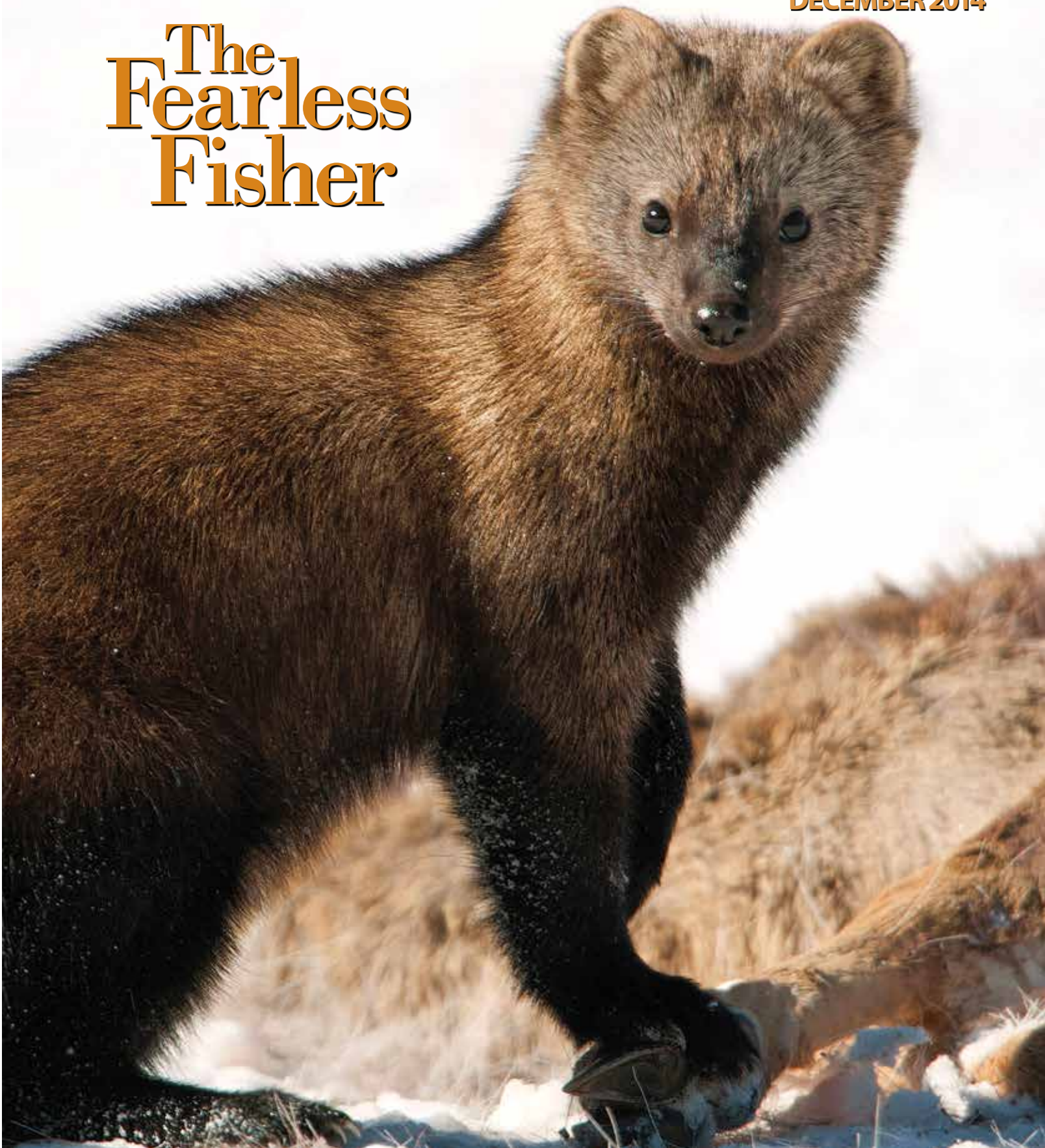
Winslow Homer | NY's Other Eagle | Hellbenders

NEW YORK STATE
# Conservationist
DECEMBER 2014

## The Fearless Fisher



Dear Reader,

I am constantly reminded of the critical work that DEC's men and women in uniform do to protect public safety and the environment. They fight forest fires, conduct search-and-rescue operations in remote, backcountry areas and catch polluters and poachers. Importantly, they are educators as well and share their skills and experience with audiences ranging from school children to local businesses.

Just as there is no predicting what the next call to action will be, there is no "typical day" for an environmental conservation officer or forest ranger. Their work can be challenging and dangerous: consider for a moment that some of the subjects approached by conservation officers are violating the law, and some are armed as well. For example, in this issue you can read a tribute to Samuel Taylor, our State's first conservation officer killed in the line of duty in 1914.

Officers' work varies from enforcing hunting and fishing regulations, to investigating hazardous waste violations and illegal dumping. I am proud to report that the International Association of Chiefs of Police recently bestowed the prestigious Cameron Award for Excellence in Environmental Crimes Enforcement and Education to four environmental conservation officers from DEC's Watertown office: Lieutenant David Clarke, Fran D'Angelo, Mike Dangler and Mark Malone, for their investigative work on two cases involving asbestos dumping and Clean Air Act violations. When they received the award, Governor Cuomo noted that "These four officers are prime examples of the professionalism and dedication shared by members of the DEC Police."

I am proud of all DEC's staff: the scientists, technicians, educators, administrators and our rangers and officers, who work every day to safeguard our natural resources and make them accessible to all New Yorkers.

Regards,
Commissioner Joe Martens


NEW YORK STATE **Conservationist**

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Andrew M. Cuomo, Governor of New York State

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Susan L. Shafer

December 2014 Volume 69, Number 3

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**Front cover:** Fisher by Eric Dresser. Fierce predators, fishers are opportunistic and will eat carrion (like this deer carcass) when available.
**Back cover:** *Watching the Breakers—A High Sea* by Winslow Homer (1896)

# Making the Ordinary, Extraordinary

## —The Soul-Inspiring Works of Winslow Homer

**Text adapted from the Arkell Museum at Canajoharie's exhibit, "Winslow Homer: The Nature and Rhythm of Life"**

Winslow Homer (1836-1910) is considered one of America's greatest watercolorists, and over the years his art has graced several covers and numerous pages of the *Conservationist*. A new Homer exhibit—"Winslow Homer: The Nature and Rhythm of Life"—currently on display at the Arkell Museum in Canajoharie, presents another opportunity for us to showcase this great American artist.

Winslow Homer wasn't always known as a painter. In fact, by 1863, the self-taught artist had established himself as a black-and-white illustrator. When Homer began showing his oil paintings, he became a "real" artist to other painters. At first, he depicted Civil War subjects, but then moved on to portraying ordinary,

Opposite page: *Sailing out of Gloucester*, ca. 1880
Watercolor over graphite on wove paper
Arkell Museum at Canajoharie, Gift of Bartlett Arkell, 1940 (317111)

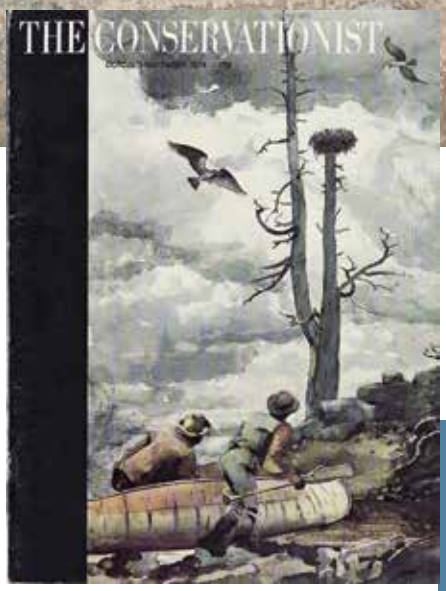
During his 1880 Gloucester visit, Homer highlighted ships (particularly schooners) in his paintings. However, *Sailing out of Gloucester* is different from other watercolors of this theme. This painting is more elaborate, and it pictures a sloop, not a schooner. It suggests Homer personally knew the boat's owner, most likely local resident George J. Marsh.

*On the Battenkill*, [undated]
Watercolor over graphite on wove paper
Arkell Museum at Canajoharie, Gift of Bartlett Arkell, 1940 (317104)

The Battenkill River, which flows from Vermont into New York to join the Hudson River, was noted for trout fishing. Homer himself devoted much of his later life to fishing and painting both these rivers. Of note is that *On the Battenkill* is painted on a type of paper found in sketchbooks, and not typically suited for watercolors.

often rural, American life. The change cost him the support of many critics. Still, he demonstrated an independence of thought and uniqueness of work that distinguished him from his fellow American artists.

Businessman Bartlett Arkell began collecting art in the 1920s, but it was the art of Winslow Homer that ultimately captured his attention. Arkell was enthusiastic about sharing his appreciation of art with others, so he built the Canajoharie Art Gallery and Library (the Arkell Museum). Arkell was deeply moved by Homer's paintings, once writing specifically of *On the Beach*: "This picture of Winslow Homer's has done more to exalt my spirit and put me in another world than all the other pictures that I have put together. I call it soul-inspiring…." To this day, Homer's work continues to inspire.




October 1974 cover of *Conservationist*.
*The Osprey Nest* by Winslow Homer.

## Homer in the NYS *Conservationist*

Winslow Homer's work is featured in several past issues of *Conservationist*, including:

- the August 1948 article, "Winslow Homer Artist: A Great Painter Who Left an Aspiring Record of the Adirondacks He Knew and Loved";
- the August 1955 article, "Deer Hunting—Then and Now"; and
- the April 1972 article, "Winslow Homer, painter of fishes and fishermen."

*On the Beach*, ca. 1869
Oil on canvas
Arkell Museum at Canajoharie,
Gift of Bartlett Arkell, 1932
(317105)

This painting is cut from a larger work, *Low Tide*, which received harsh remarks from critics. It was called "a watering-place deformity" and certain sections were referred to as an "unhappy accident on canvas." Homer thus destroyed *Low Tide*, but luckily, reproduced sections like *On the Beach* still exist.

*The Pumpkin Patch*, 1878
Watercolor over graphite on wove paper
Arkell Museum at Canajoharie,
Gift of Bartlett Arkell, 1939
(317107)

Harvest scenes like *The Pumpkin Patch* were popular throughout the nineteenth century. This painting was originally called "Husking," due to the figures in the background presumably husking corn. Homer changed the title to reflect prominence of the pumpkin patch. The work demonstrates a variety of Homer's watercolor techniques: transparent washes, opaque color, blotting, scraping and wet lifting.

*Shepherdess and Sheep*, ca. 1878
Oil on canvas
Arkell Museum at Canajoharie,
Gift of Bartlett Arkell, 1942
(317110)

Homer painted shepherdesses in numerous watercolors during the 1870s, though *Shepherdess and Sheep* is one of only five known oil paintings of this theme. Homer may have found inspiration from European paintings, but he is credited with depicting a "distinctly American shepherdess."

*The See-Saw*, ca. 1873
Watercolor over graphite on wove paper
Arkell Museum at Canajoharie,
Gift of Bartlett Arkell, 1932
(31798)

Homer first took up watercolor in Gloucester, MA, in the summer of 1873. Finding he was good at it, he gave up illustration in 1875. Homer often painted children at play, perhaps because following the Civil War, children represented a nostalgic yearning for an innocent past, as well as an optimistic hope for the future.

*The Rooster*, 1874
Oil on canvas
Arkell Museum at Canajoharie, Gift of Bartlett Arkell, 1945
(317109)

The square shape and lone portrait style of *The Rooster* are rarities for Homer. However, he did paint square tiles, particularly in the late 1870s while part of the informal group, "The Tile Club." Members met in each other's studios to drink, eat and smoke, while decorating ceramic tiles. Homer's tiles were often more colorful than those of his counterparts.

## The Arkell Museum at Canajoharie

The exhibit, "Winslow Homer: The Nature and Rhythm of Life," is a culmination of a close working relationship between the Fenimore Art Museum and the Arkell Museum. It runs until January 4, 2015, and includes 20 works that Bartlett Arkell gave to the museum, as well as four from his personal collection. Visit **www.arkellmuseum.org** for more information, including directions and admission details. Visit **www.fenimoreartmuseum.org** for more information about the Fenimore Art Museum.

# The Fisher

Donald Wharton

## Valuable Furbearer; Fierce Predator

**By Donald Wharton**

*Sleek and agile, the fisher is at home in the forest, moving quickly through the trees in search of prey. Its catlike movements have earned it the nickname "fisher cat," and some people who spot it mistake it for a panther or cougar.*

Bill Banaszewski

Years ago, about the only place New Yorkers could see a fisher was in a museum or, if you were lucky, on a hike deep in the Adirondack wilderness. But that's changed. These days it's possible to see a fisher on the outskirts of many towns and villages throughout large areas of New York State.

A medium-sized member of the weasel family, the fisher (*Martes pennanti*) has greatly expanded its range out of the Adirondacks. Much of this expansion has been natural movement, but some is due to a DEC reintroduction program in the Catskills. In conjunction with this expansion, more people live near and in the woods where fisher occur, leading to more encounters with these feisty mammals.

Donald Wharton

A fisher's strong claws and muscular physique make it a superb arboreal predator, equally at home in trees and on the forest floor.

Adult fisher average three feet in length, and are generally dark brown in color with some gray on the head. Males usually weigh 8-12 pounds, with females weighing about half that. Except during the breeding season, fishers are solitary animals. They spend most of their time roaming the hardwood ridges and conifer lowlands. Fishers have long claws and are very adept at tree climbing. In the old days of the Adirondacks, they were known as the "black cat," but in other regions, they were called the "pecan" and "tree fox."

The fisher has been a valuable fur-bearer since the day Henry Hudson dropped anchor in the Hudson River in 1609. Reporting on the explorer's trip, Emanuel van Meteren wrote, "The Indians had an abundance of provisions, skins and furs, of martens and foxes." The silky pelts of female fishers generally command more value than the coarser furs of the bigger males. As with all furs, the value of the pelts varies considerably with the fur market of the time. Recently, there has been an upward trend, due to expanding economies and incomes in cold weather areas of Asia.

In the early 1900s, fisher numbers reached low levels. Overhunting and trapping had taken their toll, and heavy logging (including clear-cutting) had decimated fisher habitat. A particular problem was the cutting of old-growth forests made up of evergreens (like pine, spruce, hemlock and balsam fir) which are the favored habitat of fishers. These areas were especially important in the winter when fishers would hunt for the snowshoe hares, squirrels, porcupines and birds that lived there.

In some of the remote sections of the Adirondacks, legendary trappers and woodsmen like French Louie and E.J. Dailey took their share of fishers. Dailey wrote about his Adirondack adventures, publishing them in a book and scores of magazine articles. French Louie kept a fisher at his West Canada cabin. It was a great attraction to visitors. Louie said he captured the black cat by sticking a pair of pants in front of its face. When the fisher latched onto the pants with its teeth, Louie stuffed him into a sack.

Fortunately for fishers, only a few trappers ventured into the most isolated regions of the Adirondack Mountains.

Paul Jensen

## Fisher Surveys

*by Paul Jensen, DEC wildlife biologist*

For years, biologists relied on public observations to track changes in fisher distribution. Recently, however, DEC has been using some high-tech tools to survey these elusive carnivores in much of central and western NY.

Using camera traps (trail cameras at bait sites) and hair snares (small wire brushes), DEC and staff from the Cooperative Fish and Wildlife Research Unit at Cornell University conducted fisher surveys in the winters of 2013 and 2014. Staff surveyed 300 sites in 2013 and 608 sites in 2014. At each site, the camera photographed and recorded the presence of fishers and other species, while the hair snares collected small tufts of fur. Biologists can identify individual animals by analyzing the fur using genetic techniques. Armed with this data, we can determine fisher distribution, population density and habitat suitability.

We documented fisher at 65% of the survey locations in 2013, and at 70% of the locations in 2014, to date. We will continue these surveys in 2015, and hair sample analysis is ongoing. These surveys have provided useful data for a DEC Fisher Management Plan which is currently in development.

High-tech tools aside, public sightings of fisher continue to be an important tool for keeping tabs on fisher populations. DEC encourages people to report their observations on our website.

Here, the animals found some sanctuary. Closer to civilization, however, they were largely eliminated.

Since their low point in the 1930s, fisher have made an amazing comeback in New York. This is largely due to conservation regulations (the fisher trapping season was closed from 1936 to 1949) and the regrowth of forest habitat. Currently, hunting fishers is prohibited, and there is a limited fall trapping season, with restrictions on types of traps, and where and how they can be set. DEC also requires that a fisher pelt be sealed with a plastic tag before it can be sold, transferred or delivered to a taxidermist. The pelt-sealing process gives wildlife biologists an accurate count of the fisher take each fall, allowing them to adjust management as required.

The return of the state's forests has been a huge factor in the recovery of fisher populations. By the 1880s, approximately three-quarters of New York's forests had been cleared for settlement and agriculture. However, much of the cleared land was marginal for farming, so in the early 1900s people gradually moved into the cities for better employment, and the land began to revert back to forest. Today, nearly two-thirds of the state is in forest cover—good news for fishers.

Fishers are highly efficient predators. Whether on land or in trees (they are said to be the fastest animal in the treetops), they successfully capture a variety of birds and mammals. They are one of the few animals that will prey on porcupines, and have put a serious dent in the Adirondack porcupine population. Fishers also eat raccoons and have even been known to take a new fawn on rare occasions. They have few natural enemies, although bobcats and large owls are known to take young fishers.

Over the years, there have been occasional reports of fishers going after a house cat. This is likely true as a fisher can go anywhere a cat can, and a fisher is probably a lot faster. I remember reading in the local paper about a woman who swatted a fisher off her porch with a broom when it went after her cat.

Donald Wharton

## Fisher Facts

- The fisher is a large weasel that grows to be 7-12 pounds and averages 3 feet in length.
- Fishers are excellent tree climbers.
- Fishers are capable of rotating their hind feet nearly 180°, allowing them to descend trees headfirst.
- They are fast and formidable predators; favorite prey are birds, squirrels, snowshoe hare and porcupines.

Eric Dresser

Fishers are some of the few animals that prey on porcupines.

That is not surprising; fishers are very determined when food is in sight.

Though largely carnivorous, fishers also eat nuts and berries when available. One fall when I was hunting in the Piseco area of Hamilton County, I came to an area where the snow was covered with a maze of fisher tracks. There was hardly a square foot of snow without a track. This was a mystery until I looked up and saw I was standing under a beech tree loaded with beechnuts. The night before, a wind had blown down hundreds of nuts: an easy bounty for a fisher.

The fisher is an opportunistic omnivore, eating large quantities of seeds and fruits such as beechnuts, black cherries and mountain ash berries when seasonally abundant. However, snowshoe hares, voles, mice, red squirrels, flying squirrels and shrews make up the bulk of the diet.

Fishers travel a fairly long circuit in search of food; males cover up to 20 miles and females about 10 miles. The route begins from, and ends at, one good hunting area, and is completed in one to two weeks. If you spot a fisher track in an area, the chances are good that it will be back again after a period of time.

Fisher tracks often appear in a paired, loping pattern, about 20 inches apart. The track of a large male fisher in the snow can approach three inches in diameter, likely because they spread their toes for better support. Fisher tracks can be distinguished from fox and coyote because fishers have five toes; fox and coyote have four toes.

Last winter, a friend and I were exploring an area near a large swamp, along the Hudson River in Warren County, when we came across the tracks of a big, male fisher. We followed them and were fascinated to see that the fisher appeared to have gone up every tree with a hollow or cavity. Of course, hollow trees are often den and nesting sites for many species of small animals and birds; we did find some scattered feathers near one of the trees.

I consider myself lucky to have seen a number of fisher during my lifetime. Their populations have come a long way since the days they were only found deep in the Adirondacks. Still, not many people get to see them; it is a real treat to encounter one of these fascinating animals.

Donald Wharton

Fisher tracks have five toes (fox and coyote have four) and often appear in a paired, loping pattern.

An avid outdoorsman, **Donald Wharton** has spent many years hunting, hiking and trapping in the Adirondacks. He is the author of several books on the area.

Tony Hisgett

# The Golden Eagle—New York's other eagle

**By Thomas Salo**

"I see them all the time, sitting along the river."

I regularly hear this comment when I speak to people about golden eagles. That's because of the remarkable success of the reintroduction of bald eagles by DEC and other agencies which has made the birds almost common along our waterways. But these riverside eagles are almost always bald eagles, not goldens.

Young bald eagles and golden eagles look similar (see "Bald or Golden?" on page 12), but they are very different birds. Bald eagles are one of the eight species of Haliaeetus sea eagles, found near rivers and other water bodies. Golden eagles are upland birds more closely related to red-tailed hawks. They are rare in New York, and hardly ever seen. With a small eastern U.S. population of about 5,000 individuals, they avoid people and tend to stay at high elevations.

Golden eagles are beautiful iconic birds found throughout the northern hemisphere. They are consummate predators, primarily preying on medium-sized mammals and various birds, but also scavenging dead animals when available. Golden eagles readily take rabbits, and in late winter, woodchucks that have emerged to breed. Wintering goldens have also been seen killing wild turkeys, often when there is deep, powdery snow and turkeys have trouble moving.

Golden eagles are capable of killing animals much larger than themselves. In Mongolia, they are still used as falconry birds to hunt gray wolves and other large prey. While they are known to kill deer-size prey, this is not common behavior and there are no documented cases of golden eagles attacking deer in New York. However, goldens have occasionally been seen scavenging deer carcasses on lakes and the frozen reservoirs of the New York City watershed.

In New York, the golden eagle is listed as an endangered species. They successfully bred here until the 1970s when impacts of DDT and habitat change contributed to the bird's demise. In the Adirondacks, the large, isolated, open areas created by burning and clear-cutting more than a century ago, has slowly returned to forest. This negatively affects breeding goldens that once made use of the formerly open habitat. Today, the entire eastern North American population of goldens breeds exclusively in Canada; studies are underway to learn more about this population.

Goldens migrate into the U.S. for the winter, passing through New York twice a year. Raptor enthusiasts spot them moving along ridges in the fall (big soaring birds need lift from thermals or wind deflecting off ridges to migrate efficiently), and also along Lake Ontario's shore in spring. A minor part of this small population spends the winter in New York, and occasional winter sightings are reported. Most of these reports come from the northern Catskill Mountains and the Upper Susquehanna watershed.

Last winter, the Delaware-Otsego Audubon Society (DOAS) and DEC started trapping and tracking golden eagles. The team successfully captured and tagged three birds in Delaware and Otsego Counties, which are now being tracked using Global Positioning System (GPS) technology. GPS, smaller electronic devices, and greater digital memory allow us to examine eagle migration and habitat use in ways only dreamed of a few decades ago. Solar-powered batteries can extend the life of these units for up to five years.

Every 15 minutes, the solar-powered GPS tracking units record speed, elevation and location, and send data via cell phone towers. When the birds are out of range during the summer, the units still record data, which can be downloaded when they return in the fall. These data will help us learn where they breed and the intimate details of their migration.

Becky Gretton

Because male and female golden eagles look alike, biologists measure a golden eagle's beak with a caliper to help determine the bird's gender.

## Where Can I See Goldens?

**If you have never seen a golden eagle's iridescent nape glowing in the low autumn sun, you're missing out. Luckily, there are several places in the state where you might be able to spot one.**

**On days with favorable winds, hawk watch sites are good places to find migrating golden eagles. During late October and November, eagles concentrate along ridges, mostly in central New York (see figure, page 13). The highest fall concentrations are found at Franklin Mountain Hawk Watch near Oneonta. On cold days with a northwest wind, the eagles fly low, sometimes at eye level. Bring binoculars and plenty of warm clothes.**

**In late winter and early spring, adult goldens migrate back to their northern breeding grounds, once again putting them on the ridges of central New York. Younger birds tend to wander north. Those in the western part of the state follow the south shore of Lake Ontario. In spring, the Braddock Bay and Derby Hill Bird Observatories are two of the best places to find the birds. Some birders travel hundreds of miles to these sites for the chance to add a golden eagle to their life lists.**

**Keep in mind that timing of migration and conditions will vary from site to site. Be sure to check these things out before heading to a hawk watch. Information on hawk watches can be found on DEC's website at www.dec.ny.gov. In addition, migration timing graphs for New York hawk watch sites can be found at www.hawkcount.org.**

Susan L. Shafer

Bald eagle

Mike Pogue

Immature bald eagle

Becky Gretton

Golden eagle

# Bald *or* Golden?

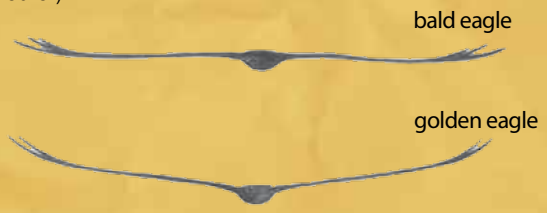
Distinguishing between our two eagle species can be difficult. However, the following information can help you identify whether it's a bald or a golden eagle.

**Location and Amount of White Plumage:** Adult bald eagles are obvious, due to their white head and tail. Even juvenile bald eagles have more white visible from below than do juvenile golden eagles. The white plumage on juvenile goldens is limited to the base of the tail and a patch on the flight feathers; juvenile balds may have white on the body and wing linings.

Immature bald eagle (left); Immature golden eagle (right)

(Illustrations by Dave Kiehm)

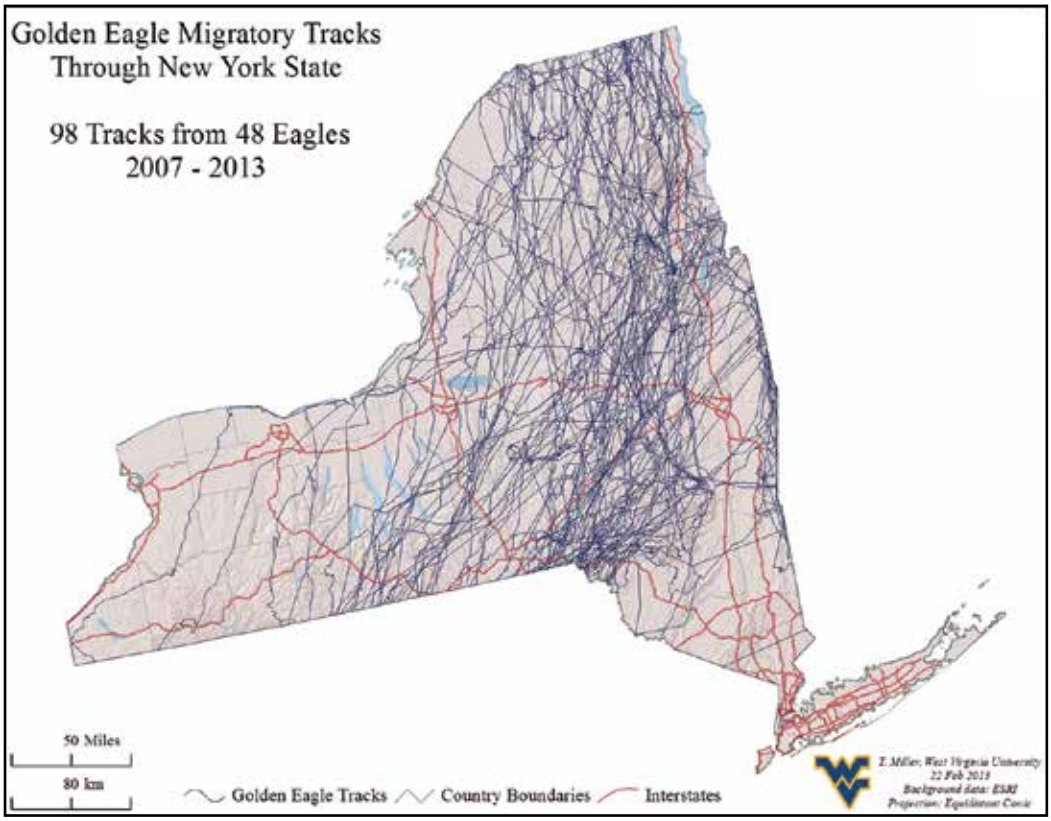
**Head Size & Flight Profile:** Bald eagles have a much larger head and beak in relation to their body size than golden eagles. If the head is more than half the length of the tail, it is a bald eagle; one third the length of the tail makes it a golden. In flight, bald eagles soar on flat wings while golden eagles hold their wings in a slightly upward angle (called dihedral).




(Illustrations by Dave Kiehm)

**Additional Features:** Other distinguishing physical characteristics include scaly, bare lower legs on bald eagles, and feathered legs down to the feet on golden eagles. In addition, the head and neck of the golden eagle appear an iridescent golden color in good lighting (hence its name).

Bald eagles can be found in NY year-round, with large numbers often congregating in winter. Golden eagles are migratory species, and are rarely found in the state from May to September. They are typically observed in late fall and early spring, although a small number do over-winter. Bald eagles are often found near bodies of water, while golden eagles are typically found in open country. Although both will travel long distances looking for food, bald eagles tend to do more scavenging, and goldens can be observed hunting more frequently.




Delaware-Otsego Audubon plans to tag more eagles this winter. Data from these birds will be used for in-depth studies of how the eagles use the habitats and terrain of New York. Data will be shared with DEC and an eagle research team based at West Virginia University that has been tracking golden eagles with GPS since 2006. Including data from the New York birds will improve biologists' migration models.

Biologists also use camera traps (motion-activated cameras at a site baited with road-killed deer) to gather information on golden eagles. Since 2010, DOAS has been using these set-ups to document the presence and density of goldens in the winter. Last winter, they documented golden eagles at eight sites in Delaware and Otsego Counties, and two more sites in Madison and Orange Counties.

Camera traps have provided good insight into the eagles' habits. For instance, images illustrate that when golden eagles feed, they most often feed alone. Bald eagles, however, scrap with each other, and share the bait with large numbers of common ravens. Interestingly, ravens persistently pull the tails of hawks, bald eagles and other ravens, but not golden eagles. This is because a raven is a potential meal to a golden, as revealed by some of the captured images.

Large, imposing birds, golden eagles have very few natural predators. However, as apex predators themselves, golden eagles accumulate environmental toxins in their bodies. DDE—a long-lived metabolite (substance produced by metabolism) of DDT—still remains persistent in the environment and can affect these birds. In addition, golden eagles that ingest lead fragments found in game carcasses may get sick or die from lead poisoning. (See "Wildlife Health Corner" in February 2014 *Conservationist.*) Eagles (both bald and golden) readily scavenge deer carcasses and gut piles during hunting season, leading to the accidental ingestion of lead bullet fragments. (Lead bullets can shatter into hundreds of small pieces on impact with bone.) Of 239 golden eagles in the east and west tested for blood lead levels in recent years, approximately 60% of the birds had elevated lead levels. Even sub-lethal amounts of lead can impair a bird so it cannot hunt or feed effectively, indirectly causing death.

Fortunately, safe and highly effective alternatives to lead ammunition are now available. Copper and gliding metal bullets—also referred to as monolithic bullets—leave no toxic trace because they remain intact. (See "Alternative Ammo" in October 2012 *Conservationist*.) A lot of hunters agree that they are also more effective for hunting than traditional lead; many hunters have switched to using non-lead bullets.

Protecting golden eagles requires understanding them, and we still have a lot to learn. Though our studies are slowly answering some of our questions, we still need to learn more about their movements, distribution, abundance, and their prey requirements and habitat needs during winter. There are also gaps in our knowledge of migration patterns and concentration areas. With a better understanding of the birds, we will be better able to conserve critical habitats needed for their continued success.

Involved with Franklin Mountain Hawk Watch since 1989, **Thomas Salo** is a former regional editor of the journal, *The Kingbird*, and regional coordinator for the *NYS Breeding Bird Atlas*. He currently leads a research effort on wintering golden eagles by DOAS, and is NYS coordinator on the Appalachian Eagle Project.

# 100 YEARS LATER

## —The Story of the First NYS Game Protector Killed in the Line of Duty

From *Rome Daily Sentinel*, 1914

Game Protector Samuel S. Taylor

By Lieutenant Ric Warner and Captain Tom Caifa
DEC photos

In New York, those charged with enforcing fish and wildlife regulations are called environmental conservation officers (ECOs), but this was not always so. In 1880, we were brought into existence as game and fish protectors. These early days were challenging. Most game protectors were shunned by a society that considered poaching an acceptable activity. Threats were numerous and assaults were common. Despite this, they carried on. It was (and still is) a dangerous job.

Samuel S. Taylor is a name synonymous with courage, valor and exceptional service within the ranks of the New York State Environmental Conservation Police. In fact, our division's highest award is called the Samuel S. Taylor Award, in honor of the first state game protector killed in the line of duty. It is given to ECOs and investigators who, "by a conspicuous act of valor, courage, integrity, resourcefulness and bravery in the protection of our natural resources and/or public safety, have clearly set themselves apart in the performance of their duties."

Game protectors enforced fish and wildlife laws at a time when wildlife was in jeopardy. New York's deer, beaver and fisher populations were dangerously low; turkeys were a rare sight. Many other species were swiftly becoming extinct. Species such as the eastern elk, Labrador duck and heath hen had been completely wiped out; moose, gray wolf and lynx had been extirpated from the state. The wood duck (one of the most common waterfowl today) was nearing extinction.

It was a period of market hunting, defined as the killing of anything that would bring money to sellers at the market. The millinery (hat making) trade was large and widespread; bird feathers were much sought after as decoration on women's hats. As a result, many species of desirable birds were shot at will.

These early days were not easy. The idea that the government had a right to regulate the taking of fish and game was an alien concept, and not well-received. Game protectors were not respected, and public sentiment was most often on the side of poachers. Early game protectors were threatened and assaulted routinely. Their homes were vandalized and their horses poisoned.

The uniform ECOs wore in 1911

Samuel S. Taylor was born, raised and resided his entire life in the small town of Bouckville. He was born on June 5, 1876 to Clesson F. and Ella (Scranton) Taylor. Little is known of his early life but it appears likely that, as a young man, Taylor had a strong desire to pursue a career in law enforcement. Extensive research has suggested that in the early 1900s, he became a constable and deputy sheriff for the Madison County Sheriff's Office. Some articles mention that he was one of the exposition guards for the 1901 Pan American Exposition in Buffalo. One article further suggests that he was close at hand when President McKinley was shot there.

On August 5, 1912, the NYS Conservation Commission hired Samuel S. Taylor as a game protector. By that time, the game protector force had grown from eight men in 1880 to 110. Still, there was a lot of ground (and water) to cover. Game Protector Taylor was assigned to his home area of Madison County. Although each officer had an assigned area, they often traveled to adjoining areas of the state to assist other officers in the protection of the state's natural resources. We still operate this way today.

Taylor was a superior officer from the beginning. Despite being new, he had an arrest record better than most seasoned officers. In a written statement shortly after his death in 1914, the Conservation Commission called him "an exceptional game protector who showed no fear in the performance of his duties." This attribute may have contributed to his downfall, but it is also what placed him in the forefront of the game protector force at the time.

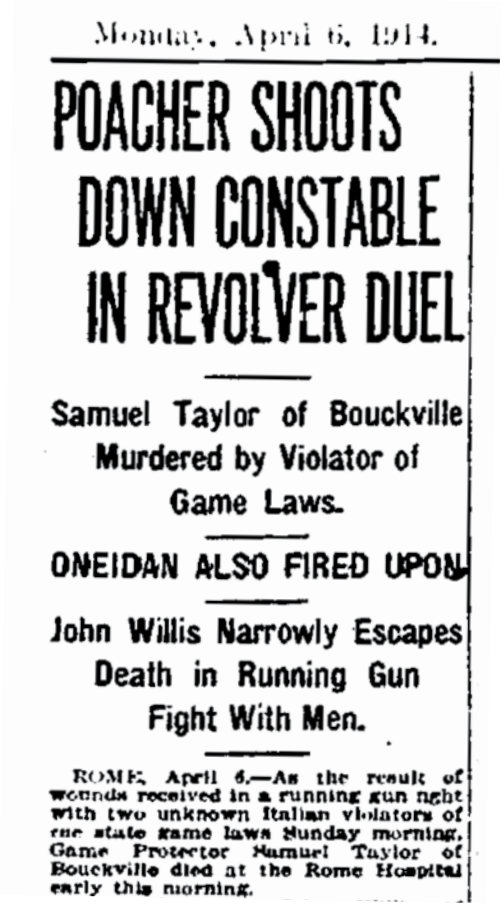
It was Sunday, April 5, 1914, when game protectors Samuel S. Taylor and John Willis (another exceptional officer of the Commission, assigned to Oneida County) were working in Willis's patrol area. Together they walked the banks of the Mohawk River within the city limits of Rome. They were primarily looking for waterfowl poachers (the season was closed) east of the city proper, near present-day Riverside Park, when they overheard gunshots.

The game protectors cautiously advanced, expecting to deal with unlawful duck hunting activity. As they approached, they observed two individuals shooting protected songbirds. One man was shooting the birds, while the other was retrieving and bagging them up. It was a common practice at the time, as songbirds were a popular culinary treat for certain ethnic groups. Taylor and Willis continued watching, noting and developing their case against the two violators—actions a modern day ECO would take.

The game protectors then decided to reveal themselves, in an attempt to arrest the poachers. Research indicates that Taylor and Willis stepped from concealment and confronted the two men; they ordered them to put down their weapons and said they were under arrest. Without responding, the man with the shotgun (a firearm later determined to be a 12-gauge double-barrel) fired both barrels at close range, at Game Protector Taylor.

Taylor was struck with a double load of #6 shot in the abdomen and lower chest area. His assailant quickly turned and fled. Mortally wounded, Taylor fell to the ground as his partner drew his service revolver and fired. Reports indicate the second man pulled a revolver from his pocket, discharged two rounds at Protector Willis, and then also fled the scene. Willis was unharmed and turned his full attention to his brother officer. Willis carried Samuel Taylor (who was, by all accounts, a large-framed, athletic man) a half mile to the Oneida County Hospital.

In the early morning hours of April 6, 1914, Game Protector Taylor died during surgery. It was determined that he had succumbed to internal injuries far too numerous for the attending physicians to address. In fact, doctors marveled at how the man could have possibly survived as long as he did. It was the final testament to the tenacity of Samuel S. Taylor.



Monday, April 6, 1914.

POACHER SHOOTS DOWN CONSTABLE IN REVOLVER DUEL

Samuel Taylor of Bouckville Murdered by Violator of Game Laws.

ONEIDAN ALSO FIRED UPON

John Willis Narrowly Escapes Death in Running Gun Fight With Men.

ROME, April 6.—As the result of wounds received in a running gun fight with two unknown Italian violators of the state game laws Sunday morning, Game Protector Samuel Taylor of Bouckville died at the Rome Hospital early this morning.

REWARD OF $1,300 NOW OFFERED FOR ARREST OF SLAYER

Supervisors of Oneida County Vote Additional $500 at Utica Session.

SHERIFF HAS COMPLAINT

Both He and District Attorney Were Not Notified by Rome Promptly.

UTICA, April 11.—The Oneida County authorities have now begun what is a determined effort to run down the two men who killed Game Protector Samuel Taylor of Bouckville and whose shots narrowly missed John Willis of Oneida, also a game protector, while the latter were attempting to arrest them for killing robins at Rome last Sunday morning.

Every deputy sheriff in the county is on the alert and the circulars to be

From the *Syracuse Daily Journal*, 1914

Although prohibited by the Weeks-McLean Act of 1913 and later the Migratory Bird Treaty Act of 1918, some market shooters continued to target songbirds—like the robins shown by a game protector (left), and the 19 different species displayed by the game protector (right).

Rome City Police were summoned and quickly responded to the tragic event. John Willis gave police a firsthand account of what had taken place. Officers then went to the scene to gather evidence. Game protectors from adjoining counties came to help investigate the murder of their fellow officer. One located the shotgun—tossed by the fleeing poacher—that was used to shoot Taylor. Newspaper articles indicate that later the same day, Rome Police located the wife of one of the men involved. A search of the home uncovered the revolver used to fire at Protector Willis, wet hunting clothing, and wet boots that matched the "hobnail" boot prints discovered at the scene. The two men were quickly identified as brothers-in-law living in Rome, who frequently hunted the area. Though they were two married men, living and working in the area, they were nowhere to be found. With several hours of lead time, they had fled the area and escaped apprehension.

The Rome Police, Oneida County Sheriff's Office, NYS Game Protectors, and surrounding law enforcement agencies were alerted to the identities of the perpetrators; an extensive search carried on for months following the incident. Officials followed leads and eliminated persons of interest. Sadly, however, all leads proved fruitless in locating the men. Later, a Grand Jury convened and indicted the two men; one man for murder in the first degree in the killing of Samuel Taylor, and the second for assault in the first degree for firing at Protector Willis.

In April of 1938, 24 years after the incident, the Commission received a letter from the Rome City Police that indicated the whereabouts—complete with addresses—of the two suspects had been discovered. One was purportedly residing in the Chicago area. The man who fired the fatal shotgun blast at Protector Taylor fled the country, and was currently residing in Italy. However, the District Attorney of Oneida County did not wish to undertake extradition proceedings from Italy. It appears no further attempt was made to bring either man to justice, and the matter was dropped. Research suggests that the two men never returned to the Rome area.

Newspaper accounts indicate that Game Protector Samuel S. Taylor's funeral was one of the largest ever witnessed in Bouckville. He was well respected in his hometown. After the funeral, his remains were taken to Hamilton and interred on the family burial plot in Woodlawn Cemetery. He was buried alongside his mother and his sister. Archives indicate that Taylor may have been married for a brief period, but he had no children.

Samuel S. Taylor's sacrifice was not in vain. It opened people's eyes to the fact game protectors were law enforcement officers, in a dangerous profession. Shortly after his death, force numbers increased from 110 to 131. In 1916, game protectors received their first uniforms. The look had an immediate effect, both on how the public perceived them and how they perceived themselves. Protectors were also issued revolvers and were trained in their use. This was the birth of our formalized training.

Game Protector Alvin Winslow with state boat "Dorothy," early 1900s.

For 100 years, Samuel S. Taylor's gravesite was marked by a small stone, carved with his name and his birth and death dates. On April 9, 2014, present day environmental conservation police held a memorial service at his gravesite. The event was well-attended, complete with the Environmental Conservation Police Honor Guard and Pipe and Drum Band. The New York State Conservation Officer's Association purchased a strikingly beautiful white, marble stone, and plaque, which was placed next to his headstone. It reads, in part, "Samuel S. Taylor, End of Watch April 6, 1914. He was the first of us to fall in the line of duty. We will forever mourn the loss of our beloved Game Protector." In May, his name was finally placed upon the State of New York Police Officers Memorial Wall in Albany.

The ceremony was an inspirational event for everyone. ECOs stood side-by-side with retirees who had been around long enough to remember when they were called "game protectors." The pipers played a stirring rendition of "Amazing Grace," and the volleys of the gun salute filled the air. Afterwards a lone bugler blew taps as a northbound pair of Canada geese flew by. Samuel S. Taylor had finally received his well-deserved recognition.

ECO Lieutenant **Ric Warner** is stationed in Syracuse; ECO Captain **Tom Caifa** is stationed in DEC's Albany office.

Ken Roblee

# HELLBENDER HEAD START

## —Providing a Future for New York's Largest Salamander

**By John Adamski**

"What the heck is a hellbender?"

That's the question that popped into my head when I was invited to accompany a DEC wildlife biologist and herpetologists from the Buffalo and Seneca Park Zoos to photograph them stocking these creatures into a local stream. I'd never seen a hellbender, and was thrilled to tag along.

As America's largest aquatic salamander, the eastern hellbender (*Cryptobranchus alleganiensis*) is a sight to behold; they are dark in color, with flattened bodies and long rudder-like tails. The specimens being stocked were approximately one foot long. I thought that was huge for a salamander, but then I was told that they could reach more than two feet in length. I thought these individuals were impressive and couldn't imagine a two-foot-long one.

We were stocking hellbenders as part of an effort to increase their numbers. Hellbenders are only found in two watersheds in New York (the Allegheny and Susquehanna River drainages, including some of their tributaries), and are a species of special concern in the Empire State. DEC wildlife biologist Ken Roblee is heading up the project with the help of the Buffalo Zoo's herpetological manager, Penny Felski, and my son, John Adamski, the assistant curator and head of herpetology at Seneca Park Zoo.

The salamanders had been hatched from eggs obtained from a wild nest and then incubated at the Buffalo Zoo. The project began in 2009 when DEC awarded a contract to the Buffalo Zoo to be the propagation facility for a hellbender "head-starting" program. The wild nest was brought to the zoo that October, and larvae started to hatch shortly thereafter. The high percentage of eggs that hatched and the high larval survival rates enabled hellbenders to be released back into the wild in 2011, 2012 and 2013.

*"I would ask everyone, including our anglers, to respect [the hellbender's] normal, gentle demeanor and release them unharmed." —Ken Roblee*

To safeguard against any potential losses, and to share the experience, the Buffalo, Seneca Park, Bronx and Binghamton Zoos all took part in rearing the hellbenders. The critters being stocked were four-year-olds that had been raised in exhibit aquariums at the Buffalo and Rochester Zoos. The remaining hellbenders produced from the same nest are on display at several other zoos as well, for educational and conservation awareness purposes.

I imagined the stocking operation would be simple: Twenty hellbenders raised in captivity would be released into the wild at several different locations. I pictured the procedure as being similar to stocking fish: Carry 'em down to the water in buckets and dump 'em in. It shouldn't take more than half an hour. As it turned out, that was far from the case. It took more than half a day.

At the first release site (a knee-deep, 30-foot wide Allegheny River tributary in southern Cattaraugus County), Ken donned a wetsuit: my first clue that this wasn't going to be like stocking fish. Twelve salamanders from the Buffalo Zoo and eight from Seneca Park Zoo had been carefully transported in water-filled aerated coolers. Battery-operated pumps provided the oxygen necessary to keep the aquatic creatures alive during their respective three-hour trips.

Prior to their arrival at our rendezvous point, the study salamanders had been injected with a Passive Integrated Transponder tag, which will enable researchers to locate them in the future—even under rocks—using a special scanning receiver. The data collected will be used to help determine behavioral information of released hellbenders, survival rates, and the best practices for release.

Veterinarian Kurt Volle, who implanted the electronic tags, and Zookeeper Katrina McIntosh (both from the Buffalo Zoo) were also on hand to help with the release. Everyone was assigned a specific task and each knew the routine, having had done this together several times before. Equipment was inventoried and laid out for use, and Ken outlined his stocking plan. Then he waded into the 54-degree water and dropped onto his hands and knees, because unlike stocking fish, an underwater den needs to be prepared for each hellbender that is released.

Hellbenders prefer swift-running, well-oxygenated, unpolluted streams and rivers with riffle areas. The area needs to have abundant, large, flat rocks or logs, which they use for cover and nesting sites. Ken picked a perfect spot, but because the stream was somewhat murky from recent rains, he had to feel around the bottom for a large, flat rock that would make a suitable den. When he found one, he lifted it up on edge and dug a cavity in the gravel underneath, making sure to create an entrance at the downstream end.

John Adamski

DEC biologist Ken Roblee (left) and Seneca Park Zoo head of herpetology John Adamski (right) release a hellbender at a previously prepared underwater den site.

After replacing the rock in its original position, he put a hellbender in front of the makeshift entrance. If it entered and stayed, the stocking would be considered a success. If the hellbender didn't go in, Ken would dig another den. This procedure eliminates the risk of a hellbender being swept downstream by the current and gives the animal its best chance to comfortably acclimate to its new environment. Fortunately, the hellbender went in, and we moved on to the next site.

At each site, while Ken placed the hellbender at the entrance to its new den, Dr. Volle established the precise den location by using a handheld GPS midstream. Katrina then recorded the animal's electronic tag number and position coordinates. This information provides researchers with a starting point for return visits, and also enables them to determine how far a salamander travels if it chooses to move. Since hellbenders are known to range a half a mile or more, the mid-October release was intentionally planned in the hope that the colder water temperature might make the salamanders stay put for a longer period of time.

The hellbender is a nocturnal creature, which is why most people never see one. It is active year-round, and feeds on crayfish, frogs, small fish and invertebrates. It will take live bait on occasion and has surprised more than one angler who was expecting to land a feisty brown trout. But because of their bizarre appearance and "squirminess" when being handled, some anglers are afraid of hellbenders and fail to return them to the water.

According to Ken, who began researching the status of hellbender populations within the Allegheny River watershed in 2003, the species is something of a gentle giant. He said that they will bite if they are agitated, but can otherwise almost always be handled without any attempt to strike. He added, "I can think of no other wild animal of this size that can be handled as easily as we handle them for our research. I would ask everyone, including our anglers, to respect their normal, gentle demeanor and release them unharmed." If a hellbender is caught and deeply hooked, Ken suggests that anglers just cut their line close to its mouth.

As we moved to another site, Ken explained that because captive incubation and rearing is so much more successful than reproduction in the wild, it is an important tool to address the perceived declines in hellbender populations. And while it is proving to be useful, it is only one part of a restoration plan for this species. Good water quality and the protection of unique critical habitat sites are emerging as additional parameters required for the continued survival of hellbenders.

Ken Roblee

Streams with abundant large, flat rocks provide excellent habitat for hellbenders. The rocks provide cover and nesting sites.

John Adamski

Hellbenders were transported to the stocking sites in water-filled aerated coolers.

Ken Roblee

Many partners are working together to help ensure the success of this project. Here, Reggie George, Allie George, and Will Miller of the Seneca Nation of Indians assist with hellbender monitoring on the Allegany Indian Territories.

Hellbenders become sexually mature between 5 and 7 years of age and can live up to 30 years if conditions allow. A radio telemetry study conducted in the Susquehanna River drainage showed that all of the animals captured there were estimated to be 25 years of age or older. This indicates an aging population with little or no successful reproduction.

Observing and talking with the researchers in the field gave me a great appreciation for the work they were doing, and for the salamander itself. Hellbenders are so unique and are unlike anything I've ever seen. I admired the commitment of these enthusiastic conservationists; they spent more than half a day wearing a wetsuit or waders, in bone-chilling water, to see that these huge salamanders had a chance at survival.

In 2013, DEC, the Department of Transportation, and the Buffalo Zoo received Western New York's Earth Day Award for recognition of their collective collaboration on the hellbender project. Buffalo Zoo's Penny Felski is helping New York State write the hellbender captive husbandry protocol that will be used for other state-led head-starting initiatives.

Penny encourages everyone to help protect hellbenders, saying: "There are many zoos and agencies across the Eastern and Ozark hellbenders' ranges, working to conserve this unique and special gentle giant. Although efforts to stabilize hellbender populations start with animal managers, they don't end there. We need everyone's help! We encourage people to become hellbender enthusiasts, and to learn that every species plays a vital role in nature. Most importantly, we hope others will protect and keep our streams and wetlands clean!"

At the end of the day, everyone felt good about how things went. Twenty healthy adult hellbenders now had new homes in our waters. When I asked Ken how he felt about the hope for the future of these unique creatures, he simply said, "Let's keep this species with us."

A former director of fish and wildlife management at Whitney Park, **John Adamski** is a freelance writer and wildlife photographer.

Ken Roblee

## Did You Know?

- Eastern hellbenders can grow up to 29 inches in length and live up to 30 years.
- They have several loose flaps of thick, wrinkled skin that run laterally along either side, and serve a respiratory function.
- They are aquatic throughout their life and remain active year-round.
- They spend the daylight hours in a den beneath large slabs of rock or other shelter (such as logs and boards) on the bottom of streams or rivers.
- Hellbenders become active after dark, leaving shelter to forage, feeding primarily on crayfish, fish, frogs and a variety of invertebrates.
- Courtship and breeding begin in late summer. Sexually mature salamanders migrate to, and congregate within, certain areas to breed.
- Males excavate a large nest chamber beneath a rock in preparation for breeding in late summer. After mating, the males kick out the females and remain in the nest cavity to brood and safeguard the eggs until they hatch 68-75 days later (in November).

DEC photo

# FEDERAL DUCK STAMPS

## —Supporting wetland habitat for 80 years

**By Doug Stang**

Standing silently at the marsh's edge, I am in awe of the brilliant autumn foliage. Wisps of steam rise from the beaver pond, whose water is now warmer than the air above it. My black lab whines softly at my side, seeing the distant ducks silhouetted against the brightening sky before I do. The ducks stay high, choosing another wetland on which to light, giving me time to reflect.

In addition to providing recreational opportunities, wetland habitats like the one Jessie and I are standing in support a wide variety of wildlife species, serve as retention basins and filters, and help reduce flooding impacts and improve water quality. Unfortunately, scientists estimate that wetland acreage in the lower 48 states has been cut in half since colonial times. Similarly, New York has lost an estimated 50-60% of its wetland acreage since the 1800s. To help combat this loss, the U.S. government initiated the Federal Duck Stamp program.

Revenues generated from sales of Federal Migratory Bird Hunting and Conservation Stamps ("duck stamps") are used to purchase or lease wetlands habitat as part of the U.S. Fish and Wildlife Service's National Wildlife Refuge System. The Federal Duck Stamp program has a long history and is regarded as one of our nation's most successful conservation programs. Initiated in 1934, with the passage of the Migratory Bird Hunting Stamp Act that required all waterfowl hunters aged 16 years and older to purchase a duck stamp, the Federal Duck Stamp program has generated more than $900 million and preserved more than 6 million acres of wetland habitat.

Initially costing $1, the price for a duck stamp increased slowly through time: $2 (1949), $3 (1958), $5 (1971), $7.50 (1978), $10 (1987), $12.50 (1989), and $15 (1991-present). With support from waterfowl hunters and their organizations, the U.S. Congress is considering increasing the cost of a duck stamp to $25. Since ninety-eight cents of every dollar generated by sales of Federal Duck Stamps goes directly to the purchase or lease of wetland habitat, this program is highly supported by those familiar with the benefits of protecting wetlands as wildlife habitat.

The first Federal Duck Stamp was designed in 1934 by noted conservationist and cartoonist Jay N. "Ding" Darling, who was appointed in 1935 by President Franklin Roosevelt as head of the U.S. Biological Survey (which later became the U.S. Fish and Wildlife Service). Since 1949, an annual contest has been held to select the design for the federal duck stamp, and the contest is open to all U.S. citizens 18 years of age or older. The winner of the 2014 Federal Duck Stamp art contest is New York artist Jennifer Miller (see sidebar).

Although purchase of duck stamps is required for waterfowl hunters, many stamp collecting enthusiasts annually purchase duck stamps, and duck stamps are purchased by those interested in contributing to natural resource conservation. Possession of a current-year Federal Duck Stamp also provides free access to National Wildlife Refuges wherever an entrance fee is charged.

Since the program began, more than 4 million duck stamps have been purchased in New York. This places New York eighth in the nation for duck stamp sales behind several states that are often regarded as waterfowl hunting and wetlands states: Minnesota, California, Texas, Wisconsin and Louisiana.

Via the Federal Duck Stamp program, nearly 19,000 acres of wetland habitat has been added to National Wildlife Refuges (NWR) in New York: Iroquois NWR (10,758 acres), Montezuma NWR (7,938 acres), and Wertheim NWR (189 acres). Nearly all of the total acreage associated with Iroquois NWR was purchased or leased with Migratory Bird Conservation Fund dollars and more than 85% of Montezuma NWR acreage has been secured with these funds.

While all three of these NWRs provide resting, nesting, feeding and staging areas for migratory waterfowl, these areas also provide habitat for bald eagles, peregrine falcons, woodcock, osprey, other migratory birds, and wetland-dependent mammals, reptiles and amphibians. Iroquois, Montezuma, and Wertheim NWRs are open to the public and provide excellent opportunities for wildlife observation, and natural resource education.

So if you support conservation, consider buying a duck stamp. You'll be helping to preserve wetlands, and the wildlife they support.

Assistant Director of DEC's Division of Fish, Wildlife & Marine Resources, **Doug Stang** enjoys taking his dog out to hunt waterfowl each year.

## Duck Stamp Winner

NY artist Jennifer Miller won the 2014 Federal Duck Stamp art contest. A native of Olean, Jennifer's acrylic painting of a pair of ruddy ducks will be featured on the 2015-2016 Federal Duck Stamp.

Only the third woman to have won the competition since it began in 1949, Jennifer is a self-taught artist who draws inspiration from her natural surroundings. She began painting at an early age, and today her passion involves studying birds and their habitats.

The 2015-2016 Federal Duck Stamp sporting Miller's artwork goes on sale in late June 2015. They are available for purchase at many national wildlife refuges, the U.S. Postal Service or online. For more information on the Federal Duck Stamp contest, visit **www.fws.gov/duckstamps**.

Dick Daniels

## Ruddy Duck

Relatively small diving ducks, adult ruddy ducks average less than two pounds in weight. In breeding season, male ruddy ducks have a deep chestnut-colored body with a bright, light blue bill and large white cheek patch. Female ruddy ducks are brownish with a white stripe across their cheek. Ruddy ducks may be best known for their round tails that often stick straight up; the tail feathers resemble the fingers of a hand. Ruddy Ducks primarily breed in the prairie pothole region of the U.S. and Canada, winter along the Gulf and Southern Atlantic coasts of the U.S., and live year-round in Mexico. They are occasional visitors to New York, with breeding pairs confirmed in the Western Finger Lakes area.

# On Patrol

Carl Heilman II

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

**Contributed by ECO Lt. Liza Bobseine and Forest Ranger Capt. Stephen Scherry**

### Harassed Hunter—Tompkins County

On opening day of the Southern Zone regular big game season, ECO Ozzie Eisenberg and Tech Sgt. Brian Gillis were contacted about an incident of hunter harassment in the Town of Groton. The complainant stated he had been legally hunting that morning, but another person had used a siren and yelled through a loudspeaker for more than an hour, ruining the man's hunt. The offender was ticketed for violating the Hunter Harassment Law. His case is pending in criminal court.

### Greedy Hunters—Broome County

ECOs Eric Templeton and Andy McCormick and Lt. Ric Warner responded to a call that a hunter had shot three bucks that same morning. The officers found the subject at his vehicle in a field near the road, along with an accomplice who had planned to use his own tags on the deer. After giving a statement, the subject was ticketed for failing to comply with tagging requirements and for taking deer over the bag limit. His accomplice was ticketed for aiding in the unlawful taking of deer, and his regular-season tag was seized. The bucks were taken to a local butcher for the Venison Donation Program. The two men subsequently appeared in court and were assessed penalties and fees totaling $1,260.

### Illegal Trapping—Chenango County

ECOs Aaron Markey and Brett Armstrong responded to a complaint about people who were trapping prior to the open season, and who had set a trap on a beaver lodge. The officers found traps set for mink and muskrat, as well as the trap on the beaver lodge. Their weeklong investigation resulted in 13 citations issued against four people for a variety of offenses, including trapping out of season, unlawfully setting traps on a beaver lodge, trapping without a license, and unlawfully trapping a river otter in a closed area.

### Lost Hikers—Herkimer County

In late summer, DEC's Ray Brook dispatch received a call from a visitor at YMCA Camp Gorham in Eagle Bay. The caller reported that three female hikers were lost in the Windfall Pond/Queer Lake area. The caller stated that he and his wife were hiking with the women earlier in the day. At about 2:00 p.m. the hikers decided to go ahead, stating that they were going to Queer Lake lean-to and would later meet back at the vehicle. By 6:00 p.m., the women had not returned. Rangers Jenifer Temple, Gary Miller and Jason Scott responded. At 10:00 p.m., Ranger Temple made voice contact with the women. All reported to be in good condition and by 11:00 p.m., all had walked out of the woods with Ranger Temple.

### Following the Bait—Dutchess County

Recently, ECO Deo Read III and ECO John Helmeyer spotted a baited stand in Dutchess County. ECO Read dropped off ECO Helmeyer at the edge of the woods so the officer could investigate the area. As Helmeyer walked into the woods, he heard the sound of an auto feeder, presumably spreading corn on the ground. Arriving at the location of the feeder, he located a concealed hunter and ordered him to leave his blind. The hunter was issued two tickets—one for hunting over bait and another for failure to carry a hunting license.

### Ask the ECO

**Q:** I have some small ivory carvings I inherited when my grandparents passed away. I heard that it may be illegal to possess these; is that true? What are the rules for owning or selling these types of items?

**A:** Ivory that was privately possessed and inherited by a legal beneficiary of a trust or estate may continue to be legally possessed by that person. However, it is generally illegal to sell ivory or rhinoceros horn in New York State, and anyone wishing to do so would need to obtain a permit from DEC. Conditions for receiving this permit include that the applicant would need to prove that the ivory or horn in the object is at least 100 years old and the object can only contain a small amount of ivory (20% or less by volume). A pure ivory carving would not qualify for a permit to sell.

Hurricane Irene caused significant flooding to occur at NYSEG's Rainbow Falls Hydro Power Plant on the Ausable River.

# Water, Water Everywhere

## —Past flooding teaches us how to better handle future floods

**By Thomas R. Snow Jr.**

What is going on with the weather lately? Depending on where you live in New York, it might seem like we are getting 100-year-plus storms every other year. The amount of precipitation during heavy rain events has increased over the past several decades, and climate experts predict that this trend will continue with extreme weather events becoming the new norm.

Is New York equipped to deal with another Hurricane Irene or Superstorm Sandy? Is our current response after a storm the right approach to ensure the protection of our communities, residents and natural resources?

In planning the appropriate response to a flood, we need to consider stream dynamics. A stream that is in balance with its landscape is able to pass water and sediment during small and large flood events, and then regain its natural shape. Streams are said to be in equilibrium when the volume of water is enough to transport the available sediment without it building up in the channel (known as aggradation) or cutting down the stream channel bed (known as degradation). However, stream sections can become unstable when human activity upsets that equilibrium and alters the stream's ability to move its water and sediment effectively. When this happens, the stream can become a source of flooding for communities located along its banks.

During the floods of 1996 and 2006, the town of Middletown and village of Margaretville, Delaware County were besieged by unprecedented flooding. Margaretville was under several feet of water, and people were stranded in their houses as floodwaters rose. Emergency response personnel and their heavy machinery were immediately brought in to clear stream debris from the East Branch of the Delaware River. This work included wide-scale dredging and widening of the stream channel.

The floodwaters soon receded, and the flood recovery process immediately ensued. It wasn't until several weeks later that the same stream channels that had been cleared were once again filled. Also, the areas where the stream channel had been significantly widened was accumulating substantial amounts of sediment. The stream flow re-directed around these large gravel deposits, scouring the banks and causing further stream bank erosion just downstream.

As demonstrated in these floods, flood responders often go in and "clean out" the stream channel following a major storm. Oftentimes, they remove as much debris as possible so water moves downstream faster and no longer backs up. Many times, the clean-out includes increasing the size (i.e., width and depth) of the stream channel. The idea is that by increasing stream channel width and depth, the stream would no longer flood its banks because all the floodwater would be contained in the stream's channel. However, this traditional post-flood response frequently results in over-excavation, improper channel sizing, channel straightening and disconnection of the stream from its floodplain. Substantial environmental consequences, including lost or damaged aquatic habitat, stream bank failure, channel instability and increased sedimentation can result.

Fortunately, we now know a lot more about stream geomorphology than we did 15 or 20 years ago. While it may appear logical that dredging streams deeper and wider will alleviate flooding, we now know that this approach can actually increase flooding downstream. It can also dramatically affect the stability of the entire stream reach.

When you dredge a stream, a headcut (an abrupt steepening in the streambed) immediately forms on the upstream side of the dredging. As water flows over the area, the streambed erodes, and the headcut continues to move upstream. All the while, a huge amount of sediment from the streambed and banks is released and deposited downstream, altering the natural stream channel and flow. The stream tries to achieve equilibrium with the new stream bottom elevation and slope. The result is erosion downstream of the gravel deposit and outside the dredged area.

Severe flooding at this bridge below Gilboa Dam (2011) demonstrates nature's force on our infrastructure.

Aftermath of flooding on Schoharie Creek in Prattsville

Experience with these consequences of post-flood stream work drove the creation of a new and innovative approach to address flooding. Developed by Delaware County Soil and Water Conservation District, and the Department of Environmental Conservation (DEC), with financial support from the New York City Department of Environmental Protection, "Post-Flood Emergency Stream Intervention Training" is a science-based program that incorporates stream dynamics, and hydrologic and hydraulic principles. The program is specifically tailored for people involved in post-flood work, including staff at local soil and water conservation districts, county and town departments of public works, New York State Department of Transportation,

and local contractors. Flood responders are given tools, knowledge and practical skills to undertake emergency stream intervention work that won't make things worse, and that will be more likely to survive the next storm.

An important topic covered in the training is priority repairs when public health and safety are immediately threatened. This includes removing flood debris from plugged culvert pipes and bridges, opening up clogged stream channels, repairing or replacing critical infrastructure, and reopening roads. The training program teaches responders to recognize where to work and where not to work, which can help focus and expedite flood recovery efforts.

Training participants are also taught: how streams move water and sediment; the different types of streams and why they take the shapes they do; how floodplains work; and how to design the proper stream channel dimensions that should be re-established after the storm for the stream to be able to properly move its water and sediment (see Figure 1). These dimensions ensure that stream channels are not made too wide or too deep.

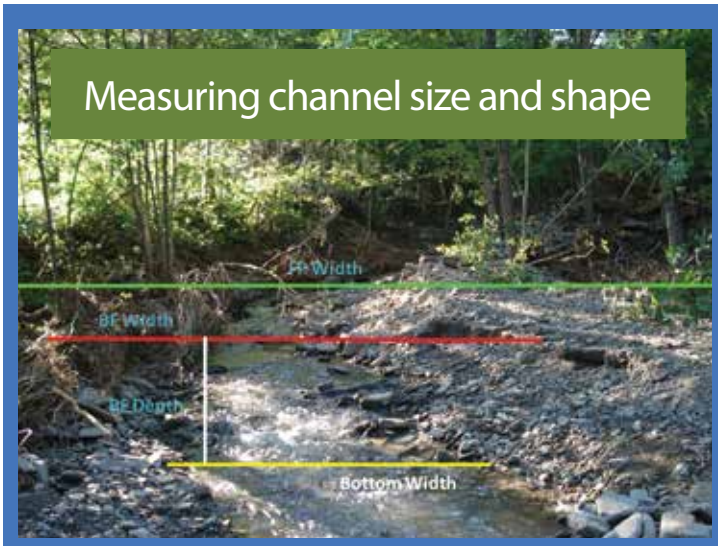
When Hurricane Irene and Tropical Storm Lee hit, this approach was immediately put to the test in Delaware County. Municipalities and contractors used their training to quickly identify 37 different sites along two-and-a-half miles of stream that needed intervention. These sites included stream channel avulsions (sudden displacement of a river channel), debris jams and gravel deposition sites that significantly compromised the stream's capacity, which in turn affected water quality, aquatic resources and public infrastructure. Stream channels were re-dimensioned scientifically and streams were reconnected to their floodplains. Today, the 37 sites have either stabilized or are in some form of natural stream adjustment not needing any further remediation—a true testament that this approach works.

Another topic covered in the training is the various structures (such as cross vanes, straight vanes, J-hooks and hardened riffles) that can be constructed to stabilize stream channels and improve water and sediment transport. Planting vegetation is a key strategy for protecting the stream banks. Roots hold the soil in place, and the foliage protects the banks from erosion caused by rain and wind. Building hardened barriers like retaining walls were the go-to solution in the past. However, these structures generally raise water levels and simply shift devastating floods from one part of a community to another.

After a major flood event, everything can't be done at once. The training program provides guidelines to help responders identify what should be done immediately versus what can safely be done later. Ensuring human safety is paramount, but it doesn't necessarily have to be at the expense of fish and wildlife populations. Following the guidelines and recommended procedures outlined in the training program can provide protection for both and eliminate the need for communities or agencies to go back and repair mistakes. This saves time, money and resources—all of which are in scarce supply after a flood.

So *when*, not *if*, the next major flood event hits New York, we will be ready. The experience and knowledge we've gained since weathering the effects of storms like Irene, Lee and Sandy have given us the skills to better address Mother Nature's wrath without putting our neighbors, communities and natural resources at further risk.

**Thomas R. Snow Jr.** is DEC's New York City Watershed and Hurricane Sandy Recovery Coordinator in Albany.




## Important stream measurements:

bankfull width (red line); bankfull depth (white line); bottom width (yellow line); and floodplain width (green line). Designing proper stream channel dimensions is important in re-establishing water flow. Scientists use two different approaches to do so. The first (and preferred) option is to measure the width, depth and slope of an undisturbed area of the stream, and then duplicate the measurements at impacted sites. The second option is to use the U.S. Geological Survey's StreamStats program to calculate channel dimensions. (See DEC's website at **www.dec.ny.gov/lands/86450.html** for more information.)

# BRIEFLY

Compiled by Jenna Kerwin and David Nelson

Jim Clayton

## Illegal Ivory

On World Elephant Day (a day devoted to raising awareness for Asian and African elephants), Governor Cuomo signed a new law prohibiting the trade of illegal ivory. New York City is believed to be the largest market for ivory in the U.S., and the sale of elephant and mammoth ivory, as well as rhinoceros horns, is now banned, with limited exceptions. The Wildlife Conservation Society estimates that 96 elephants are killed every day to fuel the ivory trade. As a result, some species of elephants and rhinos are threatened with extinction. The new law is dedicated in honor of the late Lt. John Fitzpatrick, who spearheaded illegal ivory investigations and helped institute new ivory permit procedures. (See "Ask the ECO" on Page 24.)

## New Way to Walkway

The NYS Office of Parks, Recreation and Historic Preservation and the Walkway Over the Hudson organization recently unveiled a 21-story, high-speed elevator connecting the Walkway State Park to the Poughkeepsie waterfront. The elevator is just steps from Metro-North Railroad's Poughkeepsie Station, providing a direct connection from the Hudson River shoreline to the elevated park. The new lift will allow easier access for

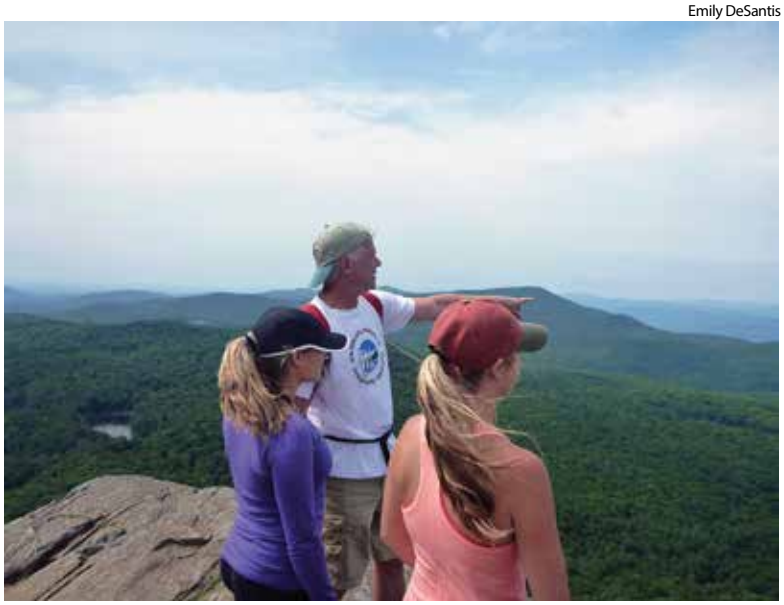
Office of Parks, Recreation and Historic Preservation

persons with disabilities and other mobility limitations. A former railroad bridge built in 1889, Walkway Over the Hudson opened as a public park in 2009.

## Celebrating Wilderness

Recently, DEC Commissioner Joe Martens, along with his daughter Julia (right) and her friend Sarah Cliff, celebrated the 50th Anniversary of the Wilderness Act with a visit to Sleeping Beauty Mountain in the Adirondacks. Drafted by conserva-

Emily DeSantis



tionist Howard Zahniser, the Wilderness Act continues to ensure our wild areas remain "forever wild." Today, our National Wilderness Preservation System protects more than 109 million acres in 44 states. See "The Adirondacks—Where Wilderness Preservation Began" in our June 2014 issue for more on the anniversary of the Wilderness Act.

## I Hunt NY

Empire State Development Corporation and DEC recently announced the new I Love New York hunting webpage, which can be found at **www.ILOVENY.com/hunting**. The webpage is designed to promote outdoor recreation and make hunting information easily accessible to hunters. It promotes the rich hunting opportunities in New York, and will help residents and visitors plan their hunting adventures. In addition, the site provides links to important hunting information on the DEC website.

Fox and kits exhibit at The Wild Center

Rick Godin

## Google & The Wild Center

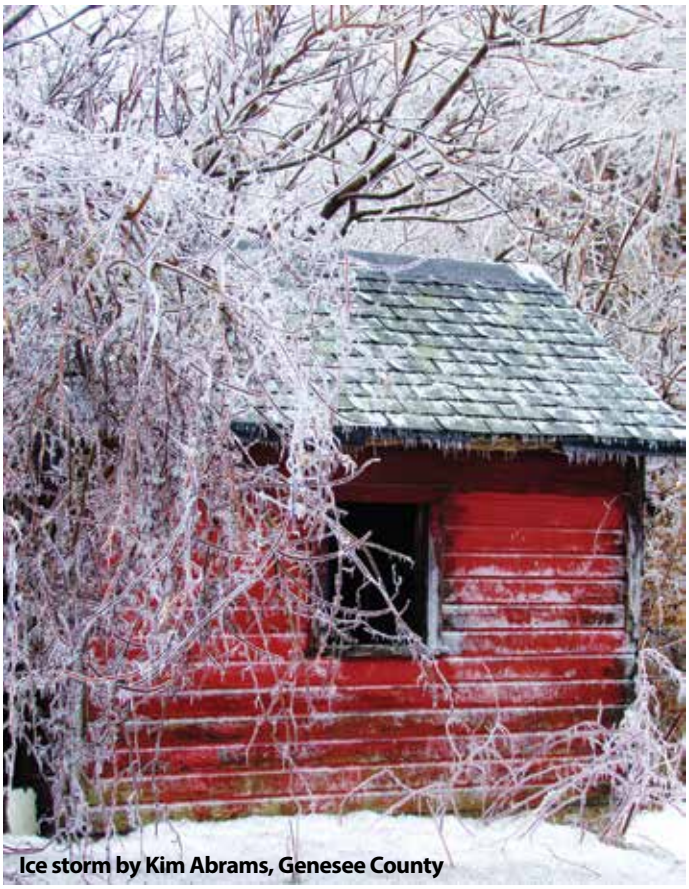
Recently, the global Internet company Google profiled The Wild Center in Tupper Lake in its economic impact report. The corporation chose The Center for its innovative use of the Internet to expand its reach. "While there's a limit to the number of people who can physically visit us, there's no stopping traffic to our website," explains Howard Fish, Director of Communications. The Wild Center also won the Museum Association of New York's top prize for Innovation in 2013.

## Biologists Battle Rabies

So far this year, nine raccoons have tested positive for rabies. To help stop the spread of the virus, wildlife biologists with the U.S. Department of Agriculture and Cornell University distributed an oral rabies vaccine (ORV) along the southern border of Brooklyn and Queens, in Erie and Niagara Counties, and in counties along the St. Lawrence River. Raccoons were vaccinated using baits containing ORV, which were placed in several wooded areas. The animals are attracted to the small, brown, fish-scented bait, which conceals a small packet of the liquid vaccine. The bait isn't harmful to people, but in rare instances, exposure to the liquid can cause a rash. Pets can experience vomiting if several baits are consumed, so it's best to keep them away from the baits.

Susan L. Shafer

# LETTERS Compiled by Eileen Stegemann and Jenna Kerwin



Ice storm by Kim Abrams, Genesee County

## I See You

My family and I found an eastern screech owl on a walk through Tifft Nature Preserve in Buffalo. What amazing camouflage; it blended perfectly with the tree.

Kevin and Dawn Skrzynski
Lackawanna, Erie County

*You and your family have some great eyesight to spot this hidden owl. It seems it's very interested in you all, too.*

## Fox Proof?

A squirrel somehow got into our "squirrel proof" bird feeder. Then a fox showed up to get his next meal. The squirrel was frantic! In the end, the squirrel managed to squirm out, the fox gave chase, and the squirrel got away.

Ken Spencer
Denville, NJ

*That's one lucky squirrel! It looks like your feeder might be "fox proof" instead of "squirrel proof."*

## Kudos for Trimm

We recently received an update on Wayne Trimm, a former staff artist and art director of *Conservationist* for more than 30 years. Wayne's son Steve tells us that following his retirement in 1986, Wayne didn't stop painting wonderful images of New York State's wildlife. Wayne's work has touched a multitude of people who have fallen in love with his scientifically accurate and beautiful images of the state's flora and fauna. Earlier this summer, 45 of his paintings were exhibited at Grant Cottage State Historic Site in Wilton. Wayne also celebrated his 92nd birthday.

# LETTERS

## Snowy Crane

I thought you might like this photo I took of a sandhill crane along the banks of the Mohawk River in Halfmoon.

Denise Hackert-Stoner
Albany County

*What a great "snowy" image. Sandhill cranes get their name from the Sandhills region of Nebraska, an important migratory stopover for this species. These heron-like birds can be found in open wetland habitat, surrounded by vegetation. Though they are predominantly found in western and northern North America, over the past few years more nesting pairs have been spotted in New York.*

## Nature Calls

I was walking my property when I found a snowman in my old outhouse.

Richard Truncellito
Barryville, Sullivan County

*It's not every day one comes across a snowman in an outhouse. It seems someone has played a very clever trick on you!*

## Contact us!

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## Ask the Biologist:

**Q:** I took this picture of a cardinal that has been frequenting my bird feeder. The peculiar thing is that one side has the coloration of a male, the other side has the coloration of a female! Is this unique?

Dick Arthur
Charlton, Saratoga County

**A:** We asked DEC biologists about this cardinal. They confirmed with the Cornell Lab of Ornithology that it is exhibiting a condition known as bilateral gynandromorphy, whereby it is half male, half female. The phenomenon is rare, though not unique, and has been seen in a number of bird species. It appears that some anomaly of development happened at the two-cell stage, and the embryo developed with different-sexed cells on each half.

# Back Trails

## Perspectives on People and Nature

John Bulmer

## Snowshoeing

by Gina Jack

My children often ask me what my favorite time of year is. I can never really provide an answer. Each season offers something that I love. The freshness of spring, the warmth of summer, and the crispness of fall all draw me outdoors. In winter, it's the snow that calls to me. What's not to love? If you're dressed for it, winter offers countless opportunities for outdoor adventures.

Snowshoeing is my winter activity of choice. I like that I can stop at a moment's notice and enjoy the silence of a wintery world. While I've tried the newer models of snowshoes, with neoprene base and a metal frame, I'll take a nice ash frame, carefully woven with babiche (rawhide) any day. I love the spring I feel in my step as I move forward.

I do not profess to be an expert. I enjoy snowshoeing because it's easy to feel confident without a lot of practice. I tell first-timers that it's a lot like walking—once you've gone a short distance and found your rhythm, you'll be fine.

Children seem to get the hang of snowshoeing in a flash. Maybe they're less concerned about falling, or maybe falling is fun for them. They understand that it doesn't matter how many times you fall, only that you get up every time.

When my own children came along I encouraged them to enjoy winter. We made snowmen and forts, and I towed them on the toboggan. In deeper snow, I'd wear snowshoes. The winter of 2006-07, my girls were ready to try snowshoeing for themselves, so we bought each of them a pair of snowshoes for Christmas. Jennifer was seven, and Lauren was four.

Both during and after university, I worked at a number of nature centers where I taught snowshoe lessons in the winter. I had provided basic instruction to plenty of kids, and was ready to do the same with mine. When the snow came, we bundled into our snowsuits and headed out to our backyard. Upon reflection, I should have set up lawn chairs for them to sit in while I strapped on their snowshoes, or perhaps put the boots on the snowshoes before putting the girls in the boots. As it was, I spent the first half hour bending up and down, adjusting bindings and wiping drippy noses. Not the beginning I had envisioned, but eventually we were ready, eager for an adventure.

We spent more time in the snow than on it, but had a great time. Taking tentative steps forward became "watch me" moments. I watched as they stamped out trails for each other to follow, or followed in the trail I made with my snowshoes. We had fun spelling out our names in the snow. When Dad arrived home, he knew we'd been out by all the tracks in our front and back yards.

The author's girls enjoy one of their first snowshoe outings.

Soon, any small dusting of snow brought requests to get the snowshoes and head outside. Multi-tasking was not a problem for my girls. Building a snowman or being towed in the toboggan were equally well accomplished with or without snowshoes. Afterwards, we'd warm up inside with hot chocolate and popcorn. We were put to the test when a February storm dropped 16 inches of snow. The girls thought it was pretty funny when I stepped out of my snowshoes and stood beside them. They were "taller" than me as I sank up to my knees and they floated above me.

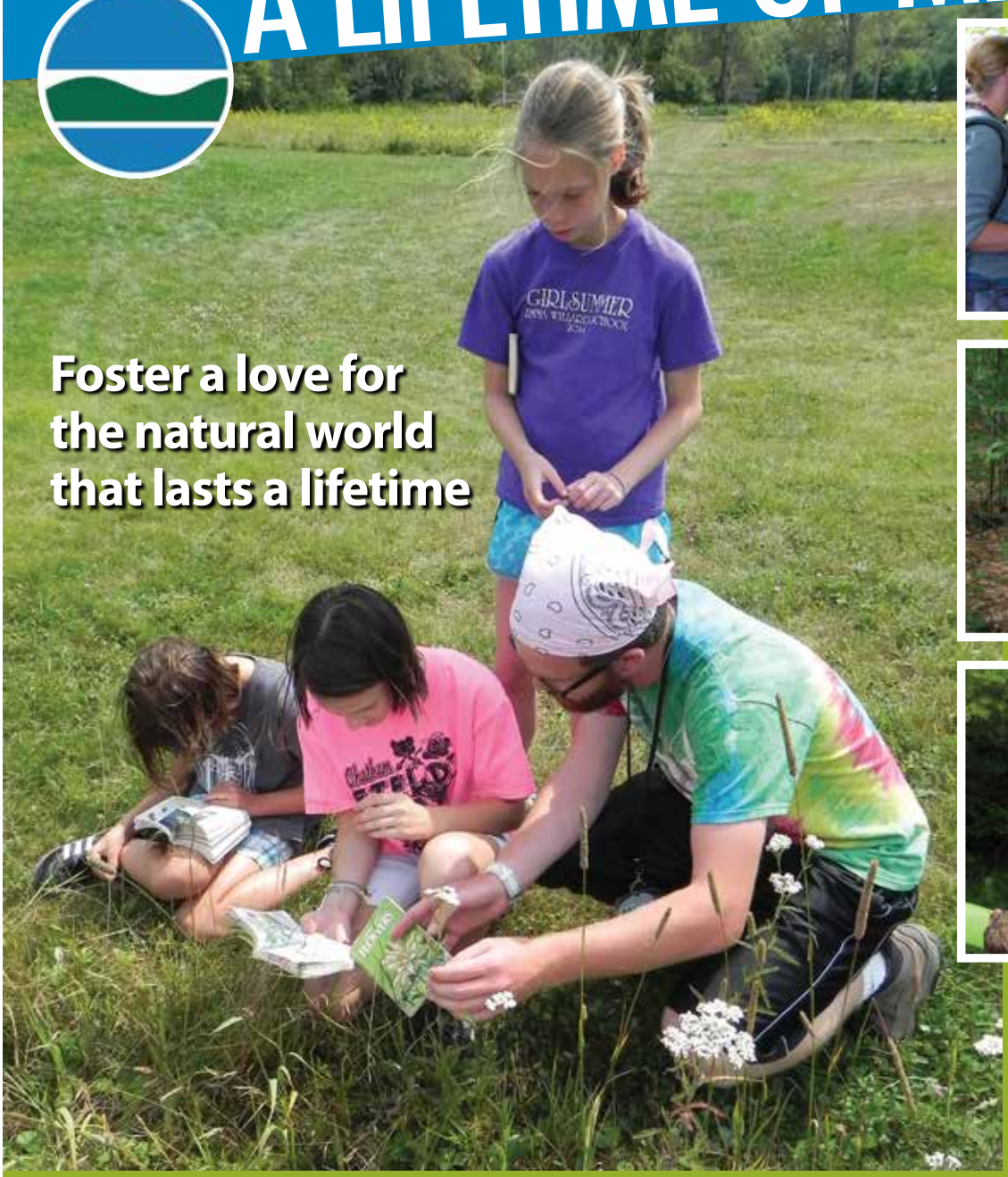
That was seven years ago. The girls have since outgrown their original snowshoes, and we've expanded our fun beyond our backyard. These days we check out trails at nature centers and parks. We are fortunate that New York has so many wonderful places to explore on snowshoes.

I cherish the adventures and memories that snowshoeing provides my family. And I love that my girls enjoy spending time outside during winter.

**Gina Jack** is an environmental educator at DEC's Five Rivers Environmental Education Center in Delmar.

**Author's note:** *If you want to try snowshoeing, check out DEC's Five Rivers and Reinstein Woods Environmental Education Centers, in Delmar and Depew respectively. Both have trails, and there are classes with equipment available.*

# A WEEK AT CAMP
# A LIFETIME OF MEMORIES

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