

Rattlesnakes | Rome Hatchery | Seahorses

NEW YORK STATE

# Conservationist

AUGUST 2011



Swallowtail  
Adventure



Dear Reader,

This year marks the centennial of New York’s Conservation Commission, the precursor to our modern-day Department of Environmental Conservation. Established by law in July 1911, the new agency brought the Forest, Fish and Game Commission, the Forest Preserve Board, the Water Supply Commission and the Water Power Commission under a single authority.

New York has experienced incredible advancements in the 100 years since that important milestone and through the years our fundamental responsibility to protect the environment has been preserved in the traditions of the modern DEC.

A century ago, wildfires had ravaged our forests. Wildlife stocks had been depleted. Concern grew over the spread of gypsy moths and Dutch elm disease (invasive species of that time). People understood the need to conserve our forests for lumber, paper, fuel, and water quality, and wanted to replenish depleted fish and game stocks for everyone’s use. Our first fish hatcheries and game farms were doing seminal research on fish culture and animal husbandry in the early 1900s.

Over the years, broader environmental issues like air quality, industrial pollution, climate change and new invasive species threats have become increasingly important. But we haven’t lost sight of our fundamental duty to protect natural resources—our fish and wildlife populations, water quality and forest lands.

So I invite you once again to go out and experience New York’s nature in all the outdoor settings we have preserved and protected to fulfill our charge from a century ago. Take pride in our heritage as a state that treasures what nature has given us, and our shared commitment to conservation for the next 100 years and beyond.

Sincerely,

Commissioner Joe Martens

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Christopher Paparo

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# SEAHORSES

## *Long Island's Fish Oddities*

By Christopher Paparo  
Photos by author, unless noted



While flounder-fishing from shore under the Robert Moses Bridge with my dad some 20 years ago, I hooked what I thought was a monster flounder. Excitement quickly turned to

disappointment as my record flounder turned out to be a big pile of “sea salad.” However, picking through the pile, my curiosity got the better of me as I discovered that under the

numerous hooks and sinkers (testaments to the fact that other anglers had also succumbed to this same seaweed glob) this weed mass was teeming with life. All thoughts of

flounder vanished as I watched small lady and rock crabs scurry to take cover. Newly settled mussels clung to the weeds in hopes of drifting to a new suitable home. Mixed in among the mussels were dime-sized sea stars having their first feast of mussels.

After thoroughly exploring the pile, I tossed it back into the bay and ran off to re-bait my hooks. It was then that I noticed what looked like a piece of seaweed flopping around on the beach. Bending down to take a better look, I was totally surprised to see it was a seahorse—I had never seen one before and had no idea that they lived in my backyard. I gently picked it up and placed it in a bucket of water. I was awestruck as I watched it swim around. A short time later, I released it at the water's edge and watched it swim to another piece of seaweed where it drifted off in the current. While I can't recall if we caught any flounder that day, I'll never forget this first encounter with a seahorse—it was the beginning of what has become a lifelong

fascination with these unique, delicate-looking marine fish.

Seahorses are amazing creatures. They have long snouts, armor-plated skin, and a grasping tail that looks more typical of a monkey than a fish. Combine that with their characteristic vertical posture, and it's hard to believe that seahorses are true fish (aquatic vertebrates having gills and fins).

Seahorses belong to the family Syngnathidae, which include pipefishes and sea dragons. Of the approximately 32 known species of seahorses found around the world, most prefer shallow tropical and temperate waters. Some seahorses, such as the dwarf species, only reach less than one-half inch in length, while the largest species, the pot-belly seahorse, can grow to be 12.5 inches.

The lined seahorse (*Hippocampus erectus*), is the only species regularly found in New York's waters. It inhabits eel grass beds, and can reach eight inches long. Many people mistakenly believe that *erectus* is one of

the many tropical strays that only visit us during the summer months. However, the lined seahorse prefers cooler waters and is found in New York's marine waters a majority of the year. I have encountered them as early as April and as late as December.

Because seahorses lack a caudal (tail) fin, they can't swim very fast, and so travel distances by attaching themselves to plants and float with the current. However, seahorses are very maneuverable and can hover very accurately. They use their dorsal fin to propel themselves, and their pectoral fins to hover and steer.

Seahorses are masters of disguise—a characteristic that serves them well when finding food. Like fluke, seahorses can change the texture and color of their skin to match and blend in with their surroundings. They will then hold onto a piece of seaweed with their prehensile (grasping) tail, and remain still to ambush small prey as it swims by. When unsuspecting small shrimp or larval fish swim within range of



## Seahorse Facts

- Their common name is derived from the genus *Hippocampus*, which translates as "horse sea monster."
- Seahorses range in size from less than one-half inch to 12.5 inches in length.
- The lined seahorse (*Hippocampus erectus*) is the only species regularly found in New York's waters. It inhabits eel grass beds, and can reach eight inches long.
- Male seahorses are the ones that get pregnant and give birth. They will often go through several pregnancies in a season.
- Most seahorses mate for life.

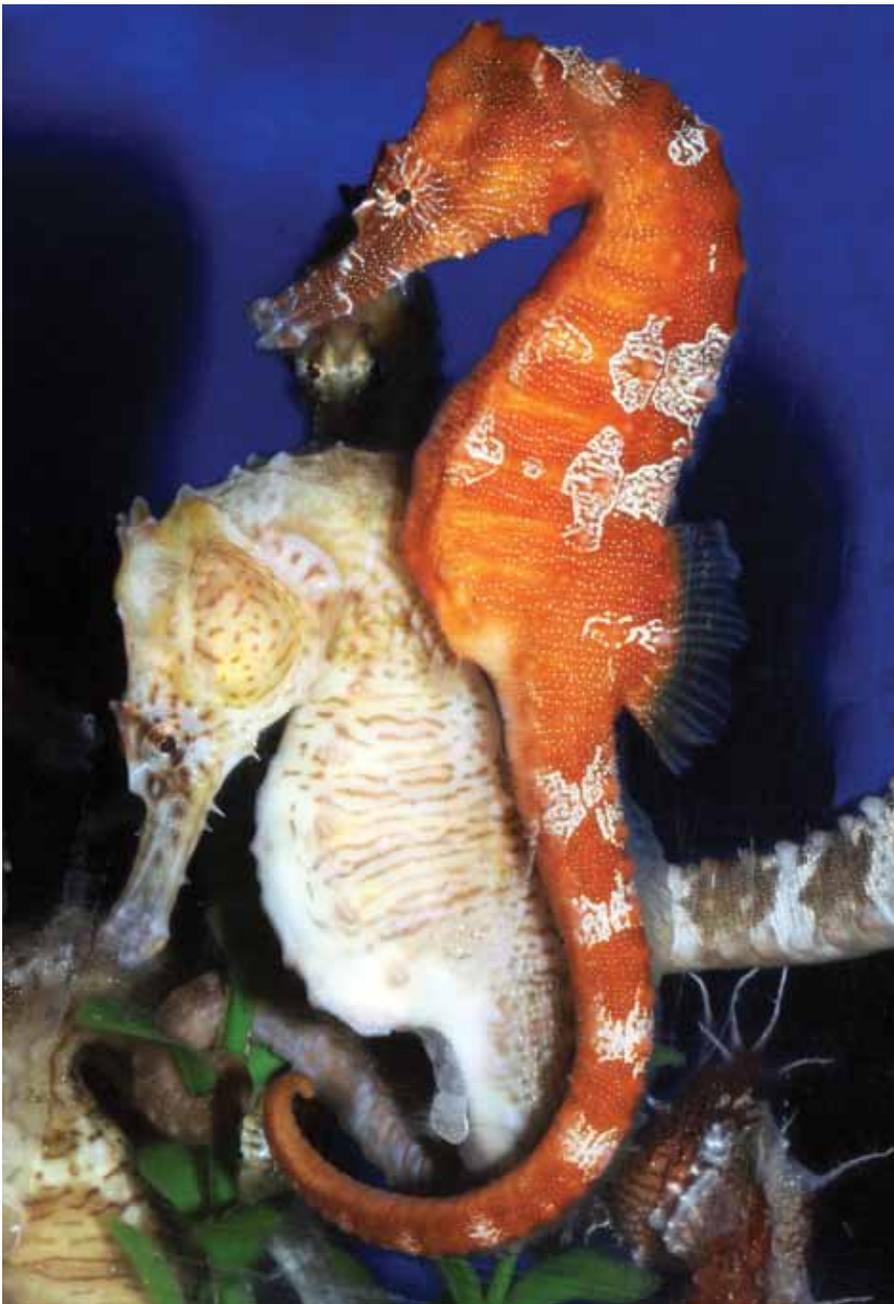
The Atlantis Marine World in Riverhead raises seahorses for aquariums all over the world. Here, 6-month-old lined seahorses huddle together in a tank.

the seahorse, they are sucked up and swallowed whole in the blink of an eye.

One of the most remarkable features of seahorses is that it's the males that get pregnant and give birth! Mating occurs between May and August, and involves an elaborate courtship ritual. Male seahorses change color and swim around the females, "showing off" in an effort to entice them. Once a female feels a particular male is right for her,

the two will hold tails and perform an elaborate dance. This courtship can last hours. When it is time to mate, the pair will turn, facing each other and rise in the water column. The female then transfers a long string of eggs into the males pouch. Once he catches the eggs, the pair separates and the male fertilizes the eggs and becomes pregnant. For the lined seahorse, pregnancy lasts about two weeks

David Harasti



Lined seahorses are truly masters of camouflage, and their colors can range from yellow, gray, pink, brown, orange, and red to black, and more! White bands down their back allude to their name, "lined seahorse."



## The Pipefish

A close cousin of the lined seahorse, the northern pipefish (*Syngnathus fuscus*) is another member of the Syngnathidae family found in New York's waters. In fact, in many places it's actually extremely abundant. At a quick glance, one might think that a pipefish is actually an eel. Upon closer inspection, however, you can see they have all the features of a seahorse: long snout, small fins and armor plating. The only exception is that they appear to be straightened. This straightened body allows northern pipefish to weave between blades of seaweed to hunt down their preferred food: small shrimp and fish. If you catch a pipefish, take a moment to look and see if there is a bloated pouch along the abdomen—a sign it's a pregnant male. The pouch of a male pipefish is more translucent than that of a seahorse. If the pregnancy is early in its term, you will see an orange color in the pouch, which are the newly acquired eggs still in the early stages of development. If the pregnancy is far enough along, you may see a bunch of small silver dots: the eyes of his offspring.

*New York State Conservationist, August 2011*



The long snout, tiny appendages (cirri) that aid in camouflaging, and vertical posture make the lined seahorse easy to recognize.

before the male gives birth to as many as 1,000 young. Measuring 5-10 millimeters in length (approximately  $\frac{1}{4}$  to less than  $\frac{1}{2}$  inch), the young seahorses look just like the adults and are fully independent. They will drift among the plankton for approximately one month before settling on a patch of eelgrass. During this time, they are exceedingly vulnerable to predation.

You may be surprised to learn that seahorse populations are being over-fished. Collection of seahorses for traditional Chinese medicine, trinkets,

and the aquarium trade are threatening many species worldwide. In recent years, there has been a lot of work done to help protect seahorse populations. In May 2004, seahorses were added to the list of species afforded different levels or types of protection from overexploitation by the Convention on International Trade in Endangered Species (CITES). CITES is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival.

In the case of seahorses, this calls for the monitoring of their international trade to ensure they are coming from sustainable populations.

Aquaculture (fish farming) is helping supply the demand of seahorses for public and private aquariums. While many marine species are difficult to farm, the seahorses' relatively large size at birth and lack of a larval stage make them easier to raise. Atlantis Marine World in Riverhead where I work, currently raises seahorses for the aquarium demand, and trades seahorses with aquariums around the world. Each seahorse raised in captivity is one less seahorse collected from the wild.

To me, seahorses are some of the most fascinating fish found in our waters. Next time you tangle with that "sea monster," or see a mass of seaweed washed up on shore, take a closer look—you might just find a treasure: a live seahorse.

**Christopher Paparo** is a senior aquarist at Atlantis Marine World in Riverhead NY. He has a BS in marine biology, and is an avid outdoorsman who enjoys fishing, hunting and photography ([www.fishguyphotos.com](http://www.fishguyphotos.com)).



If you'd like to visit Atlantis Marine World (soon to be renamed the Long Island Aquarium) check out their website at [www.atlantismarineworld.com](http://www.atlantismarineworld.com). Atlantis Marine World is the only public aquarium on Long Island. In addition to seeing seahorses, visitors can take a shark dive, snorkel with tropical fish, feed a stingray, watch a sea lion show, and much more. The aquarium is open year-round from 10 a.m. to 5 p.m. (Closed December 25.) For more information, call 631-208-9200.



# Still Raising after all these Years

## DEC's Rome Fish Hatchery

By Joelle Ernst and Bob Lewthwaite

Staring at the water's surface, it looks like the wind has picked up even though it's a calm, sunny day. But it's not wind that's causing ripples in the water of the long rectangular ponds at the Rome Fish Hatchery, it's thousands of small trout—eating and growing in preparation to make their debut in streams and lakes across New York.

I recently visited the hatchery to get ideas for designing content for the newly built Visitor Center. Having been to many hatcheries during the course of my work, I knew I would enjoy the visit because there are so many interesting things to see. What I wasn't expecting, however, was to be captivated by the rich history of the place. You see, ever since I can remember, math and science have always been my favorite subjects. History on the other hand, left much to be desired...that is, until I got a history lesson on the Rome Fish Hatchery.

Prior to being a hatchery, the property was the site of the first cheese factory in America! Set up in 1851 by a local dairy farmer named Jesse Williams, this innovative factory paved the way for large-scale commercial cheese production in the U.S. What is now the Rome Hatchery's crystal clear, cold spring water supply was used then to cool milk. Years later, the property housed a grist mill where the springs powered a water wheel. The horses on the farm were

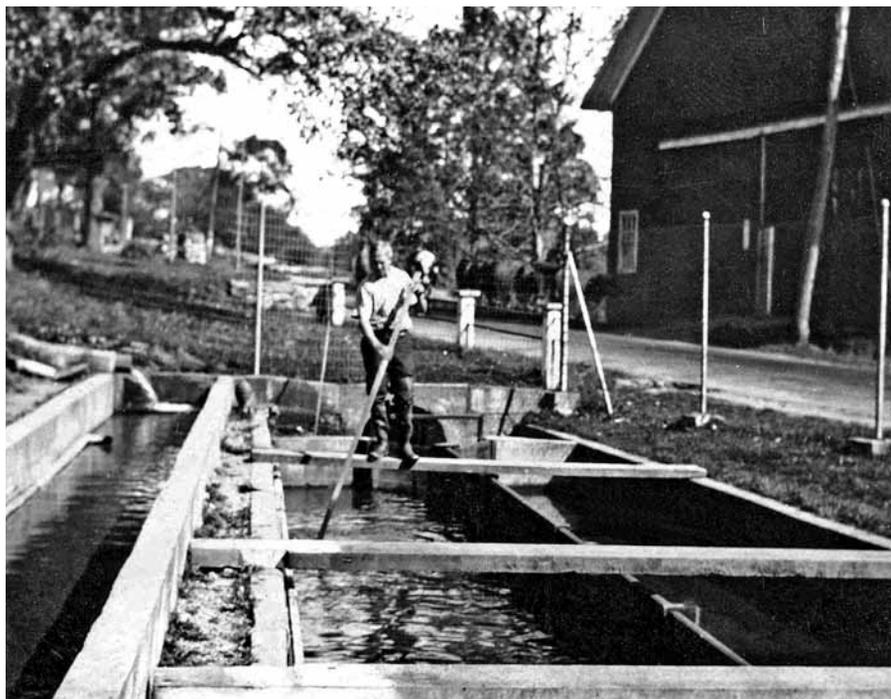
used to pull boats on the nearby Black River Canal that ran between Rome and Lyons Falls.

In 1915, the first fish hatchery was established on the property by Harry Ackley. A pioneer in trout production, Ackley successfully raised trout to large sizes for stocking in public waters.

Following the closure of the canal around 1920, a couple of additional small fish farms were built on the grist mill property. One was operated by Dr. George Reid, the other by the Rome Fish and Game Club, which built ponds and troughs for raising fish.



Photos courtesy of Rome Historical Society



When Harry Ackley established the first fish hatchery on the Rome site in 1915, milk cans were used for stocking fish (above right). Though today's staff do the same types of work that Ackley's staff did—like monitoring fishes' health and keeping troughs and ponds clean (bottom right)—the hatchery's water source today is a bit different. Rome Hatchery now gets some of its water supply from nearby Lake Delta (see aerial photo, facing page).

In 1930, the Fish and Game Club sold its parcel of land for \$1.00 to the State of New York to develop a fish hatchery. Local volunteers donated their time to help build more ponds to enlarge the facility and in 1932, the state purchased the Reid holdings, giving them exclusive rights to all springs on the property. This was the beginning of today's Rome Fish Hatchery.

Running a hatchery presents many challenges. For instance, the cold water springs that feed the Rome Hatchery have excellent water quality for growing trout, but water volume can greatly fluctuate over the year. So, when the Black River Canal closed, an abandoned pipeline from nearby Lake Delta was incorporated into the hatchery water supply, greatly increasing the number of fish that could be raised.

Since then, the Rome Fish Hatchery has undergone many other large-scale expansions and improvements. In 1954, earthen ponds were converted to raceways—long, rectangular rearing units like the ones I was observing—to improve water flow and quality. A one-mile long polyethylene pipeline from Lake Delta replaced the leaking, old wood staved pipe in the 1970s. In the 1980s, all the piping from the springs was replaced. Clarification ponds, which remove fish waste, were constructed in 1990. Pole barn enclosures built over the East Ponds in 2008 prevent birds from preying on the fish. The old hatchery, built in 1932, was demolished in fall 2009 and replaced with a more energy-efficient building in 2011. The newly built hatchery boasts everything from an early rearing area, or “hatch house” as the hatchery staff call it, to a visitor center.

Having a functional, efficient hatchery is extremely important when you're talking about millions of fish being produced each year. Yes, you read right. . .millions. . .and that's just from the Rome Fish Hatchery alone!

Running a fish hatchery is a complicated business. A coldwater hatchery, Rome raises brown trout and brook trout. Unlike some other DEC hatcheries which maintain their own sources of eggs, each fall Rome receives its fish eggs from other DEC fish hatcheries as well as other sources. The eggs are then incubated in special screen baskets in the hatch house. About 50 days after spawning, the eggs hatch. The emergents, called sac fry, are born with a yoke sac that nourishes them for ten to fourteen days. After the yoke sac is absorbed, the fry are transferred to rearing units/troughs (also in the hatch house) and hand fed a dry starter diet six to eight times a day. As the fish grow, the amount of space they need increases, so they're moved outside into the raceways. Some fish are fed using a specially equipped truck, or via demand feeders where fish bump into a rod protruding into the water to release food. Troughs and raceways are cleaned by staff each day to remove fish waste. Larger fingerling and yearling fish are

moved to large concrete ponds. Staff also monitor the fishes' health daily, and test them regularly to make sure they are growing properly and staying healthy.

All of the brown trout and most of the brook trout raised at Rome Hatchery are domesticated—bred for disease resistance and adapted to life in a hatchery. But some wild, “heritage strain” brook trout are also raised here. New York's state fish, the brook trout, are native to the state and these heritage strains have been shown to live longer and grow larger than domesticated strains. Heritage populations are important to the adaptive ability and long-term survival of the species, and represent an irreplaceable part of the brook trout resource in New York State. The most common strains raised in DEC's hatchery system include Little Tupper, Windfall and Horn Lake. Rome Fish Hatchery raises “Little Tupper,” as well as a strain that is a cross between a domestic brook trout and a wild Temiscamie (Canadian-strain) brook trout. This hybrid has a better survival

James Clayton



Tours of the property, a new visitor's center with an aquarium, front-row views of staff caring for fish, and much more assure that people of all ages can enjoy Rome Fish Hatchery.



A popular place for school groups to visit, Rome Fish Hatchery offers a glimpse into the world of New York fish culture. Here, a staff member engages students in the history of the Rome Hatchery.

rate in some of the more acidic waters of the Adirondacks. Because the number of heritage strain brook trout produced each year is determined mainly by the number of eggs taken from wild fish, most Adirondack waters are stocked with Temiscamie hybrids.

Rome Fish Hatchery is responsible for stocking more than 350 public waters in 11 counties of the state. They stock as far north as Lake Champlain in Essex County and as far

south as Otselic River in Chenango County. Many remote waters in the Adirondacks cannot be reached by truck so they are stocked by air using helicopters and pontoon/float planes.

The new Visitor Center offers a glimpse into the fascinating world of fish culture. You can read more about the hatchery's history, watch staff through the hatch house window as they care for the eggs and sac fry, learn about the life stages of a trout, and more.

## Keeping Fish Healthy

The Rome Fish Disease Control Unit is also located on the property, and it has its own interesting history. Dr. Louis E. Wolf became the first pathologist for New York State in 1935. During this time, a highly contagious fish disease called furunculosis plagued the nation's trout industry. Dr. Wolf and his successor Neil Ehlinger developed strains of furunculosis-resistant brown and brook trout—a program that took 20 years to complete. Thanks to their efforts, the "Rome lab strain" (as they're called today) is grown throughout the DEC hatchery system and furunculosis has mostly disappeared.

Today, the Fish Disease Control Unit continues to monitor the health of DEC hatchery fish, as well as wild fish throughout the state to reduce the impact of potentially harmful fish diseases.

Sharing the field station with the fish disease unit is the Aquatic Toxicant Research Laboratory where researchers focus on the impacts that pesticides, PCBs, mercury and acid precipitation have on the state's fish, wildlife and their habitat. The valuable information they have obtained has allowed DEC to change regulations, direct policy, and make our environment safer and cleaner.

*New York State Conservationist, August 2011*

Outside, visitors can check out the 13 raceways and 46 ponds, all teeming with various-sized trout. After visiting the hatchery you may be itching to get out on the water...no problem! There is a fishing platform across from the hatchery entrance on a stream that feeds the Mohawk River.

So, if you are looking for something to do with your family this summer, consider visiting the Rome Fish Hatchery, or one of DEC's other 11 hatcheries scattered across the state. With so much to do and see, everyone is sure to have fun!

**Joelle Ernst** is a fisheries biologist in DEC's central office in Albany. **Bob Lewthwaite** is the hatchery manager at the Rome Fish Hatchery.



The hatchery is open to the public 365 days a year from 9:00 a.m. to 3:30 p.m. for self-guided tours. Tours for organized groups may be arranged by contacting the hatchery at (315) 337-1390.

NYS Archives, circa 1930



# SWALLOWTAIL SURPRISE

## *Birds, a butterfly, and a boy's memories*



By Terry Mosher

The phone call came from my friend Ted Taft, butterfly guru of our western New York county. Rarely does Ted allow himself an “ooh” or an “ah,” but on this August evening, his voice was charged with excitement. “Five giants in the sanctuary,” he reported. I whooped for joy.

Aficionados speak partly in code, and Ted made his cryptic announcement in lepidopterese: butterfly talk. Translated, his message was this: In the Canadaway Creek Nature Sanctuary, a wildlife preserve that borders the creek over the last few hundred yards of its flow across the Lake Erie plain and into the lake, he’d found five giant swallowtail butterflies. Three were females laying eggs on a hoptree shrub near the creek mouth. One of the commonest food sources for giant swallowtail caterpillars, this aromatic plant had been growing there for at least a quarter century. But if the butterflies had found it, they’d kept a low profile until now. For this largest and loveliest of all North American

swallowtails, Ted’s observation was the first recorded occurrence in the sanctuary and one of just a handful of Chautauqua County records. For those of us smitten by butterflies, this was a banner day.

The next afternoon, I picked my way along the eroded, overgrown path between U.S. Route 5 and the mouth of the Canadaway, hunting for the swallowtails. Eventually I found one, the first I’d ever seen—in the parlance of butterfly listers, a “lifer.” But I remember this visit as much for things I wasn’t stalking as I do for the butterfly itself. In lives attentive to wild creatures, the most predictable thing is surprise.

Several fallen willows blocked the trail. Climbing over their massive trunks, I stopped to scan the wildflowers across the creek for giant swallowtails. No luck. But then came the afternoon’s first surprise. A narrow margin of mud had formed along the eastern edge of the creek, near the mouth. Breaking the age-old flight of their tribe from the high Canadian

arctic to wintering grounds far south of where I stood, a dozen shorebirds hustled up and down this little mud flat, chasing and calling and probing the mud with dark bills.

Through binoculars, I could pick out the reddish backs of two least sandpipers, tiny as mid-sized sparrows, their yellow legs giving them away. There were three semipalmated plovers, chunky but dapper, looking like undersized killdeer who’d lost one of the two black circles ringing their

Jeff Nadler

least sandpiper



necks. One large and handsome sanderling dwarfed the other members of the flock, its rusty breeding dress fading fast into silvery winter plumage. And rounding out the group were a half dozen semipalmated sandpipers: grayer, black-legged versions of their cousins the leasts, with bodies and bills a bit more robust. The birds dashed here and there, tanking up for flights that would carry some of them to Carolina beaches, others as far as Brazil or Argentina. Forgetting butterflies completely, I settled down to watch these little travelers from the tundra.

Motoring up and down the muddy margin of the creek, the tiny least sandpipers were the group's retiring members. Although scarcely larger, the feisty semipalmateds were the bullies. Like song sparrows clearing out the competition under a feeder, the semis moved from "freeze frame" to "fast forward" in a stop-and-go pattern: Charge a least sandpiper. Halt! Charge each other. Freeze! Check for predators. Feed! Run upstream. Whoa! Sidestep the sanderling. Freeze! Repeat.

At each rush from a semipalmated sandpiper, a least would bounce straight up as if on springs, then twist away with a high, faint "Kreet!" "Okay, okay," the bird seemed to say. "Keep your feathers on. I'm out of here." Chase and feed, feed and chase. Keep the flock together, but mind the pecking order. For ten or fifteen minutes I watched this age-old pattern play itself out, reminded of the swirling chases of gray squirrels up and around and down the spruce trunks in our side yard. Who could watch such a scene without a smile?

Recalling at last what I'd come for, I looked downstream for some sign of Ted's giant swallowtails to no avail. Reluctantly, I started back toward Route 5 and the car. But what was this?

A few rays of late-afternoon sunlight, fingering their way through the willow leaves, had found one of my favorite wildflowers. Here was surprise number two: a little patch of great lobelia lifting spikes of deep blue blossoms in a stand of chalky-white boneset and lemon-yellow goldenrods. Sunlit in one of the sanctuary's darkest nooks, the lobelia blossoms looked like slender vases turned on their sides, ruffled at the rim, and lit from within. Like the shorebirds, these azure wildflowers alone were worth the afternoon's trip.

I was about to move on, but the lobelia had other ideas, and a third surprise stopped me cold. This one was a memory, more than half a lifetime old, but as tangible and clear as anything I saw that afternoon. The flowers took me back to central New York and an unpaved country road between Cortland and Ithaca—a beloved old spot that I first walked with my mother and brother around 1949 or 1950, when I was four or five. There, on a rusty bridge that thundered gloriously as cars crossed it, we used to stare down between the wooden planks at Fall Creek, flowing through the hamlet of McLean toward Freeville, Ithaca and Cayuga Lake. Just upstream from the bridge, the creek turned the massive stone wheel of a cider mill. In those post-war years, my grandmother



still lived in a green-shuttered, white farmhouse above the mill, the same house to which my parents would retire about twenty years later. Great lobelia grew in abundance along a low, wet section of that country road. On August visits, my wife and I often saw it in full



The wildflowers I saw that afternoon took me back to post-war years, where I walked an unpaved, country road with my mother and brother, and where we visited my grandmother in her green-shuttered, white farmhouse.

giant swallowtail



flower. But my father died many years ago. Reluctantly, in the year after his death, my mother had sold the house in McLean and closed a long chapter in our family's life. I stood on the path beside Canadaway Creek, staring at the lobelia, but only half seeing it, full of sweet-sad recollections.

Into my reverie broke the afternoon's final surprise: the butterfly I'd nearly given up on. Even at a distance of fifty yards, its sheer size gave it away. First sightings of anything beautiful render me rather witless, and I stood there staring wide-eyed through the binoculars, whispering, "My gosh, it's big!"

The giant swallowtail drifted downstream, flapping and sailing, pausing to feed on the nectar of joe-pye weed and purple loosestrife across the creek. Broad, crossing bands of gold flashed on the dark upper surfaces of its slowly beating wings. On its underside, a band of light blue chevrons curved across a creamy yellow hindwing. Kinglet-like, the wings fluttered and flicked as the swallowtail sipped nectar in the afternoon sun. I caught my breath. For me, the moment had the Creator's fingerprints all over it.

Within a minute or two, the butterfly made its deliberate way past the patch of great lobelia, past the flock of chasing shorebirds, around a bend, and out of sight along the lake shore east of the creek mouth. Already a sighting had become a memory, ready to be triggered by butterfly books and butterfly conversations and, I hoped, by future encounters with giant swallowtails.

Peggy Hanna



Sometimes people mistake giant swallowtails for a different butterfly because the insect's backside differs so drastically from its underside. A giant swallowtail's back is a dark brown, almost black color, with bands of gold across its wings; its underside is a contrasting creamy yellow with some small blue bands.

Clambering back over the willow trunks and up the bank to the car, I pondered what had happened during that hour in the sanctuary. On one level, it was August business as usual. As their ancestors had done for millennia, a handful of shorebirds had paused on their long-distance migration to feed and fuss on a mudflat. Hundreds of late-summer wildflowers had tipped their silent blossoms to the sun. A creek, nearing the end of its long descent from the Arkwright Hills, had poured who knows how many gallons of water into Lake Erie. And one big butterfly had flown downstream to the creek mouth, feeding as it went. On this afternoon, though, the story had a subplot. In one man's mind, a golden butterfly had been linked to a wildflower as blue as

a bluebird's back. Insect and flower had been tied to a flock of southbound shorebirds feeding along a creek. And this scene had been joined to another, in which two small boys walked with their young mother along a dusty summer road more than two hundred miles and fifty years away.

Leaving the sanctuary, I was triply blessed: in the successful hunt for a giant swallowtail, in the flower and the shorebirds I'd never thought of seeing, and in the rich texture of memories into which they'd all been woven. Happily, I relearned an old lesson: From encounters with nature, expect much better things than you could plan.

**Terry Mosher** teaches environmental literature and other English courses at SUNY-Fredonia. In his spare time, he gardens, watches birds and butterflies, and rides his quarter horse.



### *What Is It?*

If you said the image on the Table of Contents page is a close-up of a butterfly's wing, then you're right! Notice the individual scales that cover the wing (which is actually clear). The scales create the color patterns for the individual species—in this case a giant swallowtail—and easily rub off.

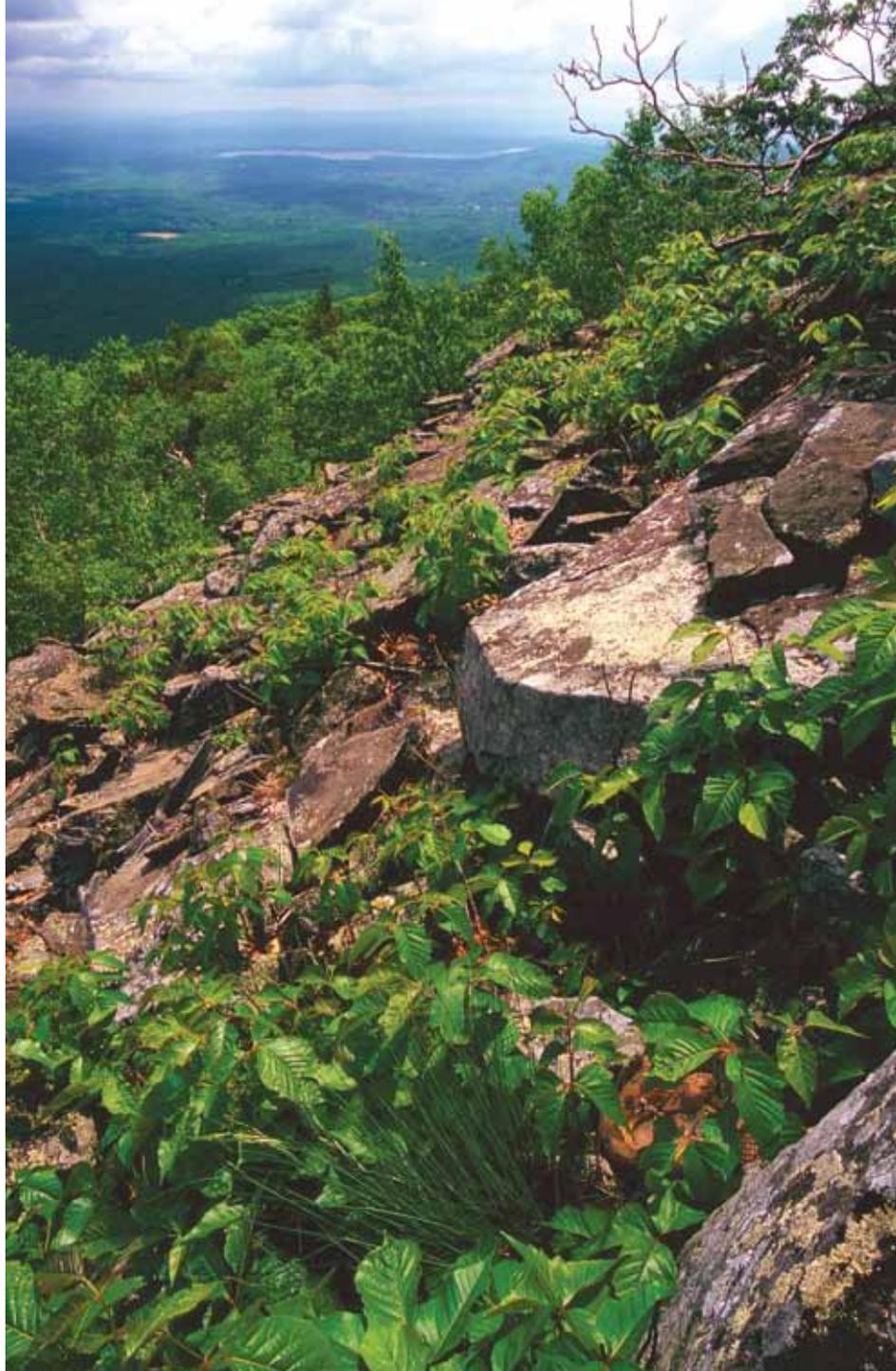
Research has shown that the color found in butterfly wings is the result of two different things: the physical makeup of the wings (i.e. nanostructures on the scales), and the scales' color pigmentation.



# WATCH YOUR STEP

*By Al Breisch*

*Photos by Peter Karapanagiotides*



A timber rattlesnake's coloration allows it to easily blend in with its rocky and forested surroundings. Above, a rattlesnake conceals itself within the vegetation in the photograph's foreground.

***Editor's note:** Speaking from personal experience, one rarely forgets an unexpected encounter with a timber rattlesnake. Upon discovering the snake, your focus is quickly—and necessarily—redirected. With patience and care, you and the snake can each go about your separate business. On the next few pages, we share with our readers one such experience. Nature photographer and DEC cooperator Peter Karapanagiotides came across these timber rattlesnakes at undisclosed locations in the Catskills, Taconics and Hudson Valley last June. We think the pictures help tell a very interesting story about snakes and their preferred habitat.*





Rattlesnakes can be found in several parts of New York, including the Taconics and Catskills.

To many people, seeing a timber rattlesnake in the wild is a true wilderness experience. Their cryptic coloration, which varies from almost black to a bright, patterned yellow, camouflages them perfectly as they bask quietly on an exposed ledge or in a forest clearing, never too far from a sheltering rock or log to which they can retreat if danger threatens. Being cold-blooded, or more technically, “ectothermic,” they need to bask in the warm sunshine to raise their body temperature, especially in the spring, shortly after emerging from their underground dens, and in the fall as the ambient temperature cools. In addition, females that give birth in late August or early September bask throughout the summer to aid in the development of their young.

Many hikers have walked by a resting rattlesnake without ever seeing it. If you are lucky, or observant enough to see one on the trail or at a scenic overlook, stop, enjoy and appreciate the opportunity from a safe distance. If the snake feels threatened, it may vibrate its tail, sounding the distinctive warning buzz that gives the snake its name. But it won't always do that, so remember to hike carefully in rattlesnake habitat.

Rattlesnakes feed primarily on small mammals. Their prey varies from items as small as mice and voles to chipmunks or red squirrels at the largest. When they strike, rattlesnakes inject potent venom through their fangs that quickly kills the small prey. They do not attack large mammals like humans, but will strike if they feel threatened. And a bite can be serious if not treated.

Give rattlesnakes the respect they deserve. By following proper precautions like watching your step, especially in sunny or rocky areas, you can learn to co-exist and enjoy the same rocky ledges and rugged deciduous terrain (like that shown in these pictures) that rattlesnakes call home.

You can learn more about timber rattlesnakes, which are threatened in New York, by visiting [www.dec.ny.gov/animals/7147.html](http://www.dec.ny.gov/animals/7147.html). Or visit [www.dec.ny.gov/animals/44641.html](http://www.dec.ny.gov/animals/44641.html) for a range map of the timber rattlesnake in New York.

Nature photographer and New Hampshire resident **Peter Karapanagiotides** cooperated on DEC's reptile and amphibian atlas project, identifying the location of several rattlesnake dens in New York. Recently retired botanist and herpetologist **Alvin Breisch** continues to study wildlife from his New Scotland home.

# Timber rattlesnake

## *facts*

Measuring from 3-4 feet or more in length, timber rattlesnakes are the largest venomous snakes in New York, and appear quite stocky. Despite their relatively large size, cryptic coloration allows them to be easily concealed. Two color patterns are commonly found: a black phase, and a yellow phase, which has black or dark brown crossbands on a lighter yellow or brown background.





# On Patrol

*Real stories from Conservation Officers  
and Forest Rangers in the field*

Carl Heilman II

Contributed by ECO Lt. Tom Caifa  
and Forest Ranger Lt. John Solan

## Bathtub Dumpers All Wet—Warren County

In early July, ECO Steve Stubing received a tip that an old claw-foot bathtub was dumped in Lake George near Turtle Island in Bolton. A park ranger witnessed the incident, which occurred just after dark. As the ranger watched from a distance, three men in a small Boston Whaler dumped the tub overboard and then went back to their camp. The next day, ECO Stubing went to the camp where renovations were being done, but nobody was home. After running the vessel registration numbers and checking who owned the property, Stubing finally tracked down the dumpers. He contacted one of them by phone who agreed to meet the ECO at the camp the following day. As Stubing approached the camp, the three men came to the dock looking nervous. ECO Stubing admonished them, saying, "What you did wasn't very smart," whereupon one immediately put his hands in the air and said, "We're sorry, we're sorry!" Stubing ticketed all three for illegal dumping. The men removed the tub from the lake the next day and were later fined \$750 in Bolton Town Court.

## Eye Spy—St. Lawrence County

ECO Bret Canary was watching anglers on the Oswegatchie River in Ogdensburg. Canary hid in thick cover and used binoculars to observe the anglers. He watched one man catch two bass, put them on a stringer, and then hide them underneath a bush along the shore. The officer approached the man and asked him how the fishing was going. The man replied, "Horrible, I haven't caught a thing." Canary then pulled the two illegal bass from the bush. The man said, "Wow! Where did those come from? Some jerk probably left them there. You should come around more often; people take bass here all the time." When ECO Canary showed the man his binoculars, the man hung his head and asked, "You saw everything with those, didn't you?" The man was issued tickets for fishing without a license and taking bass out of season.

## Only 12 Gallons?—Westchester County

Recently, ECO James Davey responded to a complaint that an individual in Elmsford had allegedly drained oil from three home heating fuel tanks into a storm drain. Upon arriving at the scene,

the ECO saw the three tanks in an upright position on a large trailer. Davey interviewed the man, who admitted drilling several small holes in all three tanks in order to empty them into the storm drain. Amazingly, the man didn't think it was a big deal. In his words, "Only 12 gallons or so went into the storm drain." He was arrested and held on \$2,500 bail. In addition to a hefty fine, the judge ordered him to pay to clean up the spill.

## Facebook Sleuthing—Herkimer County

A concerned hiker complained to Ray Brook dispatch about spray paint vandalism on the trail to Rondaxe Mountain, in the Fulton Chain Wild Forest. Ranger Coscomb hiked the trail and took photos of several locations where individuals used orange spray paint to inscribe their names and other graffiti on rock faces and outcrops. Armed only with the names written in graffiti and a trail register, forest rangers and Ray Brook dispatchers used Facebook to identify the individuals responsible. Rangers Coscomb and Pickett then tracked the individuals to their homes, two counties away. When questioned, the two were extremely apologetic and remorseful, but were also amazed they had been located. Signed confessions, an extensive "elbow grease" cleanup, along with a substantial fine should teach the pair to keep their artwork off the Forest Preserve.

## ASK THE ECO

**Q:** I have quite a few deer that routinely pass through my backyard. My family and I enjoy watching them and would like to put out food for them. Is this legal?

**A:** No. Feeding wild deer is prohibited in New York. Feeding deer can unnaturally concentrate deer and lead to the spread of disease, habitat damage, increased social conflict among deer, habituation to humans, and alteration of deer movement patterns. See [www.dec.ny.gov/animals/74763.html](http://www.dec.ny.gov/animals/74763.html) for more information about why feeding wildlife can do more harm than good.

# GREEN HORIZONS

*NYC youth explore environmental careers*



By Nancy Wolf  
Photos by Rebecca Bullene

“Tree-climbing, lifting heavy weights with ropes and pulleys, examining water samples—what’s not to like?” wrote one Manhattan middle school attendee of Green Horizons, New York City’s environmental career conference. A popular annual fall event which celebrated its 15<sup>th</sup> anniversary last October, Green Horizons has attracted thousands of middle school students from more than 100 public, private and parochial schools, introducing them to a myriad of careers.

Brooklyn Botanic Garden, recently celebrating its 100<sup>th</sup> anniversary, provided the beautiful backdrop for 2010’s successful conference where students learned by doing with the experts. One public school guidance counselor, who has brought students each year, has often said, “It’s perfect, don’t change it!”

A Green Horizons day in October begins early in the morning with students arriving for a plenary session that includes a popular keynote speaker who gets the



With a variety of stations presenting hands-on activities—like exploring the world of solar energy (above)—Green Horizons allows middle-school students to explore various careers in the environmental field.

crowd charged up. Throughout the years, participants have been inspired and entertained by a number of successful speakers, including Luz Parris Sweetland of the USDA Forest Service who recounted stories of growing up in NYC as a Latina who had decided on an unusual career, and Dr. Eloy Rodriguez of Cornell University who engaged students and adults alike with stories of his research project in Amazonian rainforests. Participants have also enjoyed speakers from a variety of public agencies, with one city forester bringing his pay stubs to prove to skeptical students that one can make a good living, even while saving the earth. In 2010, Dr. Susan Pel of the Brooklyn Garden amazed (and sometimes revolted) the students with her close-up pictures of the plants and “bugs” that are the core of her research.

The heart of Green Horizons, however, is the opportunity for students to participate in the many stations, each emphasizing the real, “hands-on” work of various careers. Students get to choose from a variety of interesting and exciting activities (see sidebar), including planting trees, catching insects, growing baby plants, learning to compost, building bee hives, and using a rope and harness to climb and prune trees. This hands-on approach gets the students involved and is what makes Green Horizons popular. In turn, it is the students’ excitement that entices a growing number of volunteer leaders and educators to become involved with Green Horizons. Professionals from many environmental and natural resources careers work with experienced environmental educators to lead the stations. New York City is fortunate to have a wealth of practitioners from governmental agencies, non-profit organizations and private companies that have been willing and eager to share their expertise and enthusiasm with the participants.

The Green Horizons program targets middle school students from 6<sup>th</sup> to 8<sup>th</sup>



The opportunities for exploring environmental careers are endless at Green Horizons: from catching and examining insects in the woods, to learning to put on a harness and practicing tree-climbing techniques from ground level.

grade. The aim is to expose them to the environmental field before they enter high school and other advanced studies so that they can properly choose the courses they would need to pursue a career in this field. Those who become interested in the environment through Green Horizons are better prepared to make wise decisions in the future regarding the use of our natural resources.

Green Horizons has been extremely fortunate to have several long-time financial sponsors. Magnolia Tree Earth Center of Bedford-Stuyvesant, an environmental organization; Con Edison, New York City’s electric utility; and the F. A. Bartlett Tree Expert Company have been involved since the beginning, providing support that has ranged from donating materials and money, to contributing volunteers to teach at some of the stations. All hope that some of today’s participants will become future

employees in large cities where they are much needed. The U.S. Department of Agriculture’s Forest Service and DEC have also provided support for Green Horizons. The Forest Service provided a grant to produce the Green Horizons



Activities like making bee habitats are a good way for students to learn about the lives of insects, and the environment.

newsletter. Printed in English, Spanish, Chinese and Russian, the newsletter reached a wide diversity of homes. DEC has provided scholarships for youth to attend a week at Camp DeBruce (located near Livingston Manor in Sullivan County) during the summer. One recipient spoke about how much he liked the camp, though was exhausted at the end of the day because of all the strenuous activities, while another recipient described how much he enjoyed the hunter safety course.

To make it easier for all NYC schools to participate, Green Horizons switches its venue each year, making sure to visit every borough on a rotating basis. With its easy accessibility and wide variety of experiences, Brooklyn Botanic Garden has been a favorite venue, hosting the first, 10<sup>th</sup> and 15<sup>th</sup> conferences. Regardless of the location, however, each year the program attracts students from all five boroughs, and each site allows organizers to showcase special stations that reflect the site's unique characteristics. For example, at Staten Island Botanical Garden there is a station where participants can examine brackish water. At Van Cortlandt Park in the Bronx, a station has been held in the herb garden of an historic house. In Queens, students can view "green" architecture at the Botanical Garden's LEED Gold-certified administration building. And in Central Park, educators from the nearby American Museum of Natural History lead "Exploring Deep Time: Geology and the History of Planet Earth," which features ancient rocks of Manhattan.

The success of Green Horizons is measured by the excitement and the smiles of its participants. Whether it's the student who just finished planting trees and is anxious to go back and work in the community garden, the participant who put on a harness to examine a huge



Through composting, students learn how to reduce our impact on the environment.



Switching its venue each year allows Green Horizons to offer hands-on learning opportunities to students throughout New York City. The Brooklyn Botanic Garden is easily accessible and has been a popular locale for students and educators.

tree, or a youth fascinated by the discovery of the wonderful diversity of insect life that surrounds us all, each attendee takes away a new appreciation for, and understanding of, the natural world around us.

Environmental Education Consultant **Nancy A. Wolf** is the co-facilitator for Green Horizons.



*Green Horizons introduces NYC youth to a variety of topics* that can lead to a career in the environmental sciences. Hands-on activities are the cornerstone of the program, and are what keep students coming back year after year. During the 2010 Green Horizons conference, students were able to:

- Explore the secrets of healthy forest soil by collecting samples of soil layers, and conduct tests to identify what was in the samples and if they had the right ingredients for good forest growth.
- Catch different insects in the woods and learn how insects and plants depend on each other.
- Grow baby plants by tending seeds and cuttings, and practice layering, grafting and rooting. Participants even got to take home their samples.
- Perform tree CSI using the latest instruments to discover how and why trees die.
- Use the laws of physics to lift immense weights. Students used ropes, pulleys and levers to lift heavy tree trunks and limbs, some weighing as much as 200 pounds.
- Climb and prune trees. Leaders demonstrated techniques for climbing, swinging, jumping and walking on limbs, before allowing students to practice rope-climbing techniques from the ground level.
- Create a new forest by planting understory trees at the site. Students learned the importance of creating and preserving urban forests and providing wildlife food and refuge.
- Create a “mini-world” in a terrarium to take home.
- Use a cloud meter, rain gauge and weather balloon to make weather forecasts.
- Learn about composting by adding the right amount of “browns,” “greens” and water to make a new compost pile, as well as observing compost worms in action.
- Examine charts and maps, and design a portion of the new Fresh Kills Park being created from the closed Staten Island landfill.
- Build bee hives to study how garden plants depend on them for successful growth.
- Investigate the air we breathe by using scientific instruments to record and analyze air quality measurements, and learn how to recognize the effects of poor air quality in their own neighborhoods.
- Collect water samples at the Garden’s Japanese Pond and test for pH, iron, nitrogen, temperature and turbidity.
- Learn to identify the invasive Asian longhorned beetle and watch climbers go high into the tree canopy to inspect for damage.
- Explore the emerging solar energy field, learn about solar panels and build solar-powered cars.
- Prepare an herb garden for winter by removing and composting vegetable plants, and preparing the beds for planting cover crops.

Plans are already underway for 2011’s event, scheduled to take place in October in the Bronx. To learn more about Green Horizons, visit: [www.treesny.org](http://www.treesny.org)

# Forests for the PEOPLE



**By Josh Clague**

**Photos courtesy of author**

One late-March morning several years ago, my wife and I decided to go hiking in the woods with some friends. Suffering from cabin fever, both families anticipated getting out of the house with our one-year-old boys, Ewan (ours) and Ethan (theirs), and sharing with them an activity we adults had enjoyed for as long as we could remember.

At the time, we all lived in Kingston, a small city situated at the foot of the Catskill Mountains in Ulster County. For a community its size, Kingston has a lot to offer, but it's just too small to provide the large expanse of public open space suitable for the experience we sought.

So we headed out of town. As we passed the city limits, a sign informed us we were entering the Catskill Park. A sharp contrast to Kingston's dense network of bustling streets and residential neighborhoods, the Catskill Park is a 1,000 square-mile area of rolling mountains, rural settlements, and large tracts of unbroken forest.

Like its larger cousin to the north, the Adirondack Park, Catskill Park is unique in that it contains a mix of public and private land. Designated near the turn of the twentieth century as a way to guide land purchases by the state, today nearly half of the land

within the boundary of each park is publicly owned and contributes significantly to the park-like character of the two regions.

As we drove deeper into the Catskills, I could imagine New York as it must have looked when Europeans first settled the region centuries ago. In fact, it was difficult to envision this mountainous landscape as anything other than the vast sea of trees that

extended in every direction. But only several generations ago, these forests had been all but cleared from the land.

By the second half of the nineteenth century, less than 25 percent of New York State remained forested. Cleared for agriculture and logged for various industries including timber, paper, charcoal and tanning, this deforestation was typical of what was happening throughout the northeast. By the turn



With 1,000 square miles of forest, rural settlements, and mountains, the Catskill Park is a good location for a hike to escape daily life, or a winter of "cabin fever."

of the twentieth century, state officials worried that if the rate of clearing persisted, New York's forests would soon disappear, and their benefits would be lost to future generations.

Thanks in large part to a growing awareness of the consequences of deforestation, New York was the first state to reverse this downward trend. Many of the remaining forested areas were acquired by the state and placed under some level of protection, and healthy forests were re-established in areas that had once been cleared. More than 100 years later, it's obvious these efforts have paid off. Today, nearly 19 million acres—or 63 percent of our state—is forested.

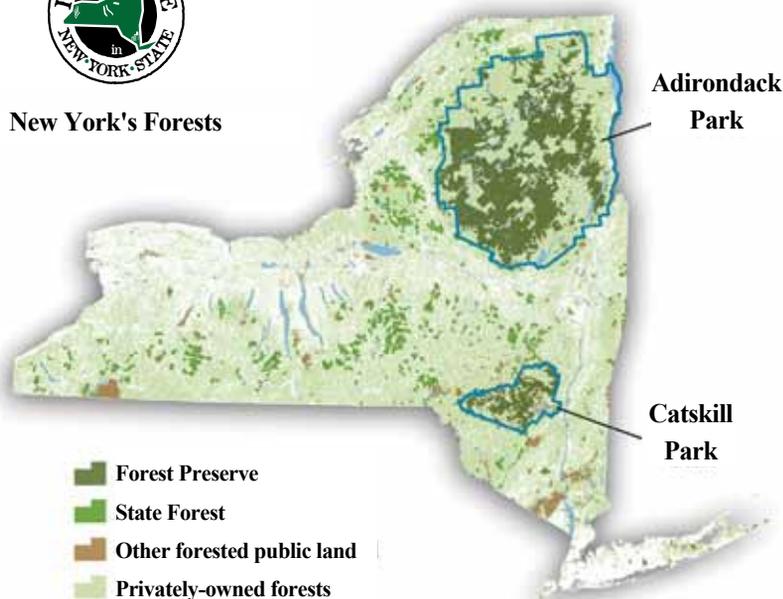
In re-establishing forests to much of our state, New York has built an impressive legacy of forest conservation, and the cornerstone of that legacy is our public forestland. Over the last 150 years, the state has acquired more than 3.5 million acres of forests—that's 12 percent of the state's land area—which today are managed by the Department of Environmental Conservation for a variety of forest-related purposes, from timber production to watershed protection.

These lands also provide an abundance of public use and access opportunities, including 52 campgrounds and nearly 5,000 miles of trails and roads open for activities ranging from hiking and mountain biking to skiing and snowmobiling. For those willing to venture off the beaten track, back country camping, bushwhacking, hunting, fishing, and trapping opportunities abound. These forests are also home to a multitude of fish and wildlife.

Together with New York's extensive system of state parks, which are managed separately by the Office of Parks, Recreation and Historic Preservation, New York's public forests



New York's Forests



provide world-class recreational opportunities on a scale seldom found in the northeast. With 12 times the amount of land as our state parks, however, our public forests provide ample opportunity for a more primitive and unconfined recreational experience, and free of charge, which is exactly what our two families sought that beautiful March day.

By late morning, we arrived at our destination: the Mink Hollow trailhead. Only 30 minutes from Kingston, the tranquil, wild setting surrounding us seemed worlds apart from the hustle and bustle we had left behind. While still too young to walk, Ewan and Ethan were nevertheless as thrilled as their parents to be out of the city for a few hours, and seemed quite content to watch the scenery while strapped to their fathers' backs.

Following an old road through the heart of Mink Hollow, this hike was like many others found on state-owned forestland throughout the Catskills. The clean air and wilderness setting alone were enough to make this an enjoyable outing, but it was the centerpiece of this hike, the Mink Hollow stream, that ultimately drew us to this particular place.

Earlier in the spring I learned that Mink Hollow stream was the principal source of drinking water for the City of Kingston. I had always been amazed at the high quality and good taste of our municipal water, and my curiosity led me to investigate how such pure results could be achieved. As it turns out, about 50 percent of the Mink Hollow stream's watershed is made up of state-owned forestland. In other words, of all the rainwater and snowmelt that drains into the stream, half of it flows through a public forest first.

The effects of a healthy forest on water quality are profound. The mere presence of vegetation—and lack of bare soil—significantly reduces erosion and sedimentation, a damaging process in which soil particles accumulate in rainwater as it flows across the ground and into streams and rivers. An abundance of vegetation, as found in healthy forests, does more than keep the water clear; it effectively regulates the flow of water across the land, simultaneously reducing the likelihood of flooding while ensuring a more steady flow of water over time.

The crystal clear water flowing just feet from our trail was evidence

of a healthy forest doing its job. As I overheard my wife and Ethan's mom sharing the joys and challenges of raising children, I felt a greater appreciation for this unassuming stream as I realized it would be providing consistently safe drinking water to our households—as well as those of nearly 20,000 other Kingston residents—for years to come.

If the Mink Hollow stream's modest contribution to Kingston's quality of life seems impressive, then the role of public forests in bettering New York City's drinking water is nothing short of remarkable. As the population of our country's largest metropolitan area grew during the twentieth century, officials turned to the Catskill region to relieve the city's insufficient water supply.

To reduce the need for an expensive filtration system, the city has put considerable resources into ensuring the forests that naturally filter their water remain healthy forever. Through the purchase of land and development rights, NYC has preserved 170,000 acres of land in the Catskills. Today, nearly 200,000 acres of state-owned forests fall within the same watershed, exceeding the city's own efforts in protecting its water supply. Together, city- and state-owned forests have played a significant role in establishing one of the highest quality municipal drinking water systems in the world.

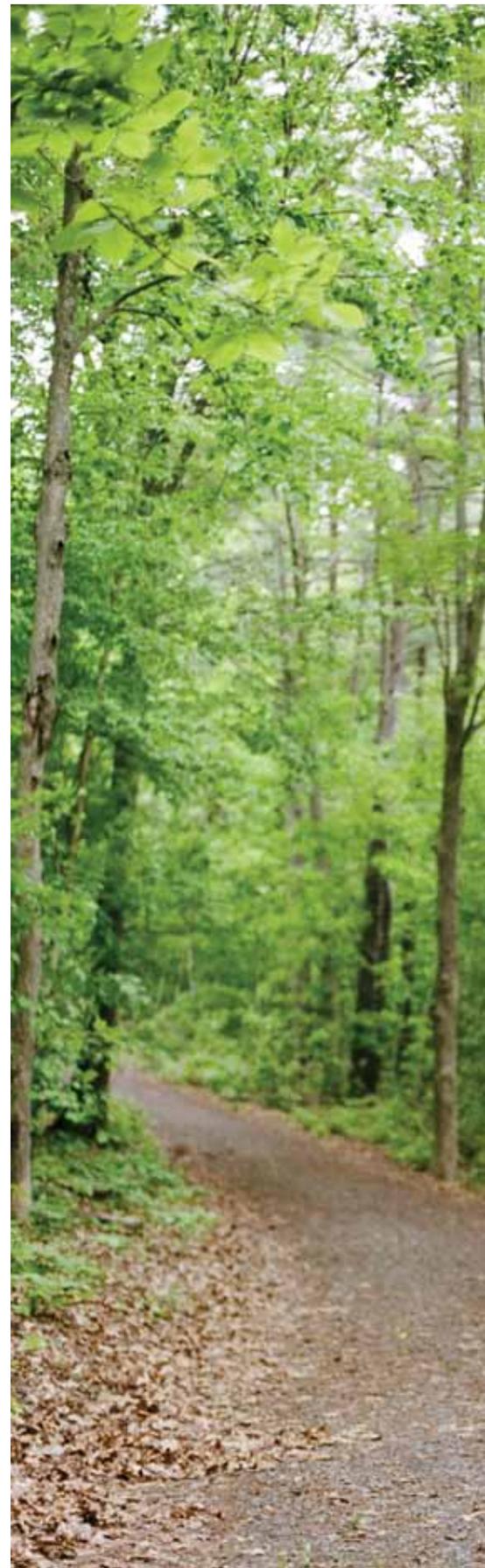
It's easy to take today's seemingly endless supply of clean, affordable drinking water for granted. But the journey to our current state of abundant water can be traced back to an era when excessive deforestation was brought to a halt and trees began to dominate our state's landscape once again.

As early as the 1850s, forests were gaining recognition for their importance to water quality and quantity. Interestingly, it was those

with business interests, worried how unchecked logging was causing sedimentation and disruptions in water flow which threatened the Erie Canal, who voiced the most concern over the fate of remaining forests. At the same time, conservationists were rallying support for protection of the region. In response, the New York legislature passed the Forest Preserve Act in 1885, setting the stage for a series of laws that permitted the state to purchase forests—including those that had already been logged—and prevent further logging. Unfortunately, timber harvesting continued on these state lands until 1894, when Article XIV of the State Constitution was passed, making all lands in the Forest Preserve—including state-owned forests in the Adirondack and Catskill Parks—protected as “wild forest lands,” and prohibiting the timber from being “sold, removed, or destroyed.” For more than 100 years, Article XIV's original language has remained intact, making New York's Forest Preserve the only constitutionally protected wild forest lands in the country.

Three years after our trek into Mink Hollow, our two families reunited for another hike, this time at a state-owned parcel along the Hudson River called Turkey Point State Forest. Now four years old, Ewan and Ethan anticipated these forest hikes with great excitement, and within seconds of our arrival they were off searching for the perfect hiking sticks. The boys then led the way down to the river, stopping occasionally to observe a frog jumping into a nearby woodland pool.

In many ways, the character of this forest reminded us of our previous experience in the Catskills. Unlike the Forest Preserve, however, the purposes of Turkey Point and all state





forests are more diverse, requiring a more holistic management approach. Specifically, in addition to recreation and watershed protection, a primary management objective of state forests is the production of timber and other forest products.

Many of today's state forest lands are the result of reforestation efforts—such as the work done by the federal Civilian Conservation Corps during the Great Depression—to reclaim abandoned farmland. With the passage of the State Reforestation Act of 1929, much of the abandoned land outside the Adirondack and Catskill Parks was acquired as “State Reforestation Areas.” This marked the beginning of New York's state forest system.

As these original stands of re-growth reached maturity, the state's careful management enabled a variety of native tree species to naturally regenerate these forests. Today, New York's State Forests are Green Certified, a highly coveted international designation and the latest step in assuring that these lands are managed to the highest standards of sustainability.

There's a certain timeless quality about New York's public forests—not just in their wild character, but in their ability to endure. Through hard economic times and dramatic changes to our country's social fabric, these lands are as relevant today as ever, providing benefits that were unforeseen when they were first set aside for the public. As our predominantly rural way of life has given way to increased urbanization and suburban sprawl, our need for the recreational opportunities and clean water provided by these forests has increased. And by sequestering carbon and providing potential habitat for species displaced by warming temperatures, these forests play a critical role in combating



climate change. New York's public forests provide the continued certainty of sustainable management that guarantee they will always be there for this purpose, a benefit not only to New Yorkers, but to the entire global community.

After stopping to admire the view of the Hudson River and letting the boys try their hand at skipping stones, our two families made our way back into the woods. The surrounding forest once again provided the perfect backdrop to our temporary reprieve from urban life, and we arrived at the parking area feeling rejuvenated.

Heading home, I felt a deep satisfaction in knowing that as New Yorkers, these forests are our birthright, handed down through the generations to help us address the environmental and social challenges of the time. And when Ewan and Ethan take that first spring hike with their children, we can be certain our public forests will be there too, ready to meet their generation's challenges in ways we may never predict.

**Josh Clague** is a natural resources planner for the Division of Lands and Forests.



DEC photo

## Become a Junior Instructor

DEC recently launched a new junior sportsman education instructor program that enables youth (aged 14 to 17) to assist teaching sportsmen education classes. A junior instructor must be an ethical and responsible hunter, as well as a graduate of the program they wish to teach, which includes bowhunting, waterfowl hunting, trapping, and hunter education. Junior instructors will teach under the supervision of certified hunter education instructors and will assist, but not actually lead the class. To find out how to sign up, send an e-mail to [nyhunter@gw.dec.state.ny.us](mailto:nyhunter@gw.dec.state.ny.us)

## Backcountry Patrols

This summer, DEC is partnering with the Student Conservation Association to hire young men and women as backcountry stewards and also reestablishing the assistant forest ranger program. The backcountry stewards and assistant



David Winchell

forest rangers work with DEC forest rangers and foresters in a variety of settings, including along the eastern shores of Lake Ontario, the Adirondack and Catskill Parks, state forests and conservation easements lands. Having backcountry stewards and assistant forest rangers in the field helps ensure the safety and well-being of recreationists. There will be stewards and assistant rangers on patrol through Columbus Day weekend. Visit [www.dec.ny.gov/outdoor/41282.html](http://www.dec.ny.gov/outdoor/41282.html) for more information.

## License Age Lowered

Governor Cuomo recently signed legislation that will lower the age requirement to hunt big game with a junior bowhunting license from 14 to 12 years of age. Now, 12- or 13-year-olds with a junior archery license can hunt deer or bear when accompanied by a parent, guardian or adult over 21 years of age with a big-game license and three or more years of hunting experience. This new bill would help promote hunting by allowing more young people to become involved in outdoor recreation. Visit [www.dec.ny.gov/permits/6094.html](http://www.dec.ny.gov/permits/6094.html) for more information on hunting licenses.

## Air Quality

The Air Quality Index (AQI) indicates how clean or polluted the air is and what associated health risks may be of concern. It is meant to inform New Yorkers of daily air quality. DEC and the Department of Health (DOH) issue Air Quality Health Advisories when levels or concentrations of air pollution are expected to exceed an AQI of 100. (The higher the AQI value is, the greater the health concern.) People should consider limiting strenuous outdoor activity when AQI levels are high, and DEC and DOH recommend many

Neil Satterly



energy-saving and pollution-reducing steps to help reduce air pollution. Such steps include using mass transit instead of driving, turning off electric appliances when not in use, using fans to circulate air, and purchasing energy-efficient lighting and appliances. For more information about AQI, and to read current air quality reports, visit DEC's AQI page at [www.dec.ny.gov/chemical/34985.html](http://www.dec.ny.gov/chemical/34985.html), or visit DOH's website at [www.health.state.ny.us](http://www.health.state.ny.us).

## Lifetime License Transfer

A new law effective January 15, 2011 allows for the one-time transfer of lifetime hunting, fishing and trapping licenses. The new law allows a lifetime sporting license to be transferred to a qualifying relative if the lifetime license holder passes away within one year of license purchase, or passes away while on active U.S. military duty during time of war. Requests for license transfers must be made by the personal representative of the decedent's estate. For more information, please visit [www.dec.ny.gov/press/72301.html](http://www.dec.ny.gov/press/72301.html), or call DEC's license sales unit at (518) 402-8843.





## GREEN TIPS

### Explore New York

New York has thousands of miles of exquisite trails to explore, so enjoy a beautiful day by visiting a trail near you. You can jog, bicycle, rollerblade, or simply go for a nice long walk. Rather than using a treadmill that requires electricity, consider getting some exercise the old-fashioned way! Visit Parks and Trails New York at [www.ptny.org/trailfinder](http://www.ptny.org/trailfinder) to find a trail near you.



**Correction:** We made a mistake in the June On Patrol regarding the wintertime life jacket requirement. It should read: “From November 1 to May 1, life jackets must be worn by all persons on all vessels under 21 feet while they are underway.”

### Hang ‘em Out to Dry

While we are blessed with nice weather, consider drying some of your clothes outdoors. Air drying your clothes reduces energy use, and can save you a few bucks at the same time. If you hang your clothes up in the morning before you leave for school, work, or play, they’ll be dry when you return home. Visit DEC’s green living page at [www.dec.ny.gov/public/337.html](http://www.dec.ny.gov/public/337.html) for more tips.



## REVIEW by Frank Knight

### Wild Urban Plants of the Northeast: A Field Guide

by Peter Del Tredici

Foreword by Steward T. A. Pickett

392 pages; softcover \$29.95

Cornell University Press/Comstock Publishing Associates

[www.cornellpress.cornell.edu](http://www.cornellpress.cornell.edu); 607-277-2211

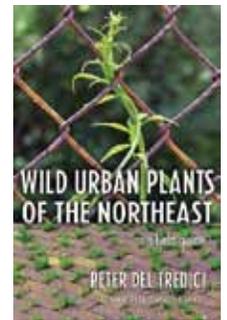
I am a Northeast plants snob; or I was until I began using Tredici’s *Wild Urban Plants of the Northeast* last summer. I grew up in a small upstate NY city and I live in another now, but my Scouting-fueled childhood rambles took me beyond the city limits to learn and enjoy, and later to photograph, wild native plants in near-pristine habitats.

But, urban ecologist Steward T.A. Pickett’s foreword reminds us that more than 80 percent of Americans live in or near cities and suburbs. Pickett offers that many city/suburban residents often disregard the wild plants of unmanaged grounds. He states, “This book provides a refreshingly unprejudiced look at urban wild flora and ultimately invites us all to look for better ways to appreciate wild plants and to use them in our efforts to improve the ecology and the human life of the city.”

Remarkably, as you turn pages in this colorful book, you will rediscover what were, until now, nameless plants you overlook on many outings. We champion the underdog surviving great adversity, and many botanical examples are here: Boston ivy under a dry shady highway overpass and a carpetweed getting all its moisture beneath an air conditioner drip.

The other remarkable message you get is the great diversity of urban plants: 222 plants including 32 trees. Peter Del Tredici’s introduction provides enough detail for a middle, high school or college level exploration of wild urban plants, but as

a photographer I know it’s a great boon to parents and grandparents sharing nature near home with youngsters. Paired facing pages of text and photos showing leaves, flowers, fruit and plants in their habitat, make it easy for page-turners to find their plant at hand.



The left-hand page provides names, life form, place of origin, vegetative characteristics, flowers and fruit, germination and regeneration, habitat preferences, ecological functions and cultural significance. Two examples stress the guide’s interest and educational value: herbaceous coltsfoot’s ecological functions are as disturbance-adapted colonizers of bare ground and erosion control on slopes. In its native Alps, it colonizes the bare rocky soil exposed as glaciers retreat.

Deciduous European Norway maple’s distinctive milky sap is illustrated. Its ecological functions include tolerance of roadway salt and compacted soil, heat reduction in paved areas, and erosion control on slopes. It was introduced to America by famed botanist John Bartram of Philadelphia in 1756, and became popular in the 1800s, resurging in the 1950s and 60s to replace disease-decimated American elm. It is losing favor again due to its invasive species status.

A useful Appendix includes key characteristics of the most important dozen of the 39 included plant families, a glossary, and bibliography. Carry and use *Wild Urban Plants* on your next visit to a city park or past a vacant lot, and like me, be an elitist no more.

**Frank Knight**, a continuing *Conservationist* contributor, retired from DEC’s Bureau of Environmental Education in 2000.



# LETTERS

Compiled by Eileen Stegemann and Jenna Kerwin



## Heavy Load

I thought your readers might enjoy this photo of a mother opossum and her babies. My wife and I decided she has at least 11 of them on her back. It reminds us of a “soccer mom” with a van full of kids!

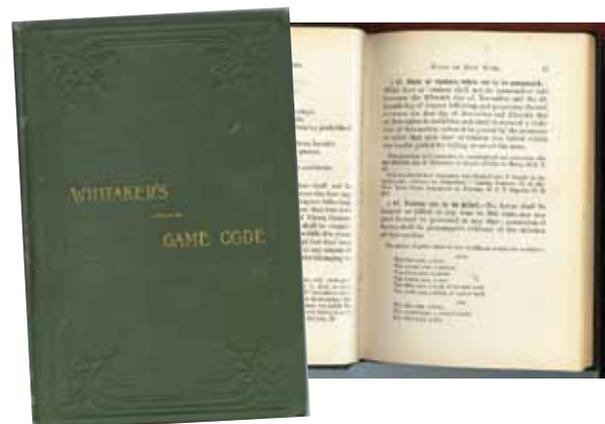
Jim Getman  
Schoharie County

*That’s a lot of mouths to feed!*  
—Conservationist staff

## Rare Book

We recently had the pleasure of receiving a letter about an old game code book from Leonard P. Wood of

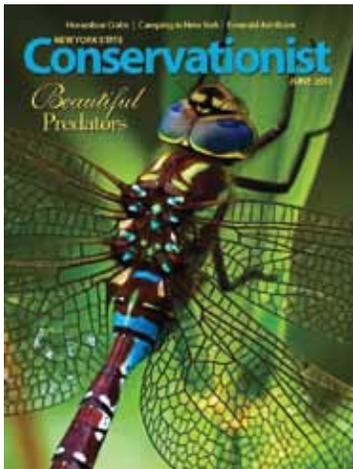
Hammondsport, Steuben County. Mr. Wood had an 1892 copy of *Whitaker’s Game Code*. Mr. Wood indicated the book was in good condition and looked as though it had hardly been used. However, he couldn’t find much about it online. We checked with DEC Librarian Deb Ferguson who found a short biographical sketch of Mr. Whitaker in an old biographical directory of New York State. It turns out the *Game Code* is the precursor to today’s Environmental Conservation Law, but interestingly, only three libraries were listed as having copies.



Do any other readers have a copy of *Whitaker’s Game Code*? If so, we’d love to hear from you.

—Conservationist staff

## ✉ LETTERS



### June Love

We recently received the following letters in response to our June 2011 issue. It's loyal readers like these two gentlemen that make *Conservationist* what it is today.

—*Conservationist* staff

I left New York more than 65 years ago, but I still subscribe to your magazine. About 25 years ago I had the pleasure of visiting with former *Conservationist* art director, Wayne Trimm, here in Oregon. What a great guy! I also wanted to say that I enjoyed your June issue, especially the articles, "Flying Jewels of New York State," "Giants at Our Feet" and "Tiny Beetle, Big Problem." I'm 90 years old so I'm probably on my final approach (flying lingo), but you help me feel young.

Roland Fisher  
Lake Oswego, Oregon

In our house, your magazine is passed from one person to another until the pages are tattered. I enjoyed your article, "Giants at Our Feet." Each spring, more than 60 years ago, friends and I would scour the available waterfront of the East River at College Point. Our mission: find and look for "treasure" in the underbody of

horseshoe crabs. Rings, coins and everything shiny were the fortune they provided. Thanks for a great article and a reminder of some happy experiences as a youth.

Dominick J. Mupo  
Huntington, Suffolk County

### Nice and Clean

I first thought this turtle was a snapper, but after seeing a snapper at the river, I had second thoughts. I saw two of these turtles in the past couple of weeks, no doubt looking for a spot to lay their eggs. But their shells seemed too clean and smooth to be snappers.

Jack Dwyer  
Selkirk, Albany County



*You're right; it's a snapping turtle! While many snappers have algal communities on their backs, some don't either due to the water quality or the algal community base in the wetland they spend most of their time in. It's nice to see photos of a clean turtle like this one.*

—William Hoffman, DEC Fish and Wildlife Technician



### Future Biologist?

This is my niece Lydia. She wasn't quite sure what this turtle was, but by the looks of things, the turtle didn't quite care to know what she was. Lydia's growing up to be quite the explorer!

Matthew Nichols  
Long Island City

*What a great photo. It's always a pleasure to see our future conservationists in action!*

—*Conservationist* staff



### Write to us

**Conservationist Letters**  
NYSDEC, 625 Broadway  
Albany, NY 12233-4502  
or e-mail us at:  
magazine@gw.dec.state.ny.us



# Back Trails

Perspectives on People and Nature

John Bulmer

## All in the Family

by Jim Picard

*Editor's note: Mentoring is an important element of the hunting tradition. In some families, learning to hunt is a rite of passage in which knowledge and skill are passed from one generation to the next, fostering a shared love and respect for our natural world. Here's one family's take on the importance of passing the tradition on to others.*

Growing up, I loved to camp and fish, and wanted to learn how to shoot and hunt as well. Luckily, I was born into a family with a deep hunting tradition. That's not always the case, and it may be even less so these days.

My grandfather, father, godfather, neighbors, and the landowners we hunted with taught me many things. I remember being told: "Step where I step. Careful now. Feel for branches under your feet. Don't break them. Hush boys, or the deer will hear us coming. Make sure you know where your arrow is pointed, and what's beyond."

Collectively, these folks were my mentors, my teachers. Over the decades, they taught me a lot about respect, responsibility, safety, ethics, camaraderie, and friendship.

When I was young, Dad would ask me: "How long did you practice today? How well did you do? Let's shoot together...you can show me. Are your broadheads sharp?"

I learned how to judge distance from an elevated location by shooting from our deck at an apple on the ground. I finally learned what kind of power

my little bow had when my arrow skipped across the ground and hit our swimming pool. This was my first taste of how important it was to know what lay beyond your target. Dad wasn't too happy, but he knew I had learned my lesson, so he let it go.

I worked hard at my craft, and one summer, I earned a Presidential Archery Award. After I shot my first rabbit, my best friend and I had to build the resolve to eat it. I was taught how to field dress and butcher other hunters' deer long before I was successful myself.

As an adult, father, and mentor myself, the shoe is now on the other foot. I now have the privilege of passing on my knowledge and traditions to my son, my daughter, and my students. What better way is there to honor your mentor?

You know you've done something right when your daughter asks you to pass up a shot at a healthy deer because there's another out in the field that is "limping along." You also know you've done something right when your son shoots his first "Straight 25" at the Empire State Amateur Trapshooting Association shoot.

Deciding I wanted to take it to the next level and share my knowledge with others as well, I became a sportsman education instructor. I am doing something I love, and hope to inspire my students as my mentors inspired me.

Today, my son Vincent is also an instructor, albeit an apprentice. He says he's learned a lot about hunters and their craft, about safety, and about

Corrina Parnapy



The author (center) answering questions about deer biology.

preparedness. But I know his favorite part is the module on firearms. Being a trap shooter, he knows a lot about firearms, and he's in his element sharing that knowledge with others.

Since hunting doesn't always get passed down from generation to generation like it did in our family, being a sportsman education instructor is an important way to keep the sport alive. Teaching alongside my son, I will continue to share what was passed on to me with anyone who wants to learn to hunt.

At the end of a long day afield, I love sitting in front of the fireplace at camp with my feet up, hanging out with friends, and remembering the lessons taught by my mentors. No one can take away our memories, our stories, our lessons, or our friendships. We even manage to get a deer or a bear once in a while. I've learned however, that you don't have to harvest anything to have a great day outdoors.

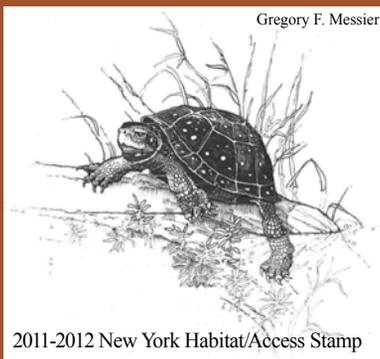
**Jim Picard** is a hunter education instructor in Saratoga County.

*New York State Conservationist, August 2011*

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