Being a bird fancier and longtime bird feeder myself, and having once been asked by an astute *Conservationist* reader how to keep squirrels out of birdfeeders, I had naively asked the advice of Craig Thompson, the former director of DEC's Five Rivers Environmental Education Center. Craig laughed, and casually said that people had been trying for decades to devise squirrel-proof feeders and baffles to little avail; end of story. What? No perfect answer? No silver bullet, as it were?

And, when the expensive cayenne pepper seed I bought to put in my father-in-law's feeder seemed to have little effect on the resident gray squirrel population, I chewed (and swallowed!) a half peanut myself just to see if I had been duped by the hardware store, or the manufacturer. I hadn't. (Don't try this at home.)



“I will NOT be outwitted by a rodent with a brain the size of a WALNUT!”



So when Jeremy moved into his deceased great-aunt's house on the farm, and put up a birdfeeder within sight of his father's house, Jeremy's dad decided to make Jeremy's feeder squirrel-proof. He fashioned one contraption after another, using sheet metal and steel rods and cables and baffles and plastic, things that would make Rube Goldberg proud, and Jeremy smile.

But his contraptions didn't keep the squirrels from getting to the feeder.

After several futile attempts, Jeremy's dad announced he had finally perfected the design: "I will not be outwitted by a rodent with a brain the size of a walnut!" he proclaimed.

Enter the photo displayed here. By placing a really large tub upside down under the feeder, one that flopped around when tugged, so as to preclude, say, a jumping cursorial rodent from gaining a purchase, Jeremy's dad prevented even the smartest of squirrels from accessing the feeder above.

But not the most acrobatic.

It took about five days for Jeremy to catch a squirrel in the act. Hanging upside down inside the inverted plastic bin and grasping the outer edge in its front paws, a squirrel managed to grab the lip, flip around, and clamber up and over the tub to reach the feeder.

Oh, but Jeremy's dad hasn't raised the white flag yet. He intends to put some stovepipe around the pole under the bin, and from there, well, the squirrels will have to write the next chapter.

And if he can't keep the squirrels from accessing the feeder, trying to do so will keep Jeremy's dad busy until kidding season.

Just don't remind him about the walnut.

Former editor of *Conservationist*, **Dave Nelson** is now the director of outreach for DEC's Division of Fish and Wildlife.

Note: If you have other stories of outwitting wildlife, successful or otherwise, we'd love to hear from you.

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