

Shawangunk WATCH

Friends of the Shawangunks and The Shawangunk Conservancy

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looking
north
from
Lake
Maratanza
after
the
April
fire

DEERPARK COMMONS ❖ TUNNELS ❖ SNAKES

Preserving Open Space in the Shawangunks since 1963



LEFT: Richard Cronk photographed this pair of **COPPERHEADS** just off Undercliff Road in the Trapps in the Spring of 2014. Richard notes that three more copperheads and a black snake were only a few feet away.

BELOW: one of our most common snakes **THE NORTHERN WATERSNAKE**. Photo by Bill Cutler.



HERPS ON THE GUNKS, PART II: SNAKES

Bill Cutler and Susan Erny

IN OUR REGION of New York State, there are 13 species of snakes. Since they are all generally secretive animals, preferring to stay out of sight whenever possible, it is not that common to come across one. This brief description of local snakes provides readers with an introduction to these unique reptilians in an effort to promote respect and appreciation of them.

Four of our area's most common snakes

The eastern garter snake, eastern ribbon snake, northern water snake, and eastern milk snake are all found in the Gunks. All but the milk snake prefer open, wet areas. Water snakes abound in our lakes, wetlands and streams. Milk snakes tend to gravitate to forests and the cover of rotting logs and rock walls. Each of these four snakes grows to from two to four feet long. The garter and ribbon snakes are almost identical, though the

ribbon is the slimmer of the two. Both these species are colored with alternating yellowish and dark brown stripes along the length of their backs. The water snake is light brown with dark brown spots and bands across the back. Milk snakes' coloring varies from gray to brown to bright

red saddle-shaped blotches outlined in black that are separated by gray bands. The milk snake is a constrictor which consumes mice and rats. Meals for the garter, ribbon and water snakes consist of frogs, salamanders, worms and small fish. Of these four common snakes, water snakes tend to be the most pugnacious

and will strike at, and readily and repeatedly bite, if molested.

Four small, slender snakes

The smooth green, northern red-bellied, northern brown and northern ringneck snakes are also found here. Their names describe their coloring. The ringneck is slate gray above with a prominent orange ring about its neck. Each of these is less than two feet long and only about the thickness of a person's small finger. These are timid snakes that feed on beetles, crickets, grasshoppers, caterpillars, insects, spiders, earthworms and slugs. They inhabit woodlands, meadows, streams and marshes.

Two poisonous snakes

While the northern copperhead and the eastern timber rattlesnake are both found in the Gunks, it is the latter that is the more potentially dangerous to humans. (Even newborn rattlesnakes and copperheads are armed with venom.) Timber rattlers can be found in forests and on upland rocky outcrops where there are plenty of nooks and crannies in which to hide. Equipped with heat-sensitive pit membranes between their nostrils and their eyes, rattlers and copperheads can detect the difference in temperature of a moving animal and its surroundings. It's like infrared vision, and surpasses many technical infrared cameras! These pits allow the snakes to locate prey even in poor visual conditions. For this reason they are known as pit-vipers. They bite their victim, injecting venom to knock it down quickly. The venom may take a few seconds to impact the animal before it drops. In this manner, the snake eliminates the possibility of a creature biting back; then, it eats it whole.

Stocky-bodied timber rattlesnakes average three to five feet in length, but the New York State record is over six feet long. In their black morph (form), they have dark cross-bands on a dark background, appearing almost completely black. This

variation may confuse people who spot snakes because they may resemble a black snake. Perfectly camouflaged, rattlers' in their yellow morph have black or dark brown V-shaped cross-bands on a lighter background color of yellow, brown or gray. Their patterns can be similar to copperheads and even non-venomous hognose, milk and water snakes.

Notably, both rattlesnakes and copperheads have a triangular-shaped head with the venomous glands

bulging at the rear of the jaws. If you're very close to one, you may also notice their vertical pupils. Rattlers' most distinguishing feature, however, is the rattle at the end of their tail. If ever you hear such a rattle before you see the snake, it is best to look around to see where it is, back away and leave it alone. Rattling is the snake's way of warning you of its presence; it is not a precursor to striking. Its venom is very precious to its existence, so it does not want to waste it. However, if a person is unaware or is foolish enough to move too close, the rattlesnake will strike, and may deliver a toxic bite, which can have very serious consequences. (See "Treating Snakebite" on page 6.)

The timber rattlesnake was hunted for bounties up until 1971 when New York State outlawed this practice. People have indiscriminately killed them or captured them for private collections. Thus, their numbers have been depleted over time, earning them a "threatened" status in New York. Another factor that affects their population is their infrequent reproductive rate: females give birth to live young only every three to five years. It is thought that some den sites are thousands of years old. These sites must be protected from destruction and development in order to insure the rattlesnakes' survival.

Copperheads have exactly that: copper-colored heads. Their bodies are reddish-brown with chestnut brown hour-glass bands that grow thinner towards the midline. Smaller than the rattler, a copperhead may grow to from two to three feet in length. Copperhead snakes can be found in wooded areas amongst dried leaves, on rocks basking in the sun or, in the heat of summer, near streams. They lay in known rodent trails to surprise their victims. Be aware that when summer temperatures are extreme, copperheads, as well as many other types of snakes, may become nocturnal or crepuscular, hunting between 9 PM and 8 AM. Evening is also when many small mammals are active.

Hognose, black rat and northern black racer

One of the most interesting snakes that can be found on the

Gunks' side slopes where there is rocky cover is the eastern hognose snake. It is so named because it has an upturned snout that facilitates digging through sand and loamy soil. Hognose are equipped with enlarged rear teeth which are designed to puncture prey and inject a mild venom! This venom subdues their prey so they can quickly swallow it. While their food of choice is toads, they will also eat other small creatures. Hognose are most active in the morning and early evening. Their bodies tend to be thick and two to three feet in length. Their coloring varies greatly from blotchy brown and yellow to almost black. Hognose snakes have developed some very unusual behaviors to deter predators. They are known to display as a puff adder, looking like a cobra, hissing and lunging. Another antic is to roll over and "play dead." Sometimes they shake their tails in dry leaves to make a rattling sound to warn intruders to stay away. Rarely do they bite humans. Hognose venom is not lethal to humans, but it does cause minor swelling and irritation.

The largest snake in New York is the black rat snake which has shiny black scales, a light colored belly and a white chin and throat. Typically, they are five to six feet long, but the state record is 8 feet, 11 inches. A constrictor, it first bites its warm-blooded prey and then coils around the prey to suffocate it, and finally swallows it. A shy snake, it will either freeze or flee when it senses danger. Like a number of other snakes, it is an excellent climber and swimmer. These reptiles can live for more than 20 years, inhabiting cliffs, rocky slopes, woodlands and fields.

Another black snake is the northern black racer. It is not as large or as glossy as the black rat snake. It is thinner and only about three to five feet long. Racers are so named because they are a fast-moving snake, clocking in at three to four miles an hour. They prefer wooded and grassy areas. These snakes can appear to be aggressive towards people, especially during mating season which occurs in the spring and the fall. Black racers will strike out repeatedly when threatened. Unlike the black rat snake, it is not a constrictor. First, it bites its prey, and then it holds on and swallows it whole and alive. It is known to favor snakes for its dietary sustenance.



All of the larger snakes feed on mice, rats, voles, chipmunks, young rabbits and squirrels, birds, frogs and other snakes. Obviously, these are beneficial snakes because they deplete the numbers of disease-carrying rodents. All of these snakes are essential to the maintenance of the food chain because they, in turn, are prey for hawks, owls, possums, foxes, raccoons and coyotes.

Unfortunately, one of the biggest threats to snake populations, as with many other animals, is the destruction of their habitats by humans. As more commercial developments are built, along with more roads, we encroach upon their domain.

Bill Cutler has a degree in biology from Binghamton University with concentrations in environmental science and geology. He has worked as the Sullivan County Recycling Coordinator for 25 years. Bill leads "herp" walks for the Basha Kill Area Association as well as the Sullivan County Audubon Society. Susan Erny is a Friends board member.

WHAT'S UNDER YOUR FEET?

WE HIKE over the ridge and around the ridge and alongside the ridge but what about under the ridge?

Looking at rail trail maps, I was struck by the triangle superimposed over the landscape by the New York, Ontario and Western Railroad (O&W) and the Erie Railroad, with the Shawangunk Ridge merrily running between the two railways, sort of. It's a big ridge. Surely the railroads, not widely known for their climbing skills, had to do something with that ridge given that it blocked any westerly path from New York City through Ulster, Sullivan and Orange Counties. So began my interest in tunnels under the Shawangunks, starting surprisingly enough with the Delaware and Hudson Canal (D&H Canal).

The Delaware and Hudson Canal Company (D&H Co.), chartered in 1823, allowed the Wurts brothers (William and Maurice) to build a canal to carry anthracite coal from the Pennsylvania coal fields to a growing market in New York City. It was the first multi-state transportation enterprise to wrestle with the ridge and it quickly gave up. D&H Co. ultimately built a 108 mile long man-made canal from Honesdale, Pennsylvania to Eddyville at Kingston, New York without crossing the ridge. Construction started in 1825 and was completed just three years later, a marvel of engineering and manual labor that in Ulster County stretches from Spring Glen to Kingston. But had George Duncan Wickham, a D&H Co. board member and prominent Orange County businessman, gotten his way, the canal would have taken much longer to complete and would have gone through the ridge. Wickham wanted the D&H Canal to run through Orange County and the only thing in his way was the Shawangunk Ridge.

D&H Co. asked its engineer, Benjamin Wright, to consider a route for the D&H Canal that would cross Orange County to a terminus in Newburgh, New York. Wright determined that the proposed Orange County to Newburgh Route would require a 2 mile tunnel through the ridge at prohibitive cost and delay when compared to the Ulster County to Kingston Route. This was, after all, still the age of black powder. Thanks to the Shawangunk Ridge, Ulster County is home to a fascinating pre-industrial, man-made waterway; magnificent stretches of the D&H Canal are still visible today. Hike along the canal on the Accord Rail Trail or take the Five Lock Walk maintained by the D&H Canal Historical Society & Museum in High Falls (www.canalmuseum.org), a repository of all things D&H Canal related. Ride your bike on Berne Road from Kerhonkson to Port Ben, following the contours of the canal the whole way. But don't expect any tunnels under the Shawangunk Ridge on the D&H Canal route.

A decade passed and the ridge remained rock steady and whole but the railroad was coming. Wright, by this time the Chief Engineer of the New York and Erie Railroad, had been charged with planning a route to connect Piermont, New York (north of New York City and west of the Hudson) with Dunkirk, New York on Lake Erie. The route had to cross the



Shawangunk Ridge at Otisville and the question was - over the top or through the rock? At least in 1837, over the top was considered the better solution even though trains don't like to climb. Anyone who has ridden the Mount Washington Cog Railway to the 6,288 foot summit knows this fact firsthand. Rather than attempt a half-mile tunnel through Shawangunk Grit, the railroad put in steep rock cuts up and over the Deerpark Gap at Otisville. It would be 30+ more years before the first railroad tunnel was constructed.

In 1868, the New York and Oswego Midland Railroad (Midland), predecessor to the O&W, began building its mainline from Weehawken, New Jersey to Oswego, New York. The route selected would pass through the Shawangunk Ridge via a tunnel between Wurtsboro on the west and Bloomingburg on the east. Construction began in 1868 at both ends of the tunnel. Three years later, Midland completed the High View



Tunneling Under the Shawangunks *by Elaine Laflamme*

Tunnel after excavating through 3855 feet of Shawangunk Grit. When the workers finally met in the middle, to everyone's delight they were only a few feet apart.

Of all the tunnels under the Shawangunks (and read on to learn more about the Otisville Tunnel and the water tunnels), High View seems to engender the most awe, due in part, no doubt, to the fact that it is the only abandoned railroad tunnel under the Shawangunks and theoretically, more accessible. It is also an amazing corridor running entirely through Shawangunk Grit. Good pictures can be found by clicking on Tunnels at www.steamphotos.com and Matthew Young's spine tingling, first-hand account

can be found in the Journal section of www.pastlives-ny.com. (See *A Short Walk to an Abandoned Tunnel* on page 6 of this newsletter.)

High View Tunnel operated from 1871 until 1959 but not without its problems, mainly water and falling rock. While Shawangunk Grit is impervious to water, the open seams running through the grit are perfect waterways. Once abandoned, the tunnel continued to take on water with no one taking steps to dewater the tunnel. Meanwhile, NYS Route 17 was built over the High View Tunnel and, at one point, future plans called for a ramp directly over the North Portal. Those plans have since been abandoned.

In 1980, perhaps in response to rumors of a drowning in the High View Tunnel, perhaps not, an attempt was made to seal the North Portal. Despite efforts, the portal wasn't completely sealed and the resulting large debris pile in the front of the North Portal allowed even more water to collect in the tunnel (the crest of the tunnel is near the South Portal). The New York Department of Transportation grew concerned that the higher water levels (estimated at 13 feet in some places) could weaken the tunnel, posing a threat to Route 17 (proposed I-86). The department cleared the debris from the North Portal in 2006, thereby reducing the water level to about 3 feet nearest the North Portal.

It would take 35 more years following completion of the High View Tunnel before construction began on the second railroad tunnel through the Shawangunk Ridge. In 1906, the Erie Railroad brushed the dust off of its plans for a tunnel at Otisville, New York. The mile-long (5,314 feet) Otisville Tunnel, located a short distance from NY 211, is still in use today. Its current owner, New York Metro-North commuter railroad, spent \$3 million in 2013 to repair original sections of the tunnel. You can still ride through the Otisville Tunnel by catching a train at the Otisville Station in Mount Hope, New York (Port Jervis line) headed for Hoboken, New Jersey.

The third tunnel under the Shawangunk Ridge doesn't carry coal or people. It was built starting in 1908 and completed in 1910 to carry water from the Catskills to New York City. The water tunnel at 7,350 feet long was at the time the longest of the 3 tunnels and crossed under the Shawangunk Ridge at Bonticou Crag. Next in time was the Delaware Aqueduct, the world's longest water tunnel stretching 115 miles from the Catskills to New York City. Construction on this pressure tunnel (a gravity feed system) began in early 1937 and was totally completed in 1964 though operational since 1944. The Delaware Aqueduct was built deep into bedrock, up to 1,200 feet below ground at the Rondout-West Branch, a 45 mile stretch of tunnel that's 13.5 feet wide and frequently in the news because of its many leaks.

So the next time you're hiking or biking a particular steep path up the Shawangunk Ridge consider the alternative - a tunnel.

Elaine is a Board Member of Friends

RAILROAD TUNNELS UNDER THE SHAWANGUNKS

FAR LEFT: the Otisville portal of the Erie Railway. **LEFT:** looking East from the Otisville portal. *Both photos probably taken by Jack Boucher, circa 1948. Courtesy The Library of Congress.* **BELOW,** the North Portal of the High View Tunnel today. A sheet of metal, part of the tunnel lining, hangs down above the entrance. *Photo by Thomas Nozkowski.*





THE EASTERN TIMBER RATTLESNAKE... AND ITS RATTLE
photos by by Bill Cutler.



TREATING SNAKEBITE

If you or someone you are with is bitten, you'll know the venom has been injected once there are signs of swelling and pain, usually within 15 minutes of the bite. Death from rattlesnake or copperhead bites is rare, but the venom affects everyone differently. It is imperative to get medical attention as soon as possible. Most local hospitals carry anti-venom serum, but it is very expensive. (One copperhead victim reported spending more than \$30,000 on anti-venom.)

Following is a list from New York Presbyterian Hospital for what to do while waiting for emergency response:

- ❖ Wash the bite with soap and water.
- ❖ Immobilize the bitten area and keep it lower than the heart.
- ❖ Cover the area with a clean, cool compress or a moist dressing to minimize swelling and discomfort.
- ❖ Monitor breathing and heart rate.
- ❖ Remove all rings, watches, and constrictive clothing, in case of swelling.
- ❖ Note the time of the bite so that it can be reported to an emergency room physician if needed.
- ❖ If possible, try to remember to draw a circle around the affected area and mark the time of the bite and the initial reaction. If you are able, redraw the circle around the site of injury marking the progression of time.
- ❖ It is helpful to remember what the snake looks like, its size, and the type of snake if you know it, in order to inform the emergency room staff.
- ❖ Do not apply a tourniquet.

--B.C., S.E. and K.L.B.

SHORT WALK TO AN ABANDONED TUNNEL

The North Portal of the High View Tunnel—an abandoned railroad tunnel on the Kingston Branch of the Ontario & Western line—can be seen at the end of a short walk along the old rail bed.

The trail is unmarked and so should be attempted only by hikers experienced with bushwacking in the Shawangunks. A compass or GPS device should be used. The trail is clear of obstacles except for the final 100 yards where the walker must negotiate around some wet patches and fallen trees.

To reach the unmarked trail head, start at the traffic light on Route 209 and Sullivan Street—the main business street of Wurtsboro—and drive 1.3 miles towards the Shawangunk Ridge. At a hairpin turn a VFW post will be on your left and a concrete railroad bridge abutment on your right. (The facing abutment on the north was destroyed when the highway was widened.) Immediately past the abutment there is enough room to pull off the road and park. Be careful getting in and out of your car—the sharp turn hides the fast-moving traffic. You will notice a path leading into the woods here, just beyond the abutment. It will lead in thirty yards up to the rail bed. Walk south: you are less than a mile from the tunnel entrance.

--Thomas Nozkowski



PHOTO BY THE AUTHOR

NOTES FROM THE SOUTHERN SHAWANGUNKS DEERPARK COMMONS by Susan Erny

As SHAWANGUNK WATCH reported earlier this year, another massive, inappropriate development is brewing at the southern end of the Shawangunks: Deerpark Commons. A number of factors laid the groundwork.

Beginning in 2001 a Chinese group that practices Falun Gong, a form of spiritual meditation, purchased 400 acres in the Town of Deerpark. These individuals were seeking asylum from Chinese government persecution. Over a 14-year period a major complex known as Dragon Springs (DS) has been built. It includes two schools and a performing-arts center. It is a heavily gated, security-minded community. The land DS bought is zoned Rural Residential but Deerpark granted a special-use permit and has renewed it annually, enabling continued development. DS has a history of noncompliance with building and zoning regulations and slowness to comply with Department of Environmental Conservation (DEC) requests.

Then in 2005 Alan Adler of Da Tang Development LLC purchased 190 acres on the western flank of the Ridge within the southernmost watershed of the Basher (aka Basha) Kill. The property is located between Route 211 and narrow, two-lane Galley Hill Road in the Town of Deerpark, where about 75 private homes are nestled, and where Dragon Springs lies. This March Adler proposed building a “traditional Chinese village” called Deerpark Commons (DC) on the site. DC is a commercial project that would include a 400-room hotel, 622 townhouses, one million square feet of retail space, and 6,100 parking spaces, some underground. Because DC property contains water bodies, wetlands, and slopes greater than 15%, the buildable acreage is actually less than 100 acres. Adler, a supporter of Dragon Springs, is counting on DS to bring visitors, specifically Chinese family members of DS students who will frequent Deerpark Commons. Deerpark views this development as beneficial tourism despite its harmful impact on town residents. (See map.)

The most recent facilitating factor came in 2013, when Deerpark changed the zoning of 6,500 acres from Rural Residential or Rural Settlement to Hamlet-Mixed-Use,



PHOTOGRAPH: THOMAS NOZKOWSKI

asserting the revision would increase business opportunity. “Tax ratables” became the town’s mantra. Communication to residents of this major zoning amendment was minimal. So the door was opened wide for such dense, incongruous projects as Deerpark Commons.

The silver lining in this dark cloud is the rallying of local activists. A group of residents who oppose Deerpark Commons formed the Deerpark Rural Alliance (DRA). Its mission is to preserve the town’s rural character, to advocate for environmentally sustainable growth, and to resist overdevelopment. DRA members attend all Town Board, Planning, and Zoning meetings

and voice their concerns. They met with Supervisor Gary Spears and Councilman David Dean to express their disapproval of the scope and appropriateness of the project. DRA has also been monitoring and reporting Dragon Springs’ discharge violations, building issues, and deficient fire protection to Deerpark and to the DEC. The Basha Kill Area Association (BKAA) has been monitoring the DC project because discharge from a possible 700,000 gallons per day wastewater treatment plant would affect tributaries to the Basha Kill.

Deerpark Commons’ State Environmental Quality Review process has just begun. According to the DEC, the Deerpark and DC must consider discharge treatment, wetland disturbance, stream disturbance, threatened and endangered species habitat assessment, water withdrawal, historic mining on site, and possible archaeological resources. DC has not appeared before the Planning

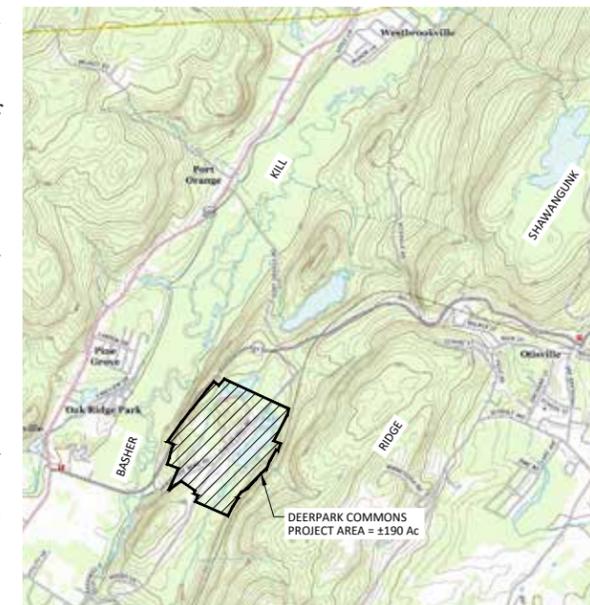
Board since this spring and is modifying its plan. As of mid-July no revised plans had been submitted.

BKAA supported DRA with a \$2,500 grant and is serving as a 501(c)(3) conduit for others wishing to contribute tax deductible donations. Checks can be written to BKAA with “DRA” on the memo line and mailed to BKAA, P.O. Box 1121, Wurtsboro, NY 12790. To contact DRA, email: grace.woodard@earthlink.net.

The Friends of the Shawangunks recently sent \$3,000 to DRA via BKAA. Thus FOS members are supporting protection of the entire Shawangunk Ridge.

Susan is a Board Member of Friends

TOP: On Galley Hill Road, beside Lake Helen.
BELOW: Deerpark Commons location map.



Shawangunk WATCH

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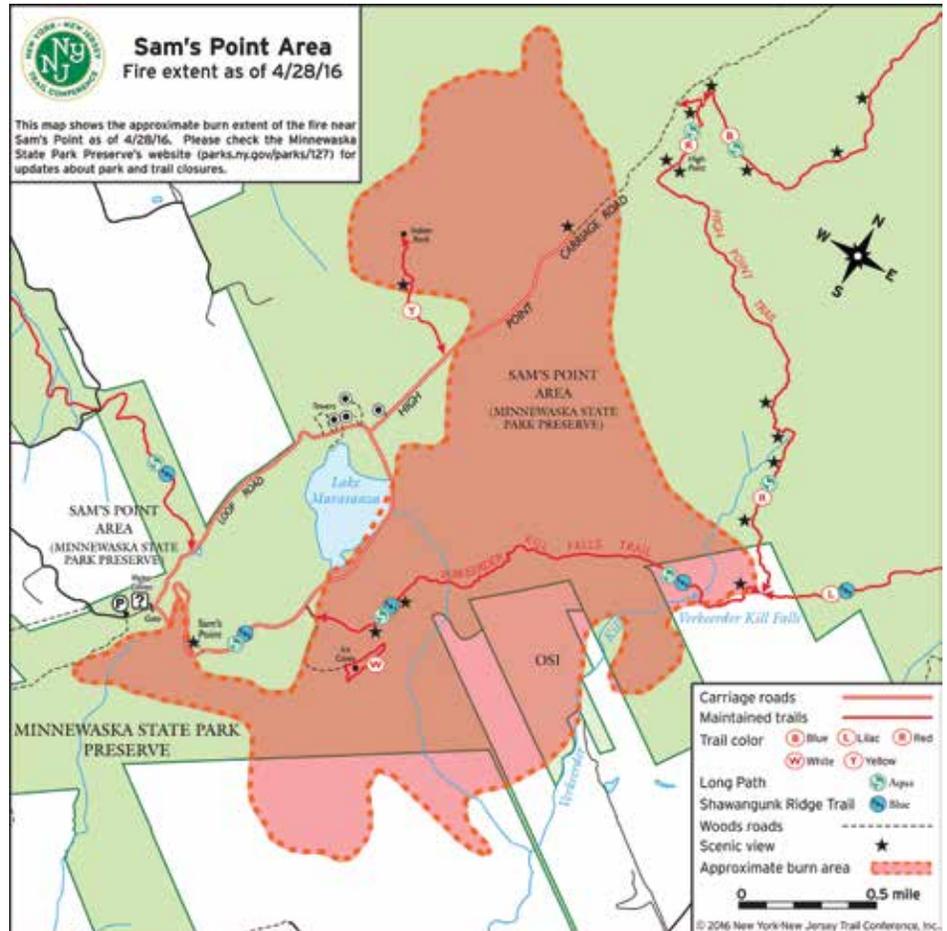
FRIENDS OF THE SHAWANGUNKS

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MORE FIRE IN THE SHAWANGUNKS

Over the last decade, three of the largest forest fires in New York State have taken place on the Shawangunk Ridge. 3,100 acres in 2008, 2,700 acres in 2015 and another 2,000 acres this last April all thought attributable to human causes. Our good friends at the *New York/New Jersey Trail Conference* have let us use their map showing the extent of the damage from this last fire. Jeremy Appgar was the cartographer.



CUT OUT ALONG DOTTED LINE

Now is the time to double our efforts to save the Shawangunks and we need your help!

I WOULD LIKE TO JOIN OR RENEW MY MEMBERSHIP.

BENEFACTOR \$250. **PATRON** \$100. NAME _____

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I would like to make an additional contribution to EMAIL _____ THIS IS A CHANGE OF ADDRESS OR EMAIL

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