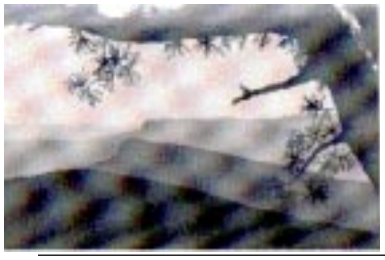


SHAWANGUNK WATCH

Spring 2009 Preserving Open Space in the Shawangunks Volume 14 # 1

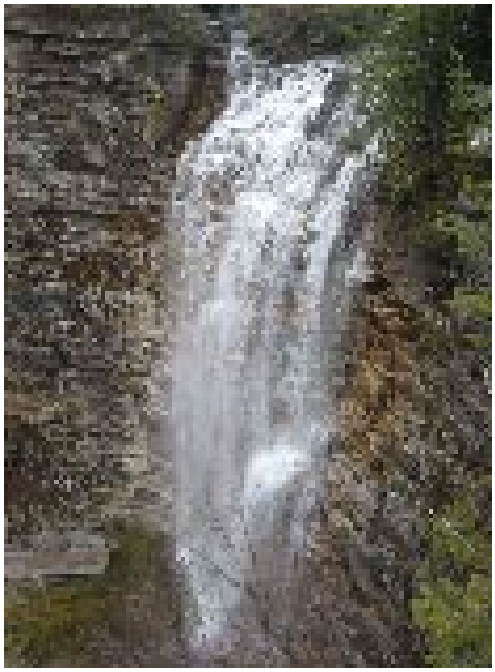
Friends of the Shawangunks & The Shawangunk Conservancy

Polishing the Jewel of the Shawangunks:

Latest Acquisition helps Sam's Point Preserve grow to almost 5,700 Acres

NEW YORK, NY—April 7, 2009 Working steadily over the years, the Open Space Institute (OSI) is gradually assembling one of the largest nature preserves in the Hudson River Valley on the highest reaches of the Shawangunk Ridge. The Sam's Point Preserve as it is now known, is a globally unique ecosystem that protects thousands of acres of pristine ridge-top land and pumps vital tourist dollars into local economies every year.

Earlier this month, OSI acquired 35 additional acres of undeveloped mountainous land on the eastern side of the ridge, as the conservation group chips away at its goal of a 7,500-acre Sam's Point Preserve. Consisting of two separate purchases from two of the preserve's neighbors, the parcels protect the headwaters of the Verkeederkill Stream and the eastern escarpment of the Ridge as it looks out over the town of Shawangunk.



Verkeederkill Falls photo Annie O'Neill

Tens of thousands of people visit the Sam's Point Preserve each year for a variety of recreational opportunities, including hiking, cross-country skiing, hunting and other pursuits. The recent acquisitions will protect scenic views from the hiking trail to Verkeederkill Falls, and contain extensive rock-walled crevices, slabrock and pitch pines. OSI will eventually add the land to the adjacent Minnewaska State Park Preserve.

OSI's land acquisition affiliate, the Open Space Conservancy, made the acquisitions with funds from the Lila Acheson and DeWitt Wallace Endowment, a permanent fund that was transferred to the Open Space Conservancy in 2001.

"The big picture here is that we started assembling the Sam's Point Preserve in 1991, and over the years, and through ten subsequent acquisitions, it's grown to about 5,700 acres," said Joe Martens, OSI's president. "We've kept adding to it over the years, and we think in the next 15 to 20 years this is going to be one of the flagship preserves of the Hudson River Valley."

After conserving a handful of smaller, adjacent parcels in the early 1990s, OSI officially created the Sam's Point Preserve in 1997 with a breakthrough purchase of 4,780 acres from the Village of Ellenville. Formerly known as Ice Caves Mountain, the area had been owned by the village and used for a variety of purposes for almost a century. It was named one of the "75 Great Places in the Western Hemisphere" by The Nature Conservancy, which partnered with OSI on the Ellenville acquisition and helps manage the properties today as a publicly-supported nature preserve.

The OSI purchases have protected Sam's Point, the highest summit in the Shawangunks; Indian Rock; deep, glaciated ice caves; the Verkeederkill Stream; and an immense, globally rare pitch pine barrens. OSI anticipates that it will be able to purchase enough adjacent land from willing sellers over the next two decades to bring the preserve to as much as 7,500 acres, protecting important plant and animal habitat and increasing access for recreation in the Shawangunks.

In 2007 OSI transferred a 4,000-acre portion of Sam's Point, consisting of rare dwarf pitch pine barrens, stark quartz cliffs and underground ice caves, to the Minnewaska State Park Preserve

This property had been off the tax rolls for nearly a century as village-held watershed land, but with the transfer to the Minnewaska State Park Preserve, New York State is now paying local real property taxes to the Village of Ellenville, Ellenville Central school district, and other local taxing jurisdictions.

In addition to its rare ecological features, Sam's Point is flanked by tens of thousands of acres of conserved land-Minnewaska State Park Preserve and Mohonk Preserve to the north, and several thousands of acres of state forest preserve land stretching along the spine of the Shawangunk Ridge as it winds its way through Sullivan and Orange counties to the New Jersey border near Port Jervis.

"The protection of the Shawangunk Ridge is one of OSI's core programs, along with the protection of the Adirondack Mountains, Catskill Mountains and other important jewels in and around the Hudson River Valley and the Capitol District," Martens said. "It is a strikingly pretty and ecologically important landscape which hopefully will be enjoyed by the residents of the Hudson River Valley for many generations."

The Open Space Institute protects scenic, natural, and historic landscapes to ensure public enjoyment, conserve habitats, and sustain community character. OSI achieves its goals through land acquisition, conservation easements, regional loan programs, fiscal sponsorship, creative partnerships, and analytical research. OSI has protected more than 100,000 acres in New York State. Through its Northern Forest Protection Fund and Conservation Finance Program,

Friends of the Shawangunks has worked collaboratively with OSI over the last twenty-five years.

ALSO IN THIS ISSUE

All That is Green...

Robert T. O'Brien

Invasive species are the greatest threat to the natural communities and native species of the Shawangunks in the next few decades, period. The silent enemy is altering the biological diversity profile of the Shawangunks right under our noses. For a moment, imagine a Shawangunk forest of just a few tree species, an understory of a few undesirable shrubs. At the ground level, only a non-deer palatable monoculture herbaceous layer, if any at all. What is called for along the Northern Shawangunk Ridge is an approach toward early detection, containment, suppression, and eventual eradication of all invasive species, to the best of our collective ability. A community-wide approach, where each of us plays a role, can serve as a lasting example of what a community-based ecological management project can produce. First things first…all that is green is not good.

In the past decade, the overall number of invasive species found on the Ridge has grown. Minnewaska State Park Preserve, in conjunction with the Shawangunk Ridge Biodiversity Partnership and others, has been actively working to control and eradicate 12 different plant species for a number of years. The overall goal of the Minnewaska Invasive Species Management Plan is the reduction of invasive plant species to near zero and the delineation of the ridge as an Invasive Species Prevention Zone (ISPZ). In this zone routine monitoring and early detection of new arrivals will preserve weed free status far into the future. Phase 1 of this plan includes eradication of all invasive plants to less than 1% on 13,000 acres comprised mostly of currently weed-free portions of Minnewaska. Phase 1 is anticipated to continue until 2011 aided by the award of a $100,000 Department of Environmental Conservation (DEC) Terrestrial Invasive Species Eradication Grant in 2008. In order to complete effective implementation of the ridge-wide plan, involvement by every entity and land owner surrounding the Ridge is necessary. Two especially virulent invasive plant species that need to be actively controlled by everyone wishing to preserve ridge-wide biodiversity are Japanese Stiltgrass (top) and Black Swallowwort.

Japanese Stiltgrass (*Microstegium vinineum*) first arrived in the United States as packing material for porcelain goods shipped from Asia. It is a late-season annual that produces hundreds of seeds per plant, resulting in a fast-moving monoculture in fields, forest, and along streams. This species was not present in 1995-96 according to data sheets from vegetation surveys of the Peters Kill at Minnewaska State Park Preserve. Now, fifteen years later this late-season annual grass is wreaking havoc on native species. It is creating dense monocultures at the expense of other forbs, grasses, sedges, and rushes on which other fauna are dependent within the Hemlock Northern Hardwood Swamp at Peters Kill, along the Coxing Kill and all of the lowlands of the Shawangunks. This producer of many seeds spreads easily via dogs, shoes, and especially heavy equipment. To date very little of this grass has invaded the interior of Minnewaska State Park Preserve, Sams Point and the highlands of the ridge. Preventing its spread is a high priority for both the State Park Preserve and neighboring landowners. Containment and suppression can be achieved by building barriers to prevent spread and hand pulling in late August. The species does not move well over rock walls, silt fence, or large downed snags which allows for temporary containment of stiltgrass. Pulling by hand late in summer suppresses seed spread. Cutting several times a year will also lead to containment and suppression but in most cases is not a viable option. An eventual eradication can be achieved by these methods over a period of five years during which introduction of natives is not recommended as it becomes more difficult to remove in plots with a mixture of desirable species. It is best to let the natives find their way in to the plots over time, and to seed and plant with natives once eradication is acheived. Cultural methods, meaning farming or grazing, have potential for aiding in the eradication of stiltgrass; experiments are planned for the 2009 field season at Minnewaska. More education and penalties for intentional spread are the only way to halt the spread. Heavy equipment is moving seeds and other viable plant parts in every housing development in the lowlands. Beware of heavy equipment.

Black Swallowwort (BSW) (*Vincetoxium nigrum*/*Cynanchum louisea*) is a vicious vine from southwestern Mediterranean Europe. On top of the northern ridge, only one population is detected. Unfortunately, it happens to be adjacent to the 3000 acres of recently burned ground on state route 44/55. This plant has established itself in Gardiner and Rosendale, and is likely infecting all of the other surrounding communities. Nicknamed "Dog Strangling Vine," this perennial plant, once established, becomes an awesome foe. The seeds of BSW can travel for miles via a strong wind and then the plant begins winding its way up, along, and through all other vegetation creating a mass of tripwires. This vine produces seedpods similar to our native milkweed and is a member of the same family. Individual seeds are capable of producing more than one plant (polyembryonic) and each plant may have thousands of seeds. The devastation to forest and field ecological communities is horrible, and even worse, this plant and its cousin, pale swallowwort, are mistaken for native milkweed by Monarch butterflies. The Butterflies ovipositor their eggs on the swallowwort and when the larvae emerge, they die because it is not a food source for the larve. It is estimated that up to 25% of monarchs are faked out in fields where both BSW and milkweed are present, thereby reducing their already declining numbers due to destruction of their wintering habitat in Central America. As for containment, suppression, and eradication, there is little one can do to contain the spread if the population is allowed to disperse seed. Therefore, the containment is based on either hand pulling seedpods in late

continued from previous page

season or weed whacking several times during the growing season. However, early-season cutting produces more plants. Digging out the roots of this rhizoid plant is very difficult and glabrous buds in the root crowns respond to cutting and grubbing by producing more plant. Cultural tilling and agricultural practice does suppress and eradicate over time. In some cases, a limited use of herbicide is necessary as final eradicator. Herbicides are never the first or the only method of control implemented. The key to success and sustainability is integration of all methods at hand. The bad news is that in most cases the terrain cannot be tilled. This species is becoming widespread in the region, marching in from the south and the north and surrounding the ridge. If you have it, get rid of it, please.

It seems that we who have an ear to listen are bombarded with ecological nightmares almost daily, including the plight of the honeybee, climate change, bat decline, and the list goes on. Ecologically- and environmentally-minded persons need to make tough choices as to what they can do to make a lasting difference. Can I reverse global temperature and sea level rise, or can I find the solution to white nose syndrome, or can I figure out what's going on with the bees myself? Probably not. Can an individual do something that will truly have some positive effect and reverse an awful trend? Yes. I have chosen to highlight just two of the many threats that invasive plants, pests, and pathogens are posing. By placing focus and putting individual effort into eradicating invasive species your actions will have lasting effects that you, your children, and your children's children will benefit from…a beautiful and biologically rich Shawangunk Ridge. Do more for the future of your local landscape.

Protecting land from development—ensuring that open space is ours to enjoy in perpetuity, does not safeguard the ridge from other assaults and attacks that come from other species. Vigilance must come on all fronts. We must anticipate and act as best we can to preserve the ridge.

Robert T. O' Brien is the *Invasive Species Control Field Director, OPRHP - Environmental Management Bureau* at the *Minnewaska State Park Preserve. You can contact him at 845.256.0579 or at robert.o'brien@oprhp.state.ny.us*

"Understandably, we at FOS have focused our efforts on human threats to the Ridge since we're geared to take legal action where appropriate. But from time to time we should remind ourselves that our favorite ecosystem is subject to other kinds of threats, which admittedly may be helped along by human actions." Board member Larry Randall, quoted above, subscribes to an invasive species listserv when he became concerned about two different insect infestations affecting hemlocks in Minnewaska (and elsewhere on the Ridge). "Of course I knew of the wooly adelgid, but had never before heard of elongate hemlock scale. I don't know that we can or should take any action as a group, but perhaps an article in the newsletter might be good at some point." And so in this issue we have two articles by Minnewaska naturalists about current threats to the ecosystem by plants and insects.

(Editor's note: The Mohonk Preserve does not believe in large landscape or whole forest spraying that could, and would, affect many other plants, insects and wildlife in the area. Dan Smiley believed in mutual accomodation—letting the natural order of things balance the species, and only intervening when you are certain of success. Bob O'Brien feels that although in the short term it might appear hopeless dealing with these problems, Minnewaska State Park Preserve is looking toward a new biological control that is being field tested in 2009, and could possibly be available in two years. On a smaller scale, there are a number of ways to deal with these threats that are environmentally friendly (e.g. use of horticultural oils and power washing) that hopefully will suppress or contain their spread and eventually eradicate these invasives on private property, in small pockets, or in roadside infestations.

Threats to Hemlocks

By Alyssa Reid

The hemlock trees on the Shawangunk Ridge are under assault from invasive insects. The Hemlock Woolly Adelgid (HWA) is an aphid-like insect native to Asia already infamous for decimating stands of hemlocks in the Appalachians. These small, sucking insects can overpower hemlocks in 2-7 years. HWA has spread from Virginia north to southern Maine, and has thus garnered much concern amongst foresters and environmentalists.

However, this strong focus on HWA has allowed another invasive insect pest, the Elongate Hemlock Scale (EHS) to quietly spread in its shadows. EHS is an armored scale insect which drains the tree's ability to photosynthesize and produce new growth as it feeds on the cell fluids of the hemlock needles. A scale infestation, without the assistance of other stressors, such as drought and HWA, can suck the life out of a hemlock tree within a decade. The insect was first noted in Queens, NY in 1908. In 1992 it was reported in the Mohonk Preserve, and has since spread to Minnewaska, where several hemlock stands are in trouble.

Often populations of EHS rise as trees weaken under the stress of HWA infestations. Both insects have similar vectors of spread; they move around by hitchhiking on birds, wind and humans. This makes hemlocks along popular migration routes (such as riparian corridors) and trails especially vulnerable to infestation. The potential loss of hemlocks would cause significant changes.

Hemlock trees are unique due to the deep shade their needles provide. Most hemlocks are found in riparian areas where the trees are critical in providing constant water temperatures and evening out water flow throughout the year in streams. The loss of hemlocks will cause sharp declines in aquatic invertebrate diversity, brook trout abundance, and wintering habitat for birds and deer.

When faced with these insects and their potential impacts it is easy to lose hope for the hemlocks. However, a scale eating fungus, first noticed at the Mianus River Gorge Preserve in Bedford, NY, is spreading its range northward across New York. This fungus and others potentially suitable for controlling EHS and HWA populations are undergoing research by the University of Vermont's Entomology Department.

To see if EHS and HWA are in your area all you have to do is look on the underside of hemlock branches. HWA presence is indicated by small, white, woolly masses, similar to the tip of a cotton swab, on the twigs. EHS females appear as a yellow to brown, parallel-sided, several millimeter long scale on the underside of needles. The males are slightly smaller and yellow to white in color.

Sightings of these insects can be reported to the New York State DEC Lands and Forests Division.

Alyssa just graduated from the University of New Hampshire with a degree in Environmental Conservation and a minor in Forestry. She is currently serving a Student Conservation Association internship as the Biodiversity Field Coordinator for Minnewaska State Park Preserve, where invasive species volunteers are always welcome!

Black Vultures on the Ridge: A Species Pioneering the Fringe of its Northerly Range Limit

By Joe Bridges

Close Encounters of the First Kind

Crawling into a narrow tunnel of boulders, my eyes gradually adjust to the dim light. The pungent odor of ammonia and decaying flesh becomes apparent as the tunnel widens into a rock-lined enclosure. From six feet away a pair of scale-adorned gray-white legs with bluntly-taloned feet come into focus. Above the legs a vulture with black face and ominously flared black wings protruding from a mass of buff down takes form. A deep reptilian hiss fills the chamber. In that instant, I am teleported back millions of years to an era when lizards first experimented with feathers and flight in the evolutionary drive to exploit air as a medium for travel and hunting.

A sudden forward rush brings me instantly back to the present. I flatten out, head down. Flared wings rasp the sides of the narrow passageway, and feet pass quickly but lightly over my back and legs as the unfledged vulture races over and past me to exit the enclosure. Awkwardly backing out of the chamber, I am soon standing and searching for the vulture among nearby boulders, knowing that it is hiding silent and motionless somewhere in the rock labyrinth where neither a light beam nor I can travel.

Twelve years later, I am peering through a spotting scope at a group of adult black and turkey vultures sunning themselves on a ledge high on Millbrook Mountain, their wings flared to gather in the warmth of the sun. Soon heat waves distort the images in the scope's field of view, signaling the rise of warming air along the cliff face. The vultures sense the rising air. Lifting off the ledge with a few wing flaps, they are instantly buoyed above the void by a rising thermal and are soon spiraling hundreds of feet above the ground to begin another day of searching for food.

Vultures Along the Shawangunk Escarpment

Watching vultures soar along the Shawangunk escarpment, often only a few yards out from and above the cliff—so close in fact that you can hear the rush of wind across their wings is one of the rewards for the effort of hiking to the ridgetop. Nowhere else in the Hudson Valley can so many species and numbers of soaring birds be seen in a relatively short period of time during favorable weather.

Two species of vultures (family Cathartidae, meaning "purifier" in reference to the sanitation value of their consumption of rotting animals) occur in the Hudson Valley—the turkey vulture (Cathartes aura) and the black vulture (Coragyps atratus) whose scientific name, derived from Greek and Latin, translates loosely as "the raven-vulture clothed in black"). The former species is far more common; the latter a relatively recent arrival in New York. While black vultures are considered rare State-wide, they are now commonly seen soaring above the escarpment. Yet only a few decades ago, black vultures were uncommon in upstate New York—even in the Gunks. In the 1980s and mid-1990s, a good day of black vulture sightings by staff and associates of the Mohonk Preserve (Mohonk Preserve, Inc. Field Note List for Black Vulture: 1981 -1995) was 7 birds (e.g., 14 November 1989, 27 May 1993 and 8 October 1995). Because of these and other recorded sightings, it was considered inevitable that a black vulture nest site would eventually be found in New York, quite likely in the Shawangunk Mountains. That time was not far off. On 27 April 1997, I was fortunate enough to discover a black vulture nest site with two eggs being incubated by an adult with a second adult nearby, at a rock enclosure near the base of Bonticou Crag on the Mohonk Preserve. Prior to the Bonticou Crag discovery, the northernmost documented breeding site of black vultures was at a cave on Hell Mountain in Hunterdon County, New Jersey, where two nestlings were observed in 1981.

Black Vulture photos by Joe Bridges

The 1997 Bonticou Crag discovery was something of an ornithological milestone for two reasons: it answered a long-asked question posed by a number of birders: "Does the black vulture breed in New York State, and if so, where?," and it established the Mohonk Preserve as the northeastern-most known geographical location of black vulture breeding in the United States. Now, twelve years after the first confirmed record of breeding in the state, the recently published second *Atlas of Breeding Birds in New York State* (The Atlas) (McGowan and Corwin 2009) has confirmed records of black vulture breeding in five Atlas survey blocks (each survey block encompasses a 3 x 3 mile area), including one survey block in northwestern Westchester County, two survey blocks in south-central Ulster County (the Shawangunk Hills), and two survey blocks covering the Taconic Highlands in northeastern Dutchess County and the southeastern corner of Columbia County. The Columbia County survey block is presently the northeastern-most known black vulture breeding site in the state. A 2007 report by the Massachusetts Audubon Society of a confirmed 1998 black vulture breeding site in the Blue Hills Reservation, Milton, Massachusetts, establishes this location as the northeastern-most known nesting site of this species in the United States to date.

Six black vulture nesting sites are now known for the Atlas survey blocks which encompass the Mohonk Preserve; two of them—the 1997 Bonticou site and the 2004 Three Pines site are particularly interesting. The Bonticou site was used as a breeding site by the same pair of black vultures in 1997 and 1998. Abandoned by the pair in 1999 (the nest failed in 1998), the site was used by turkey vultures in 2000 (two turkey vulture chicks successfully fledged). The Three Pines site was established on the climb of the same name within ten feet of a climbers' rappel station. Initially closed to climbing during the spring/summer of 2004 and 2005, monitoring of the site by the Preserve during those years determined that climbers posed no adverse impact to vulture nesting activities and the climb was reopened in the fall of 2005. The Three Pine site continues to be used by breeding black vultures, and an estimated eight young have successfully fledged there. It is clearly a success story of mutual accommodation between rock climbers and cliff-breeding wildlife.

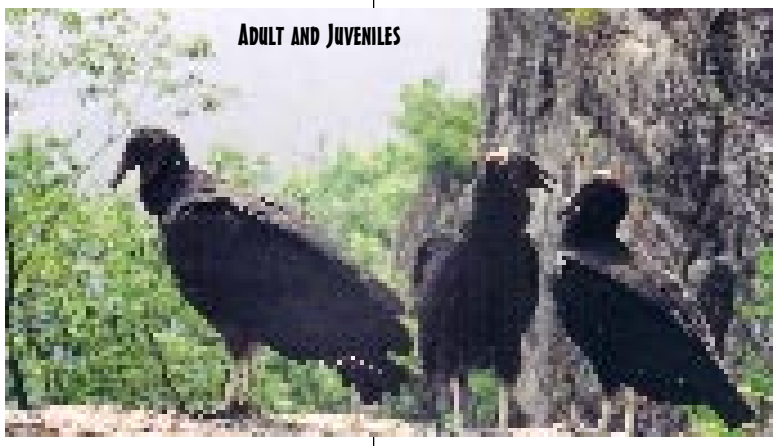
Black Vulture or Turkey Vulture?

At a distance or under backlit conditions it may be difficult to distinguish a black vulture from a turkey vulture. Look for the following features in order to distinguish one from the other. When observing from at a great distance, focus on the tail length and shape, and wing posture. The tail of the black vulture is much shorter and wider (forming a short wide wedge) than that of turkey vulture and, in flight, its feet extend to the tip of the tail or beyond (binoculars are usually needed), often "dangling" as if it was about to land. By contrast, the feet of turkey vulture are positioned well-back from the tip of the tail and are usually held close to the body during flight. When soaring, the wings of black vulture are nearly level across the back and do not exhibit the prominent "V-shape" or dihedral wing posture of turkey vulture, nor does the black vulture tip from side to side as dramatically as the turkey vulture. The black vulture also has shorter wings and consequently flaps more during flight than turkey vulture.

Closer at hand, the plumage of black vulture is just that, a uniform glossy black. A conspicuous hand-sized white patch is present at the tip of each wing and its head is gray and featherless. However, it should be noted that while the head of adult turkey vultures is red, juveniles have a gray head similar to that of black vulture, but the overall plumage of turkey vultures (juvenile and adult) is dark brown, the underwing two-toned and white wing tip patches are absent.

Pair Bonding and Courtship

Black vultures are monogamous and form long-term pair bonds over the course of their known 20- to 25-year life span. However, the limited information available indicates that they may not breed until they are eight years old. Once formed, pair bonds associate closely year-round in their breeding and foraging area, moving southward only for brief periods during very cold weather. Prior to breeding, a pair may perch near a previously used or potential nest site for a month or more before adopting it, probably to confirm or assess its suitability and the absence of potential predators. Courtship during this time includes wing tip-to-wing tip tandem soaring and turning, and, on the ground, the male circle-dancing around the female and a face-to-face bobbing and spread-wing display by both birds.



ADULT AND JUVENILES

Eggs and Nest Sites

Two (less frequently one or three) three-inch long oval to short-oval pale green eggs marked with small-to-large irregular brown and lavender splotches are laid on bare or leaf-littered ground. At the Mohonk Preserve, the earliest date on which eggs have been observed is March 28, 2004 at a nest site on the Trapps Cliff. Most other egg dates recorded from 1997 to 2007 were in mid-to-late April. At the Preserve, all nest sites observed to date have been within natural rock enclosures found at the base of cliffs, on mid-cliff ledges or near the top of cliffs—most, but not all of which, are too small for a climber to enter.

Incubation and Development

The length of the egg incubation reported by various, somewhat dated, sources ranges from 29 to 41 days. Based on a review of more recent studies, the Atlas indicates a 38- to 39-day incubation period. Hatchlings are covered in pinkish-to-orange buff down and the featherless head and legs are black. Incubation and hatchling care is constant and shared by both parents for the first two weeks until chicks are able to self-regulate their body temperature. Very young nestlings are fed a "pre-digested" liquid meal, which the parents regurgitate into the mouths. After about two weeks, nestlings begin to actively take solid food from the bill of adults. At first, chicks may be fed as many as 20 times a day, but as they grow, parents spend more time away from the nest and feeding is reduced to 2 to 4 times a day. Under adverse conditions, older nestlings may not be fed on a daily basis. Young birds are slow growing and progress from an average weight of 2.7 oz. on Day 2 post-hatching, to 3 lbs. by Day-41 and weight about 4 lbs. by Day-81. A mature adult usually weighs 5-6 pounds and has a wing span of five feet.

The transition from a down-covered hatchling to a largely black-plumaged juvenile takes place over a period of approximately 80 to more than 100 days. Generally, about Day-35 post-hatching, the tips of black adult primaries begin to emerge through orange-buff down. About Day-50, eighty percent of the wings are black-feathered and around Day-80, only the breast and head contain patches or fringes of orange-buff down. Recently-fledged juvenile birds retain a narrow corona of down at the top of the unfeathered portion of the head. In the transition from juvenile to adult, feathers on the head and neck essentially disappear and the neck becomes swarthy and beset with wrinkled folds—an apparent adaptation which enables adults to feed with their head and neck thrust inside the body cavity of dead animals without soiling their feathers.

Although fledging (flying juveniles) is reported to occur at 75-80 days (Buckley 1999), observations from the 1997 Bonticou site estimated the time-to-fledging to be 140 days. Since the actual dates of egg laying and hatching were not known for the site, the estimated chronology for these events may have led to a very conservative estimate of time-to-fledging, or it may reflect the greater length of time required for black vultures to develop to the fledgling stage at its northern geographical range limit. More detailed studies with accurate time frames of egg laying, hatching and fledging are needed for our region.

Adult birds feed primarily on carrion (notably road-kill), but may also attack and kill small animals (skunks, for example, the defensive spray does not appear to deter them) or larger, weak or seriously injured animals such as white-tailed deer.

Black vultures have a poorly developed sense of smell, and so they often rely on turkey vultures' keen sense of smell. Turkey vultures can detect and follow to ground the odor of unseen carrion hidden beneath the forest canopy, but wafted to them on a rising thermal. Black vultures are frequently seen soaring high above a group of turkey vultures in anticipation of following them to food sources. While black vultures have been reported to drive turkey vultures away from road kills, my own observations were that feeding by both species on a deer carcass near the Preserve was conducted without aggression.

While adults may consume 600 grams (1.4 lbs.) of food per day, they have been reported to sustain themselves for extended periods without weight loss on 170 grams (0.4 lbs.) of food per day. This metabolic capability of black vultures is clearly advantageous to a species challenged by an environment with an inconstant or unreliable source of food.

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Roost Sites

Black vultures are highly social birds with strong family ties that bond successive generations within the local population. Adoption of a tree as a roosting site for large numbers of birds reinforces kinship bonds, allows younger or mateless birds to find a bond partner, reinforces a hierarchy of dominance within the social group and serves as a kind of communication center, allowing successful foragers to lead other family members to discovered food sources.

While most roost sites are established in trees located in undisturbed habitats away from humans, in some cases roosts are established in rural settings near homes and farms, much to the consternation of the property owners. A few residents in the Town of Gardiner have had to deal with destruction of property, accumulating excrement, pungent odors, being awakened by roof-walking vultures and direct confrontations with hissing and projectile-vomiting birds. Despite these unfortunate interactions, most people readily enjoy watching these graceful soaring birds and appreciate their ecological role in "cleaning up" the environment.

The Challenge of Moving Ever Northward

Because black vultures take so long to fledge and become good flyers, the question of how much farther northward they can extend their geographic range arises. The limited information available indicates that the regional climate of southeastern New York appears to pose no limitations to the ability of black vultures to complete their breeding cycle. Black vulture eggs, first observed on April 27th at the 1997 Bonticou site, fall within the January-to-July egg dates reported for this species in Texas, Florida and North Carolina, and coincide closely with April 25th as the average date of last-spring frost (recorded for the first 80 years of weather data collected at the Mohonk Lake National Weather Service Cooperative Weather Station), located within three miles of the site.

Long-term arrival date records of spring migrant avifauna from the Cayuga Lake basin of Central New York, the western Allegheny Plateau, and the northern Shawangunks (Mohonk Preserve) show significant trends toward earlier arrivals of some bird species. That supports the growing evidence of a climatic warming trend. It may also account, at least in part, for the recent success of black vulture breeding in our area. There are certainly suitable physical habitats and food resources for this species much farther northward. And if the warming trend continues in the northeast over the next century or so, the Shawangunk escarpment, with its extensive farm fields, forests, river corridors and high deer population may function as the black vulture northern population epicenter from which its northerly range expansion will continue.

Joe Bridges, a Gardiner resident, is senior biologist with Matthew D. Rudikoff Associates, Inc., an environmental planning and consulting firm in Beacon, NY. He holds a PhD in botany from Columbia University, and is an active member of the Board of Directors of the Mohonk Preserve. Joe has been rock climbing and hiking in the Gunks for nearly 40 years.

SUGGESTED READING

Buckley, N.J. 1999. Black Vulture (*Coragyps atratus*). In: *The Breeding Birds of North America*, No. 411 (A. Pool and F. Gill, eds.). The Birds of North America, Inc. Philadelphia, PA.

McGowan, K.J. and K. Corwin (Eds.). 2008. *The Second Atlas of Breeding Birds in New York State*. Comstock Publishing Associates / Cornell University Press. Ithaca, NY.

Mohonk Preserve Research Report

The Daniel Smiley Research Center of the Mohonk Preserve just published its 2008 Annual Research Outline. This report, which can be found as an online PDF, is a fascinating look at many of the natural history highlights and studies. This year, as the size of the report indicates, the DSRC had new discoveries and unexpected research opportunities. These included the 3,100-acre forest fire in Minnewaska State Park Preserve in April and its subsequent field work, and the discovery of fish in Minnewaska Lake this summer after an absence of more than 80 years (see Research Note below).

New Research Associate projects were related to the decline of Eastern Hemlock as a result of an 18-year infestation of the introduced Woolly Adelgid and Elongate Hemlock Scale; another related to shrub nesting birds in the Pitch Pine-Oak-Heath-Rocky Summit vegetation community; and lastly, the management of old fields.

Late last year, as lead agency for the Shawangunk Ridge Biodiversity Partnership (SRBP), the DSRC implemented a 3-year New York State Wildlife Grant (SWG).

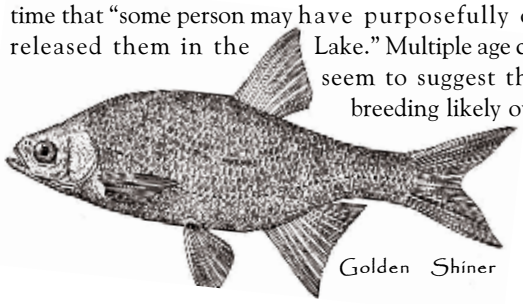
Two Schaefer Summer Interns from Hope College and Columbia University were excellent students, and the program has now hosted 24 interns since 1993.

It completed the 113th year of weather observation for the National Weather Service at the Mohonk Lake Cooperative Weather Station.

The report summarizes topics the staff of the Daniel Smiley Research Center feel are the highlights of the year by subject. Do not miss this fascinating report!

Something Fishy in the Minnewaska Lake?

Probably the most interesting discovery of last year, and for quite some time, was the discovery and documentation of minnow-sized fish in Minnewaska Lake. Al Smiley's son Greg reported to us that he had seen a "school of newborn fish" on 6/29 at the western cove, where the public swimming dock is currently located. Being somewhat skeptical, Research staff and interns investigated this on 7/10 while on a regular field trip to the Park Preserve, and in fact caught two or three inch-long specimens for identification. Some 50 or more were seen in the reported area and more elsewhere. Specimens were taken to DEC Fisheries for identification. Ultimately, Bob Daniels, Ichthyologist at the New York State Museum identified specimens as Golden Shiners. This is a common small forage fish in New York State and is a principle food fish for several popular fisheries game fish. They are also used extensively for bait. A noticeable increase in pH has been noted in Minnewaska Lake and the DSRC supplied its pH records to Michael J. Flaherty, Fisheries Manager, Region 3, DEC. He felt at the time that "some person may have purposefully or inadvertently released them in the Lake." Multiple age classes to 3.5 inches seem to suggest their presence and breeding likely over more than one year.



Paula Medley, president of the Basha Kill Area Association told us that "despite withdrawing our recent lawsuit, the BKAA wants to assure our loyal Friends of the Shawangunks supporters that we will remain extremely committed to halting construction of the Yukigune Maitake (YM) mushroom plant.

"As such, we will aggressively lobby the DEC, and Delaware River Basin Commission to carefully review YM's permit application, and conduct public hearings where we will demonstrate critical flaws in YM's second site plan design.

"Our efforts would not be feasible without the ongoing support from our crucial partner Friends of the Shawangunks, whose patronage we gratefully acknowledge."

Friends just voted to contribute $5000 to fund research.

Switching Gears
BKAA Drops Suit Against YM Plant

By Tod Westlake courtesy of *Shawangunk Journal*

MAMAKATING – In a tactical switch, the Basha Kill Area Association (BKAA) has decided to drop its lawsuit against Yukiguni Maitake (YM), the international mushroom-growing company that intends to build a plant on McDonald Road in Mamakating. While critics of the BKAA will point to this decision as yet another defeat for the organization, the reason for the withdrawal is really in anticipation of what was likely to be a dismissal of the case on technical grounds, according to Alex Smith, attorney for the BKAA.

"It was obviously going to be a procedural fight," Smith said in regard to the suit.

At issue is whether the BKAA has what is known as "standing" in the suit, a legal principle that requires individuals and organizations to show that they would suffer direct harm as a result of the issue under litigation. The attorneys for YM were apparently gearing up for a technical argument, rather than one in which the merits of the case would be argued, prompting the BKAA to shift tactics.

Instead, the BKAA will now focus its attention on ensuring that the New York State Department of Environmental Conservation (DEC) and the Delaware River Basin Commission — the two agencies that will monitor YM's water usage — will hold YM to the highest possible standards with regard to the various permits the company will need to obtain in order to operate. Ironically, it's entirely possible that the YM project could end up back before the Town of Mamakating planning board if the DEC feels that YM's plans for water extraction and discharge do not meet government standards.

The BKAA notes that the lawsuit was not an attempt to stop outright the construction of the plant. The organization appears to be resigned to the fact that something is going to be built whether it likes it or not. The suit was really an attempt to extract more information from YM, as the BKAA feels that YM has not been as forthcoming as it should regarding the dramatic changes the site plan has undergone in recent years.

Dr. Katherine Bienkafner, a geoscientist hired by the BKAA to examine YM's water usage plans, and who also happens to be a member of the planning board for the Town of Plattekill, feels that it is quite possible that the company will have to go back to the drawing board, given that her research appears to contradict YM's findings. Bienkafner says that the pumping and percolation tests done by YM were done in the winter, when the fact that the ground was frozen could have significantly skewed the results.

The Basha Kill Wetlands by Lilith Jones from the BKAA's Field Guide

Dr. Katherine Bienkafner, a geoscientist hired by the BKAA to examine YM's water usage plans, and who also happens to be a member of the planning board for the Town of Plattekill, feels that it is quite possible that the company will have to go back to the drawing board, given that her research appears to contradict YM's findings. Bienkafner says that the pumping and percolation tests done by YM were done in the winter, when the fact that the ground was frozen could have significantly skewed the results.

"I don't believe their calculations are accurate," Bienkafner said.

Bienkefner's calculations also indicate that the catch basin on the YM site needs be about three times as large as the one proposed, if this basin is to absorb the approximately 300,000 gallons of water the company intends to discharge each day. If the area were to be hit with a once-per-century rainstorm — an event that could become more likely, given global warming trends — the catch-basin system would be totally overwhelmed, causing it to overflow into the Basha Kill.

J.G. "Spider" Barbour, who is an ecological consultant and wetlands scientist hired by the BKAA, also feels that the catch basin is inadequate.

"[YM] didn't present any supporting evidence that this thing will work," Barbour said.

Barbour says that, if the catch basin were to overflow, it could end up having a profound impact on local flora and fauna, specifically that the discharge — which would be of a higher temperature than ground water — could end up tricking animals and plants into thinking that spring has arrived early. The discharge, after it cools, could also then refreeze in areas outside the catch basin. This pattern of freezing and thawing could have a significant long-term impact on the ecological health of the area, Barbour contends.

Paula Medley, president of the BKAA, feels that the professionals hired by the organization, two of whom are essentially single-person operations, provided an unvarnished view of the project.

Medley's point with regard to a battle between competing sets of professionals — one group hired by the town, and the other hired by the BKAA — reemphasizes the concerns the BKAA expressed during the beginning stages of the project, that the two groups (BKAA and Mamakating planning board) should have put their heads together and agreed on a single set of consultants whose findings would have been less politically charged. The current situation set up an adversarial relationship between the developer and the BKAA. It didn't need to be this way, Medley feels. The developer behind the project known as 'Seven Peaks,' for example, has been much more forthcoming when it comes to keeping community concerns in mind.

Now the BKAA will turn to the DEC to ensure that the organization's concerns receive a full hearing. According to Medley, it is entirely possible that the DEC will need to hold its own public hearing on the YM catch basin — a forum where it will be much more likely that the BKAA's concerns will be addressed. The Delaware River Basin Commission — a body of representatives from New York, New Jersey, Delaware, and Pennsylvania, as well as the Army Corps of Engineers — also must sign off on the YM project, and could end up holding its own public hearing. The agency has meetings scheduled in May and June, at which time the YM permits could come up for review.

Firewood Movement Threatens Our Forest:
Simple Actions Can Prevent the Spread of Invasive Species

by Leigh Greenwood, The Nature Conservancy's Forest Health Program Coalitions and Networks Manager

Few things provide so much, while asking for so little, as trees! Shade, pure water, animal habitats—all of these things come from our trees. But invasive insects and diseases are threatening North America's trees and some of the continent's most damaging insects, like the Emerald ash borer (EAB) and Asian longhorn beetle, are right at the doorstep of the Shawangunks.

These pests cannot move far on their own. In fact, an Emerald ash borer is likely to move only about ½ mile in its lifetime, and the Asian longhorn beetle is thought to travel even less. But new infestations of destructive forest insects and diseases are frequently found in campgrounds and around second homes, hundreds of miles away from where they've been found before. So how are they getting there? In a word—firewood. People bring firewood from their urban backyards to their favorite camping area, or a couple of pieces from their hunting cabin back home to the city. It seems like a good idea, but this seemingly innocent action is contributing to the destruction of natural resources throughout all of North America.

The Woodcutters by Australian artist Kenneth Jack

So if a couple of limbs fell off that old tree in your backyard last fall, and you've been thinking about cutting them up and tossing them in the car to bring to another location, **don't do it!** Firewood should be burned as close to where it was cut as possible. Ideally, that means if a limb falls down in your backyard, you burn it in your fireplace or chip it for composting/biofuel. If you are traveling and need firewood, buy it when you get near your final destination. Ask the seller if the wood was harvested in the area- preferably within 50 miles or less. To learn more about why not to move firewood, you can visit www.dontmovefirewood.org

The Shawangunks are a particularly vulnerable location. All around, forest pests are expanding their range, and new ones get discovered every few years. With Asian longhorn beetles, emerald ash borers, oak wilt disease, hemlock wooly adelgid, sirex woodwasp, and other pests all posing threats to the native trees of the Gunks, it is hard to know how to help or what to do. As someone who loves the outdoors, you need to know that a few things are universal; regardless of the exact tree-killers you are worried about, the movement of wood products (especially firewood) is a serious threat. Other products from forest materials, like Christmas wreaths, Christmas trees, or rustic furniture should also be purchased only from materials harvested locally (again, within 50 miles).

Slowing and preventing the spread of invasive forest insects and diseases is a simple action we all can take to protect our own backyards, neighborhoods, and beloved natural landscapes.

A native of New York State, Leigh Greenwood was introduced to the west in 2001. For the last five years she's been living and working in Missoula, Montana. Leigh has worked for The Nature Conservancy's Forest Health Program since 2007, and spends most of her time thinking of new and effective ways to keep everyday citizens informed about the risk that moving firewood poses to all the forests of North America.

Shawangunk Ridge Key to Early Detection Battle

By Alan White

The Shawangunk Ridge may provide a migration path for invasive forest pests that gain a foothold in the ports of New York City and New Jersey and begin to travel northwards to the forests of New York State. Early detection of these insects provides the best hope of preventing large-scale disasters in the Catskill and Adirondack preserves. Detection of Asian Long Horn Beetle (ALB) in Worcester, Massachusetts last year elevates this pest to the top of the list of concerns for New York State and serves as a reminder of the consequences of late detection. In many of these cases where the beetle has been detected, populations had grown for more than seven years before detection, requiring large quarantine areas and millions of dollars in control programs. Tree removal and chipping is the only effective treatment for infested trees.

The Asian Long Horn Beetle has been detected in New York City, Chicago, New Jersey, and now Worcester. This may be the most devastating pest to immigrate to the United States, due to its ability to kill a wide range of the dominant tree species in our forests. ALB's preference for maple species places 65% of the trees in the Catskill Park at risk

During 2009 a major emphasis will be placed on checking potential points of introduction for signs of infestation. The spread of this beetle is limited by short flight distances, but the movement of firewood from infected areas may be an important vector. State and private campgrounds will be top priorities for early detection surveys during 2009. Local volunteers are being recruited to help design and implement early detection surveys. For more information on how to get involved contact Ben Murdock at the Catskill Center at 845-586-2611.

Alan White is Director of the Catskill Mountain Program for The Nature Conservancy at 22 Bruce Scudder, Road Halcott Center, NY 12430, 845-235-3973

Firewise is Spreading like Wildfire

by Heidi Wagner

Spring has arrived on the Shawangunk Ridge. Days are longer and bits of green remind us there is an end to winter's fury. Spring is also the harbinger of another force of nature — wildfire. The Shawangunk Ridge represents a fire-dependent ecosystem. Fire is a natural occurrence that contributes to the long-term health of our forests.

Residents along the ridge need to take precautions to protect themselves and their homes in the event of a wildfire. With low relative humidity, often dipping below 25%, and the absence of leaf cover on the trees to provide shade, the ground can quickly turn from a moist, snow-covered surface to a highly-flammable fuel bed for a wildfire. If very dry windy conditions are expected, weather forecasters may post a "Red Flag Warning," indicating the potential for severe wildfires is high. Dry grasses, leaves and needles, in amidst dead branches and brush from this winter's ice storms, can ignite with a heat source as incidental as a smoldering cigarette, as we learned from the Overlook Fire at Minnewaska last April.

During last year's fire, valuable firefighting resources were assigned to protect thirty homes along Rock Haven Road and Shaft 2A Road in Kerhonkson (photo above). Taking some simple, pro-active steps ***now*** can go a long way to protecting your home and property and the safety of firefighters in the event of a wildfire. With homeowners taking responsibility for their own home and property, firefighters will be able to focus on containing the wildfire itself.

Firewise is a federally funded program that educates homeowners about how to voluntarily protect themselves and their property, before a wildfire occurs. Examples of Firewise techniques for property owners include creating a defensible space around residential structures by thinning trees and brush; choosing fire-resistant plants; selecting ignition-resistant building materials; and working with firefighters to develop emergency plans.

A home does not have to be positioned directly in the path of the fire to be in jeopardy. Embers can be carried by winds over a mile from flames of a wildfire. Leaves and pine needles that have accumulated along the foundation, in corners, under decks, gutters, and angles on the roof are places where embers can land and ignite spot fires. This debris should be removed prior to fire season. It is also a good time to inspect screens for holes, to place fine screening over vents and any opening where embers could enter a home. "Think like an ember!" is a helpful slogan to remember when preparing one's home and property for a potential wildfire.

During wildfire season, firewood should be stored at least thirty feet from any structure on the property, not under a porch or deck.

Evergreens situated in close proximity to the home should be trimmed back at least one foot from the structure, since these are particularly flammable. Branches should be trimmed at least one foot from any structure. Trees and shrubs, such as mountain laurel, shrub oaks, blueberry, huckleberry and pitch pine, are extremely flammable. Less flammable native plants should be considered when replacing landscaping materials in close proximity to any structure.

A thirty foot area of "defensible space" should be created around a home. Removing brush and dry material can eliminate fuels that wildfires thrive on. Dead trees should be cut and removed, further reducing the potential for fire to spread. Limbing trees at least six to ten feet high prevents a fire on the ground or on low shrubs from spreading to the tree tops. Using pebbles rather than mulch near foundations help retain soil moisture. Lawns should be kept green and well-watered.

In 2005, the Hamlet of Cragsmoor became the first, and is currently the only, Firewise Community in New York State. Cragsmoor, the only ridge-top community of the Northern Shawangunks, is situated at the edge of Sam's Point Preserve. Over the last 50 years, fire suppression efforts—necessary to protect life and property—have resulted in a great accumulation of fuel in the form of highly flammable vegetation on the forest floor. To address this threat, The Nature Conservancy,(manager of the Sam's Point Preserve), received funding to initiate a Firewise Communities/USA pilot program in Cragsmoor.

As part of its Firewise effort, residents began to clear brush on and around properties, and were encouraged to consider the home ignition zone when assessing the placement of trees and other plants on their properties. Even so, acceptance of a wildfire threat came gradually, with many residents unconvinced of the need to alter the natural look of their environment. The prospect of the dangers posed by wildfire became reality when the wildfire erupted at Minnewaska. Due to the accumulation of forest fuels, the Overlook Fire burned with greater intensity than most historical fires in the region.

An emergency meeting was held by the NY DEC at the Cragsmoor Volunteer Fire Company to update residents as the fire moved south towards Sam's Point. Addressing the group, DEC's Captain Dan Walsh commented, "As a Firewise Community, residents of Cragsmoor are already aware of the importance of taking proactive steps to protect your homes before a wildfire occurs." Applause erupted through the audience. The approaching wildfire had clearly convinced homeowners of the importance of the Firewise program. Fortunately, the winds shifted several days into the fire and Cragsmoor was spared.

Due to the program's success in Cragsmoor, the DEC and The Nature Conservancy have begun to introduce Firewise to other communities determined to be at risk along the Shawangunk Ridge. A meeting was held recently with the town boards, fire officials and residents of the towns of Shawangunk and Gardiner. Presentations from DEC Ranger Rob Mecus, Michele Steinberg, Firewise Communities Program Coordinator, and Greg Finger, Gardiner Councilman, were well received by a large audience. Both towns are now in the process of implementing Firewise programs. A similar meeting is also planned for the towns of Rochester and Wawarsing.

To learn more about the Firewise program go to www.firewise.org

A list of non-flammable species suitable for landscaping near your home is available from Sam's Point Preserve. Contact Heidi Wagner at 845-647-7989 ext.101 or hwagner@tnc.org

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Heidi Wagner has worked for The Nature Conservancy as manager of the Sam's Point Preserve for over ten years. As a resident of Cragsmoor and a past member of the Cragsmoor Volunteer Fire Company, she became concerned about the community's vulnerability to wildfire during a drought in 2003.

In the Belfry: Bats Toll in Rosendale

by Christopher Spatz

I admit a God in every crevice
But not bats in my room;
Nor the God of bats, while the sun shines.
D.H Lawrence

FEW POETS HAVE WORN THE ANIMAL SKIN AS CONVINCINGLY AS D.H. LAWRENCE. Whether it was a hummingbird poking flowers, a horny tortoise, or a snake coming to sip from a Sicilian spring, the scandalized author of *Lady Chatterly's Lover* apprehended animal desire; an animal's soul. If a bat suddenly flitting through his daytime study gave him the heebie geebies, *an uneasy creeping in one's scalp*, Lawrence still couldn't resist the poet's job of becoming the subject.

Wings like bits of umbrella
And,
Dark air-life looping
Yet missing the pure loop . . .
A twitch, a twitter, an elastic shudder in flight
And serrated wings against the sky,
Like a glove, a black glove thrown up at the light,
And falling back.

Ever the instinctive pagan, Lawrence reminds us that animals accompany the Gods: an eagle bearing Zeus, Aphrodite emerging wet from the oyster shell, Dionysus' chariot drawn by panthers; that they were even our first Gods, who bestowed fire, taught us to build shelters, climb, swim, fly, how to hunt and what to eat, to spin, weave, court, and, lest we forget in our insolence, to dance around the flames in gratitude for their gifts.

Clans and tribes formed under blessing animals, an ancient nominative reflex twitching in team mascots, Lions clubs, and quilting bees. The Shawangunks' only lizard, the incandescent five-lined skink, has a curious tendency to slip mockingly from a crack to reveal its felicity on the rock during desperate climber moments, and curls reverentially around the Gunks Climbers' Coalition logo.

But bats, at least in Western consciousness, have born menacing and un-heroic associations. Though trickster figures like the coyote and raven have been adopted by professional sport franchises, no one (except cavers) is about to take the field bearing the device of a critter whose head hangs where its ass should be. Issuing from the Underworld, vampire totem and doppelganger, carrying madness or a burdensome immortality (like a pale God) in its bite (or, is it a kiss?), illustrated circling belfries in their pin-ball parabolas tolling pathology and plague, a shadow among shadows, the essence of Night: that's a lot of baggage for a mouse with wings (technically, not true, but you get the picture).

One wonders how the neighbor whose home we shared at the dawn of human imagination, whose grotto walls became our first bestiaries teeming with awe at the animal kingdom, the temples of our earliest rites and the setting for Plato's seminal allegory of Western thought, got such a bad rap. Pest controller and pollinator, we owe them much. Instead, bats, not serpents, were the first beasts cast from Eden.

Goya's Sleep of Reason

Like amphibians and bees, I don't need to tell you that bats are in trouble. The die-off that has already wiped out tens of thousands of bats began three years ago in a cave west of Albany. It swept through the crumbling cement mines in Rosendale housing wintering colonies last February like an Old Testament pestilence, leaving images that would have spooked D.H. Lawrence—bats flopping helplessly on streets and sidewalks, littering the grounds outside the mines, dropping dead by the score in broad daylight.

They hop-scotched from the Snyder Estate mines across the street to our roof, launching forays over the Rondout Creek below, working the ice for absent bug hatches: doomed. A dozen starved in our eaves. One day I came home to find one quivering and scuttling across the deck like a wind-up toy winding down, finally summoning up enough to wobble over the railing before disappearing hopelessly into the canal. Heartbreaking.

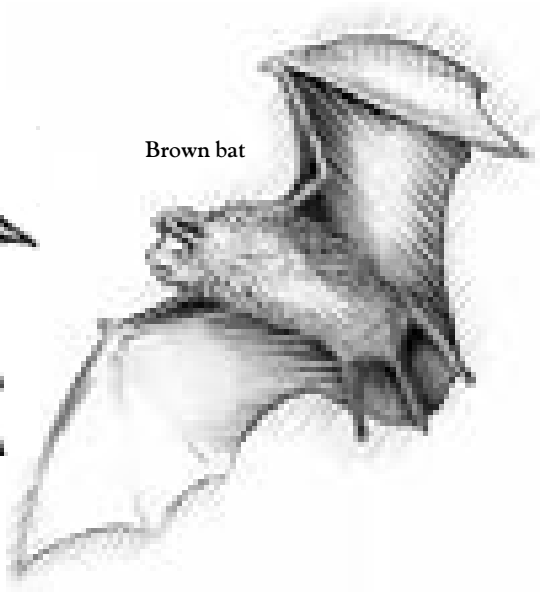
Back in March at the Rosendale Rec. Center, a packed house was treated to a three-part bat-talk updating residents on the latest research, courtesy of the DEC and the folks proposing a controversial gated-development at Williams Lake, whose mines are at the cutting-edge of the gathering science. You've probably read about White Nose Syndrome (WNS), the sugary fungus haloing bat muzzles and corroding wing and tail membranes; that certain bat species are dying in some hibernacula (rhymes with Dracula) at staggering rates of 90-100%; and that WNS has spread since 2006 from central New York to New Hampshire and southern Virginia. Until very recently, this fungus that thrives in cold climates went un-named, and no one knew exactly what role WNS was playing in the die-off. Researchers now have an idea.

Hibernation studies have found that bats rouse a little, without becoming fully active, every two weeks or so, before settling back in to deep torpor. That tiny bit of arousal burns fat reserves. WNS appears to be causing bats to rouse more frequently, perhaps to groom themselves of the fungus, while sometimes changing location. Bats with WNS are also registering higher body temperatures (bat hibernation temps are only a little higher than ambient hibernaculum air); one reason they may be found roosting closer to cooler cave entrances, where they're getting picked off by opportunistic crows. With restlessness and higher rates of metabolism depleting fat reserves, they are forced eventually to seek sustenance. Normally a late autumn or early spring activity, a bat driven to feed during daylight in the dead of winter, is, as the venerable DEC mammologist Al Hicks once described, "A dead bat flying."

Hibernaculum humidity may be implicated in the spread of WNS. At Williams Lake, mines a stone's throw from one another are registering wildly differing mortality rates: wetter mines are seeing bigger die-offs. Humidity can even vary inside the same mine, where the common, shoulder-to-shoulder cuddling little brown and the endan-

Eastern pipistrelle

Indiana bat



Brown bat

gered Indiana bat are being hit harder than neighboring cave-dwellers like the Eastern pipistrelle and northern long-eared bats. Employing dehumidifiers to reduce WNS transmission, and spot-heating hibernacula to slow metabolism during arousal when some bats are seeking warmer, not cooler locations, have been proposed as stop-gaps, though these interventions at best can only delay mortalities.

But WNS isn't the whole story. Uninfected bats are being found entering hibernation in poor condition, and infected carcasses harvested from Rosendale have shown low or no presence of intestinal bacteria critical for metabolizing insect exoskeletons, a condition possibly caused by background pesticides or other environmental toxins. Much remains unknown, and researchers are scrambling to get a handle on things before the infectious wave breaks on hibernacula across the country. In the meantime, state wildlife agencies have quarantined sites from visitation to reduce the risk of possible human-born contamination (we are safe from the fungus).

D.H. Lawrence knew a bat's natural place.

> *At a wavering instant the swallows give way to bats*
> *By the Ponte Vecchio . . .*
> *Changing guard.*

Everything about the die-off is lit with eerie contrasts, like negatives of film negatives: night creatures appearing out of season and vividly at noon; a plaguing fungus colored, not black, but white, brewing not in some soupy jungle, but in cool northern caves; and a legendary creep transforming into the sympathetic victim. What's killing them, in the end, may save them. Bats haven't had exactly the documentary cache of toddling penguins, or garnered the do-or-die attention of emaciated polar bears marooned on melting ice floes, until now. Media coverage of and research interest in bats is unprecedented, while the bell tolls. The bat world, indeed, is turning upside down.

Christopher Spatz is pulling stilt grass from his yard and cheering twilight bats over the Rondout from his deck in Rosendale.

TRAPPS CLOSURE

Peregrines are nesting again on the Trapps Cliff. This year they have picked a very popular climbing area for their eyrie. It is approximately the location of last year's significant rockfall.

John Thompson, naturalist at the Daniel Smiley Research Center of the Mohonk Preserve wrote that he "reviewed the climbing closure with Preserve ranger Eric Fye and DSCR research associate and Saw Whet Owl expert, Glenn Proudfoot. They decided to adjust the closure to fit the criteria of line of sight from the eyrie and further based on observations made in the field. All climbs will be closed from Beatle Brow Bulge on the left to Bitchy Virgin on the right. The signage will be posted so the closure will be well-marked on the ground. The closed area includes the eyrie and the pair's favorite perches. If you are climbers, please familiarize yourself with the closed area, so that the site can be properly protected, especially on weekends. If you do see someone within the closure area, call the Mohonk Preserve Visitors Center 255-0919 and they can call a ranger.

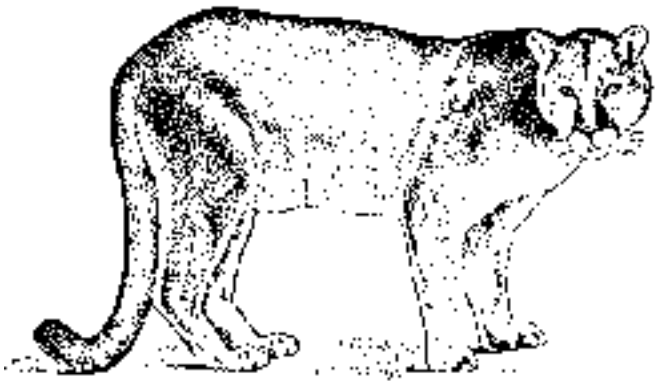
John, and Tom Sarro, DSRC research associate, thank everyone on the Mohonk Preserve Peregrine-watch team for keeping eyes on the birds and the cliffs, so that every protection is in place for these fast flyers and seasonal cliff dwellers.

photo Arnie O'Neill

John Thompson and a Preserve intern observing the Millbrook cliff from the talus below. In the background you can see some of the magnificent hemlocks that border the talus.

We received a note from a Board member saying that Chris Spatz's article in the last issue of *Shawangunk Watch* about the introduction of cougars to this area was an "eye-opener." Steve MacDonald wrote:

"I wonder if there would be unintended consequences to introducing big cats—or reintroducing, I should say—to the Gunks. Would they be a threat to hikers? You may have seen a related article in the NYNJ TC newsletter. Comes at the same issue from a somewhat different perspective. Says, for example, that the deer population is declining. Seems to say that hunting is reasonably effective. Talks about how part of the problem is the proliferation of "edge" habitat, between field and forest, which deer favor."



CAT SCRATCH

by Chris Spatz

Several notes of alarm have come to my attention in response to my *Shawangunk Watch* article on the ecological reasons for returning cougars to the region. Those responses focused on the threat cougars pose to the public. It is a common question and concern, one that the Eastern Cougar Foundation addresses routinely in our lectures.

There are on average two attacks, typically by young, inexperienced cats out on their own for the first time, each year in the United States and Canada. Two. A cougar attack is about as rare a wildlife encounter as anyone will ever have, statistically as risky as being hit by a meteor. Cougars don't hunt people. If they did, there would be hundreds of attacks every week. Everything about a cougar, from the evolution of their canines, to how and what they are raised to hunt, is hard-wired for their favored prey: deer.

Part of the public's awareness of cougar attacks is skewed by media saturation. Attack stories race through international news services, and survivors are often recruited by Good Morning America and Today; few experiences rival the sensational elements of surviving an attack by a large predator. There have been twenty-two deaths, and about 100 cougar attacks in the previous 118 years: none east of the Rocky Mountains. In contrast, the single greatest wildlife risk to the public in the United States, more common than all other wildlife threats combined, is vehicle collisions with deer, which kill 200, injure 20,000, and cause more than a billion dollars in property damage annually. That's a real public safety issue, yet deer collisions are rarely covered by local media, let alone by Matt Lauer.

When one considers all the dangers we face in our daily routines compared to the infinitesimal chances of being attacked by a cougar–chances that can be mitigated with a little education and common sense—I simply like to ask an audience this: are a couple of attacks a year a risk a worth considering to have eastern ecosystems critically declining from overabundant deer restored naturally by the ***presence*** of recovered cougars?

Hi Annie-

Have just started reading the "Watch" which looks very meaty, as usual. But I am floored to see a record of Redpolls breeding here. Now this is listed in the "Watch" as Redpoll Warbler but, to my knowledge, there is no such thing. Do you REALLY mean the finch of that name? Pretty astonishing if you do!

Anne Smith, Town of Gardiner

Shanan Smiley replied: "I made a mistake!!! It was a Blackpoll Warbler, not a Redpoll. I'm glad she caught it."

Anne replied "Thanks. I should have guessed Blackpolls!!!!!!!!!!!! Though I am surprised they haven't nested here in 80 years. I'm relieved because my neighbor told me that she had redpolls living in a nest box on her porch last summer. She is elderly and doesn't know birds but it was very hard to convince her that these weren't redpolls, and Joe Bridges backed me up. I told her to take photos, which she didn't. But I would have felt very badly if she could have been right! Which she could not have been because Redpolls nest in the Arctic tundra, not in boxes on porches in NY."

"Is it possible to get more details, maybe in the future, of Shanan's findings thru the Research Center—for example, where are the Painted trilliums? Where was the Trailing Arbutus seen? Whip-poor-wills: We participated in a study, too—I think it was a state thing—and suggested monitoring the Ridge. Some coordination here might be good. Where is the Whorled pagonia? That is exciting news about the fish—again, details would be nice."

Please go to the online Research Report for further information.

Campground'll be Coming around the Mountain—— When She Comes?

The Minnewaska State Park Preserve Shawangunk Gateway Campground proposal is to build a rustic campground on the south side of Route 299, about a quarter mile east of the junction with Route 44/55. It is to provide 50 walk-in tent platform sites, along with central bathroom/shower facilities, 3 cabins, an office/store/library, and a manager's house. The property was acquired by Open Space Institute (OSI) and transferred to the Appalachian Mountain Club (AMC) when AMC expressed an interest in constructing and managing the campground. Nothing happened when AMC discovered how costly it would be to construct a campground that met all the various regulations.

When a coalition of the American Alpine Club, Mohonk Preserve, and the Palisades Interstate Park Commission (PIPC is manager of Minnewaska State Park Preserve) expressed an interest in taking over the project, AMC transferred the property back to OSI. OSI then transferred it to New York State. The idea was that the state would own the property, PIPC would construct the campground, AMC would manage the business activities, and the Mohonk Preserve would manage the physical facilities. Mohonk Preserve recently purchased a three-acre parcel adjacent to the original property to be included in the campground.

While the state has approved partial funding for the project, the money has not yet been appropriated. Because of the current state of the economy, this appropriation is unlikely in the foreseeable future. PIPC can proceed with some planning as long as it does not require additional funding. Mohonk Preserve is trying to raise enough money to have a test well drilled to determine if there is enough water to for the campground. So here the project sits!

Mountain Bike Closure

Minnewaska State Park Preserve is currently closed to all mountain biking while the Park Preserve continues to recover from the ice storm of December 2008. All trails, and most carriageways are open for hiking. Swimming is scheduled to start on the weekend of June 20th.

For more information call the park at (845) 25500752

For updates, please check our website: shawangunks.org

Seven Peaks: Major New Project Proposal

Courtesy of the Shawangunk Ridge Coalition

Threat: A major development project, entitled "Seven Peaks On Mountain Road," has been proposed for the southern Shawangunks. The Seven Peaks property envelops 650 acres of the Shawangunks as it drapes over the ridge top and proceeds down the eastern flank, as well as part of the western slope. The Coalition website has a map you can open (shawangunkridge.org)

This venture incorporates 3 phases:

- Phase I entails building a gated community with 49 houses (8500-square-foot, 6 bedrooms, 7+ baths), $8 million houses on 5-acre or larger lots.
- Phase II comprises a 200-room hotel, conference center, spa and restaurants.
- Phase III involves further residential development on parcels of 17 and 10 acres.

Notably, this proposal's environmental review must scrutinize Seven Peaks' impact at full build-out (all 3 phases). Analyzing only one phase at a time is "segmentation," a State Environmental Quality Review Act (SEQR) violation.

The Mamakating planning board is the lead agency, or overseer, for environmental review of this endeavor.

Read the draft scope: http://www.thebashakill.org/7_peaks-draftscope.pdf

Town of Mamakating Planning Board Mamakating Town Hall 2948 Route 209 Wurtsboro, NY 12790

Write the Planning Board with your comments.

Introducing the *Shawangunk Mountain Guide*

New York's Shawangunk Ridge area is, as we all know, one of the premier natural areas of the Northeast, attracting thousands of visitors every week, and enticing new residents to move to the area every day. A new bi-monthly magazine will provide comprehensive coverage of the events and attractions in and around the Shawangunk Ridge. The magazine will focus on work by local writers, naturalists, and historians.

SMG will be a comprehensive Ridge guide, containing a wealth of official information about the major preserved areas. Detailed maps, events calendars, access points, what to do and see, park and preserve policies and information will be included in every issue. SMG will be a comprehensive guide of what to do, and will include detailed maps, park and preserve hours, entrance points, park rules and regulations, and tips on how best to enjoy all there is to offer. Even if you are familiar with the Mohonk Preserve, Minnewaska State Park Preserve, Sam's Point Preserve and the Basha Kill wildlife area, there is always something to learn.

info@gunksjournal.com or www.shawangunkjournal.com

Friends Goes Online

www.Shawangunks.org

Check out Friends of the Shawangunks website at **www.Shawangunks.org**

It has a back issues of our newsletter *Shawangunk Watch,* links to dozens of Shawangunk sites, updates on ridge projects and threats, and more than 80 photos showing natural features of the ridge. The site also provides an easy way to join Friends, contact us, or send a donation using a credit card.

Please Consider a Year End Contribution

There is still work to be done protecting Open Space and it is critical to be able to do it now!

Thank You For your Support

YES, I want to support your work

q YES, I would like to join

q	Benefactor	$ 250
q	Patron	$ 100
q	Family Member	$ 25
q	Individual	$ 15
q	Other	$ ____

I would like to make an additional contribution of:
q$10 q$25 q$50 q$100 qOther $ ____

Amount to go to The Shawangunk Conservancy Land Acquisition Fund $ ____

TOTAL ENCLOSED $ ____

Please make checks payable to *Friends of the Shawangunks* or *The Shawangunk Conservancy*. Contributions are tax-deductible.

Name (please print)

Street or Road

City **State** **Zip**

q This is a change of address

E-mail address

q This is a change of e-mail

Matching Grants: If the organization for which you work has a matching grant program, just send us the forms and we will do the rest. IBM matching checks must be made out to The Shawangunk Conservancy.

Mail contributions to: *Friends of the Shawangunks*, P.O. Box 270, Accord, NY 12404

FRIENDS of the SHAWANGUNKS
Preserving Open Space Since 1963

Friends of the Shawangunks, Inc. is a not-for-profit organization working to preserve open space in the Shawangunks.

The Shawangunk Conservancy, Inc. is a not-for-profit land conservancy.

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A copy of FOS and The Shawangunk Conservancy's latest financial report may be obtained by writing to the Office of the Attorney General, Charities Bureau, 120 Broadway, New York, NY 10271, or by writing to The Shawangunk Conservancy.

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