HUYCK PRESERVE

Autumn 2012

Myosotis Messenger

2012: A very busy year of accomplishment

We entered this year still reeling from the damage Irene wreaked on our facilities, trails and bridges. Through the hard work of staff and community members, help from state agencies and foundations, and the generosity of our members and friends, we end the year in better physical shape than ever before. As you will see from pictures on the next page, Lincoln Pond Cottage has been restored and improved and Lincoln Pond Dam was rebuilt. Most importantly, our trail system is fully open for the first time in almost three years including a new bridge and boardwalk at the end of Lincoln Pond, a new upper falls bridge, a wheelchair accessible trail from the Visitors Center to the lower falls bridge, and the completion of Partridge Path Trail with a new trail head on Wood Road. Many thanks to Student Conservation Association interns, British Conservation Volunteers, as well our staff and local carpenters and contractors for help with these projects.

Of course, facilities and trails are only part of this year's story. Our mission goes beyond preservation and recreation to include increasing our understanding of natural systems through research and spreading the knowledge and love of nature through field-based education programs. We are happy to report that we were also very successful in these programs. If you visited the Eldridge Lab in July, you would have found yourself in a swirl of activity: Dr. Eddie Watkins, our Summer Research Fellow from Colgate, working with four Odum Interns; Dawn O'Neal, our director of Conservation Education and Research; and other scientists and counselors working with nine high school students in the Wildlife Ecology Research program; and middle and elementary age students engaged in the Natural History Day Program and Nature Study. In addition, the Preserve had nine Huyck Grant researchers and six resident artists participating in the COM.EN.ART program. You can read about many of these programs in this newsletter.

At the same time, the Preserve hosted a number of scientific events and talks including Wildlife Family Hour with Kelly Martin, Thursday night lectures, wildflower, fern and bird walks plus a Winter Festival, Bird Festival, Mushroom Festival (thank you John Haines), Science Symposium, and a number of bird monitoring programs. There were also visits from local schools, joint programs with the library and the Carey Center, and of course, swimming lessons.

This July Executive Director Chad Jemison left the Preserve for a position with Scenic Hudson. We all very much appreciate all the accomplishments of Chad during his four years with the Preserve and will miss his enthusiasm and energy.

The Board has set up a search committee to find a new Executive Director and a job description has been posted on the Preserve's website. Meanwhile our remaining staff—Dawn O'Neal, Carolyn Barker and Adam Caprio—continue to do a wonderful job and we appreciate them all so much.

We would be remiss if we also didn't thank everyone who made this year possible especially Dr. Ogden B. Carter and Shirley and Bob French for key gifts toward the restoration of Lincoln Pond Dam, the William and Sybil Waldron Fund for providing funds towards restoring Lincoln Pond Cottage and support for local students in our high school program; the NYS Partnership Program of the Land Trust Alliance and William P. Carey Foundation for support of Dawn's position; grants from the NYS OPRHP for trail work and ZBGA for general activities; and the Huyck Foundation for its important annual grant. Again we want to acknowledge the extraordinary help we received from Phil Pearson, Jr., on the upper falls bridge, Lincoln Pond Dam and other projects, and from Paul Baitsholts, Chris Ullstrom, and Gus Dudley on Lincoln Pond Cottage. And of course none of this could be done without the continuing support of our members through membership dues and donations to the annual fund. Thank you so very much and we look forward to your continuing support.

Susan Kessler, President Malcolm Morris, Chair

Following damage from Hurricane Irene, Lincoln Pond Cottage was restored this spring with the help and expertise of Architect, Gus Dudley, Paul Baitsholts, Phil Pearson, Jr., Chris Ullstrom, Adam Caprio, Supervisor of Buildings and Grounds, and other Preserve staff. The entire first floor was gutted and replaced complete with a new kitchen and two new bathrooms. We also replaced the 100-year-plus cedar siding. Renovations were partially funded by generous donations from Susan and Chip Kessler and the William and Sybil Waldron Fund.

The 2012 British Conservation Volunteers (Sue, Sue, Tess, and Muriel) came to the Preserve in September to assist with the Core Trail upgrades. Some of their handiwork is the restoration of the Trout Creek Bridge pictured here.

SCA Interns from left: Richard Daniel Mobley, Max Macemon, Eric Newman, and Chris Rogers in front of the wheelchair accessible trail.

Student Conservation Interns (SCA) were instrumental this summer in assisting Buildings and Grounds Supervisor Adam Caprio with the placement of stairs to the Upper Falls Bridge (left), the wheelchair accessible trail to the Falls (right), and restoring the trail around Lincoln Pond, complete with a new bridge and boardwalks (below). Funding for these Core Trail projects provided by NYS-OPRHP Trails Program and the generosity of our membership.

New and Improved:
Upgrades to Huyck Preserve Facilities and Grounds

The upper falls bridge is back!!! We are grateful to Phil Pearson, Jr. and his crew including Brandon and Mike Galgay, and of course, Buildings and Grounds Supervisor Adam Caprio. Funding provided by the NYS-OPRHP Trail Program.

Lincoln Pond Dam was restored this summer by Phil Pearson, Jr. and his crew. This was made possible in large part by generous donations from Dr. Ogden B. Carter, Jr., and Shirley (honorary director) and Bob French.

Our ferntastic friends: A foray into the inner workings of ferns

J. Eddie Watkins, Jr., Ph.D., Senior Research Fellow, Huyck Preserve and Biological Research Station,
President Elect American Fern Society, Assistant Professor, Department of Biology, Colgate University.

I think it always appropriate to quote Abraham Stansfield when I try to convince folks that ferns are worth study: "The bright colours of flowers are admired by the least intellectual but the beauty of form and texture of ferns requires a higher degree of mental perception and a more cultivated intellect for its proper appreciation. Hence we regard the growing taste for the cultivation of ferns as proof of mental advancement." (1858) It would bring great pleasure to Abraham to know that the Huyck Preserve's 2012 Senior Research Fellow was able to entice four bright young Odum Interns to spend their summer frolicking with the ferns in search of the answer to one of fern biology's most pressing questions: how does fern physiology compare to flowering plant physiology?

Senior Research Fellow Eddie Watkins (center) with Odum Interns (from left) Johnny Sowles, Aliza Ray, Jennifer Gillen, and Mike Galgay holding a white board with some of their data collected during this summer's research season.

Most readers of the *Myosotis Messenger* will have no problem conjuring up an image of a fern. My guess is that right now you are envisioning one of our elegant wood ferns (*Dryopteris*) or the delicate hay-scented fern (*Dennstaedtia punctilobula*) that frequently becomes a garden thug; or maybe your fancy is the maidenhair spleenwort (*Asplenium trichomanes*) that adorns the rocks along the upper falls. If you are more daring, your mind may wander to the most un-fern-like moonworts (*Botrychium*). Whatever you envision, you may not realize that our understanding of the ecology of the ferns is in its infancy and our grasp of ecological physiology is prenatal!

If you think back to your high school biology class you no doubt learned that ferns were unusual in that they alternated between independent gametophyte and sporophyte generations. Very unlike the roses, lilacs, and garlic in your garden, ferns reproduce by spores that blow about by the wind. A lucky spore will land in a safe spot and germinate to produce a multi-cellular body called the gametophyte. It is on this gamete-plant (phyte = plant) where either sperm or eggs are produced. Just as with human gametes, the entire gametophyte has half the chromosome complement of the parent sporophyte (spore-plant: the thing that you were envisioning a few moments ago was the sporophyte of the fern). The gametophyte is very different from the sporophyte and more closely resembles a liverwort or moss. Imagine that the human life-cycle involved free-living testicles or ovaries that wandered around the streets exchanging sperm and eggs. Perhaps not a pleasant thought (who would feed them?), but this pretty much gets you to what makes ferns (and a few Lycophytes) unique.

My work over the last decade or so has focused a lot on the ecology of the gametophyte stage. When I first started out we knew almost nothing about this stage of the life cycle and what we did know was pretty much wrong. Similar to mammalian sperm, fern sperm are motile requiring water as a transport medium. This led many earlier researchers to conclude that water was the limiting factor over fern ecology. Casual observations seem to support this as a lot of ferns grow in wet habitats. Yet, upon greater reflection, I bet you can envision some species that grow on dry rock outcrops or other areas that are decidedly dry… there are, after all, ferns in the desert. I did not like this hypothesis and started my career by torturing gametophytes to see just how well they could do under dry conditions. I subjected all kinds of species to drought and desiccation treatments and discovered that most fern gametophytes are remarkably tolerant of dry conditions: the opposite was dogma for over a century.

In addition to being desiccation tolerant most gametophytes are small, reaching the size of your pinky nail on average. Their small size and the idea that they required wet habitats to live helped some speculate that fern gametophytes where ephemeral members of their habitat. This also turned out to be untrue. Some of my early work in the tropics demonstrated that gametophytes could live to be decades old. Over the years we have seen a gradual retooling of our understanding of fern ecology. Yet some recent discoveries have radically challenged our views of how fern sporophytes work.

Before I get into this, let's review the basics of plant physiology. The goal of the plant leaf is simple: photosynthesis. The conversion of carbon dioxide gas (from the atmosphere) into the sugar that you put into your coffee this morning, is no small task. Plants take up CO_2 through microscopic pores on their leaves call stomata. These holes on the leaves open and allow gas to move in. A very big consequence of this is that water moves out.

(This is the concept of stomatal conductance: a leaf with high conductance loses more water and takes in more CO_2.) You can try this at home: take two Ziploc bags and put wet paper towels in both. Seal them and then in one poke 10,000 tiny holes in the bag. Put them on your kitchen table for a week and see which one dries out. This phenomenon creates a tradeoff: a leaf needs to get as much CO_2 as possible and it also needs to hold onto as much water as possible. The way that plants have solved this problem is by evolving sophisticated hormonally controlled opening and closing of their stomata. On any given lilac leaf in your garden, you can have a dynamic system where any number of stomata is open or closed. This allows for precise control of water loss.

Recently, a series of studies have shown that stomatal control in ferns and lycophytes differs from seed plants. We have known for a while that ferns and lycophytes have inefficient stomatal systems. Yet, ongoing work by Tasmanian scientist Tim Brodribb is suggesting that ferns and lycophytes possess a unique mechanism which influences stomatal opening and closing. Unlike seed plants, fern and lycophyte stomata fail to close in response to abscisic acid (ABA) addition. This is one of the magical hormones that controls stomata. Suddenly we are faced with the idea that something as fundamental as stomatal function may have multiple ways of working. This significant new discovery suggests that at least two fundamentally different mechanisms of stomatal function have evolved in early plants. This, in turn, may impact the differential distribution of ferns and lycophytes relative to seed plants.

The goal of my summer Senior Research Fellowship and the Odum Interns was to examine the comparative physiology of a number of temperate ferns and lycophytes with angiosperms. We looked at several physiological parameters in a pairwise comparison between a fern or a lycophyte and an angiosperm in identical habitats. Given recent suggestions on inefficient stomatal functions, we hypothesized that ferns would have lower photosynthetic rates and stomatal conductance values in comparison to the nearby angiosperms. This, in turn, would impact aspects of leaf morphology (stomatal density), physiology (chlorophyll concentration), nutrient relations (N and P), and carbon relations. We speculated that the differences in physiological function may affect the ecology of these ferns, lycophytes, and angiosperms and may help explain their distributions. What we found was interesting in the extreme. We were able to partially validate Brodribb's ideas: yes ferns and Lycophytes do indeed have reduced stomatal conductance: when growing side by side, ferns will have lower conductance than an angiosperm. No big surprise there… the big surprise came when we looked at the all-important photosynthetic rate. EVEN given reduced stomatal conductance, ferns maintained similar photosynthetic rates to their neighboring angiosperms. All things being equal, if leaf A has reduced conductance compared to leaf B, leaf A will be taking up less CO_2 and ought to have a lower photosynthetic rate. Yet, this is not what we found! So, how is this possible? We do not know yet, but some of our other data suggests that ferns may simply be more chemically efficient: a very exciting discovery that has major implications for basic plant biology. There will be much more to come on this in the future!

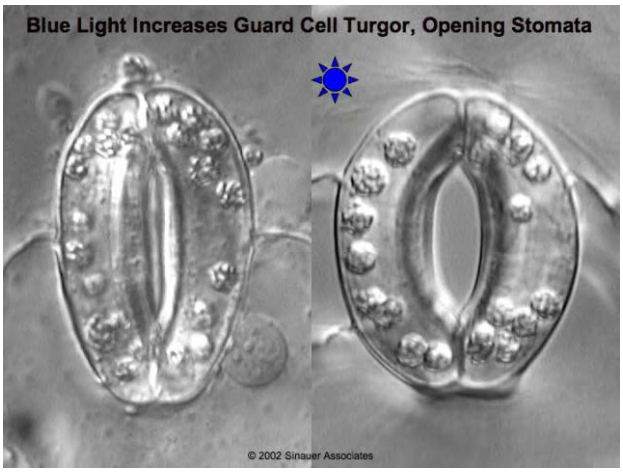
So, the next time you stroll through the forest, stop to ponder the fern. Consider that what you are seeing is far from being a settled physiological affair. In spite of what the textbook tells you, there is something unique going on inside of the frond and we have a very poor understanding of it! Our friend Abraham would point out that just admiring that simple green leaf would be evidence of mental advancement. Just imagine what he would think if he knew you were considering an invisible gas entering through microscopic pores. I believe he would think that was darn ferntastic!

References

Brodribb, T.J. and S.A.M McAdam. 2010. Passive Origins of Stomatal Control in Vascular Plants. *Science*. Vol. 331 no. 6017 pp. 582 585. DOI: 10.1126/science.1197985

Watkins, Jr. J.E. and C.L. Cardelus. 2012. Ferns in an Angiosperm World: Cretaceous Radiation into the Epiphytic Niche and Diversification on the Forest Floor. *Internatinal Journal of Plant Sciences* . Vol. 173, No. 6 (July/August 2012) (pp. 695 710)

Fern gametophyte (sexual stage) with a pair of standard size forceps, looks unlike typical fern frond.



A closed stomate (left) and an open stomata (right). A given leaf often has tens of thousands of stomata.

Moths Eaten: a Proxy for Bird Boundaries

Ashley Ozelski, CUNY,College of Staten Island and 2012 Huyck Grant Recipient

My work on moths at the Huyck Preserve began as a method of studying birds; specifically, how much habitat birds require to persist in a landscape. My research aims to answer this question for insectivorous forest-breeding birds and one of their primary food sources, moth larva (caterpillars). Although many studies have been done to determine the minimum amount of habitat needed for birds, the results have been inconsistent among studies. One possible reason for this is that the availability of resources likely varies not only between regions, but locally as well. To test this hypothesis, I measured bird abundance, caterpillar biomass, moth species diversity, and tree species composition at multiple sites within the forests of the Huyck Preserve.

To estimate caterpillar biomass available to hungry birds, I measured the amount of caterpillar droppings (also known as "frass") that fell from the tree canopy. I constructed "frass traps" made of a small sheet of muslin fabric elevated approximately 10 centimeters off the ground. A small weight placed in the center of the trap ensures that the frass rolls towards the center of the sheet. After emptying the frass traps, the frass was dried for weighing. This mass will be compared between my sites as an indicator of the volume of food is available for birds, since a large frass value may indicate either many small or few large caterpillars (since larger caterpillars produce larger pieces of frass!).

Caterpillar abundance varies between tree species as well as throughout the season. How then might tree species composition impact breeding bird density in the early versus the late breeding seasons?

Both moth abundance and species composition vary considerably across the season, so my moth sampling occurred bi-weekly from June to August. This allowed me to compare the moth communities of each site over time and assess the ecological significance of the most abundant moth species for birds. Moths have varying larval niches, some very specific; some species feed in trees, others in grasses or leaf litter. Similarly, birds have specific foraging niches. Ovenbirds and Wood Thrushes, for example, forage in leaf litter. Thus, moth species found in leaf litter may be a much more important food source for these birds than moth species that feed at the tops of trees. I captured moths by setting up light traps (see photo), in which the moths are attracted to a UV-A light designed specially to attract insects. The moths attracted to the light hit the vanes surrounding the light and fall down a funnel into a bucket, where they are later collected for identification.

"Mothing" as a hobby is currently increasing in popularity in the United States, as evidenced by the First Annual National Moth Week (see nationalmothweek.org) held this past summer. I hope that this rise in interest leads to an increase in coordinated and standardized citizen science programs focused on moths, which will greatly benefit our understanding of how moths are affected by landscape processes such as habitat loss, degradation, and fragmentation. Continued monitoring of the diverse moth communities at the Huyck Preserve over time will help us answer these questions.

From Left: Luna Moth; Rosymaple; Underwing

2012 Huyck Grant Recipients

Amy Hruska, M.S. Candidate
West Virginia University
Determining how forest composition and chipmunk behavior influence the dispersal of American Ginseng

Evelien Jongepier, Ph.D. Candidate
and Isabelle Kleeberg
Johannes Gutenberg University, Mainz
Reciprocal adaptations underlying the slave rebellion trait

Andrei Lapenas, Ph.D., Associate Professor, Geography
University at Albany
Snow Manipulations and Dendroclimatological Studies at the Huyck Preserve

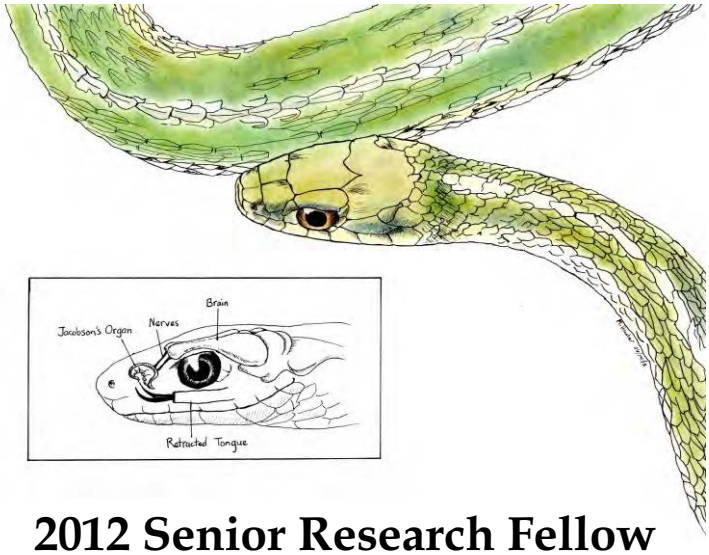
Julie Miller, Ph.D. Candidate
Cornell University
Launching raids in slave-making ants: a model for the analysis of collective decision making

Ashley Ozelski, Ph.D. Candidate
CUNY, College of Staten Island
How does habitat quality influence area thresholds in forest breeding passerines?

Laurel Symes, Ph.D. Candidate
Dartmouth College
Evolution of mate choice in Oecanthus tree crickets

Weston Testo, Ph.D. Candidate (begin Fall 2012)
University of Vermont
Long-term study of temperate fern community dynamics

Vivek Venkataraman, Ph.D. Candidate
Dartmouth College
Merging forest structure and acoustic ecology: exploring the mechanistic basis for acoustic adaptation in temperate forests



2012 Senior Research Fellow

James E. Watkins, Jr., Ph.D.
Colgate University

2012 Odum Interns

Mike Galgay
Macalester College

Jennifer Gillen
Bard College

Aliza Ray
Bard College

John Sowles
Bates College

2012 COM.EN.ART Artists-in-Residence

Sue DeLearie Adair
Schenectady, NY
August 17-31, 2012

Rachel Caauwe
Comstock Park, MI
June 8-22, 2012

Margaret Hunter
Willow Grove, PA
June 8-15, 2012

Erin L. Hewett Ragheb
New Haven, CT
August 17-31, 2012

Susan Bull Riley
Montpelier, VT
June 11-25, 2012

Gail Selfridge
Manhattan, KS
June 15-29, 2012

A Summer in Photos: Summer Education at the Huyck Preserve

Dawn O'Neal, Ph.D.. Director of Conservation Education and Research

Following in the footsteps of the scientists before her, Lauren Brill, assists with a portion of the Continuous Forest Inventory under the tutelage of Dr. George Robinson (not pictured).

Dr. John Haines, former NYS Mycologist, demonstrates the finer points of fungus collection to Terrance Wang. Though this summer was dry, students were able to collect several different molds and fungi growing on decaying wood to analyze back in the lab.

Dr. Mary Beth Kolosvary, from Siena College, shows the class (Terrance Wang and Christopher Kim pictured) the proper handling technique for chipmunks during the mammal ecology section. As one of their first lessons, the students surveyed the Preserve's rodent population for ticks. Unfortunately, we were unable to find evidence of a single tick on the ten rodents collected.

Berne-Knox-Westerlo senior Michaela Fisher tries her hand at mist netting a cat bird during the Monitoring Avian Productivity and Survivorship Program. Each student received on average 5 hours of mist netting experience this summer working with the MAPS program and during their group research projects.

Wildlife Ecology Research

2012 Residential High School Course

Terrance Wang, William Kessler, Sarah Kirk, and Lauren Brill practice the fine art of seine netting in Lincoln Pond. This summer's drought raised many questions about the healthiness of the dwindling Lincoln Pond, but surveys by the students revealed everything was just fine, if not extremely muddy!

Students had to search for a viable stream with this summer's drought, but in the end local Greenville junior Caitlin Hopkins (assisted by Sarah Kirk and Eleanor Kallo) was able to demonstrate that kick netting could be done barefoot. Students used this technique to assess the quality of Ten Mile Creek above the Rensselaerville Falls.

2012 Natural History Day Program

The Natural History Day Program this year was very much into stream ecology. Here, Leora practices her dip netting technique. Students surveyed several streams, lakes, and ponds at the Preserve looking for the invasive rusty-spotted crayfish. Crayfish were originally introduced into Lake Myosotis. Initial surveys suggest the crayfish are now present in Ten-Mile Creek, Lake Myosotis, and Lincoln Pond.

2012 Natural History Day Program: Standing: Mason Steele, Nate Mills, Leora Ferrari. Sitting: Helena Hostash and Eleanor Egan.

Min holds her very first goldfinch during the Monitoring Avian Productivity and Survivorship Program. Students from the Natural History Day Program took a break from learning about invasive biology to appreciate the avian species living at the Preserve.

Assisted by instructor Kate Foley (middle), Eleanor, and Helena take a moment to sort crayfish during their survey. Students found three types of crayfish in the waters on the Preserve including the native clearwater and big water crayfish and the invasive rusty-spotted crayfish.

Mason and instructor Shabana Hoosien check out small pools containing salamander larvae. Students were surprised to discover several pools of dusky salamander larvae in early summer around Lincoln Pond.

2013 Summer Education Dates:

Wildlife Ecology Research
Grades 11-12 (Residential)
Session 1: June 30-July 21
Session 2: July 28-August 18

Natural History Day Program
Grades 9-10: July 8-12
Grades 6-8: July 15-19

Nature Study
Grades 3-5: July 22-26
Grades K-2: July 29-August 2

Everyone at the MAPS program was very excited when we managed to snag a rose-breasted grosbeak for our summer's count. Nate was one of the few brave volunteers to take a turn holding this "vicious" bird. Grosbeaks are beautiful, but as their name suggests, they have quite the beak and thus an extremely unpleasant bite.

The majestic Eastern Hemlock and a tiny Asian pest

Dawn O'Neal, Ph.D., Director of Conservation Education and Research

As the most shade-tolerant tree species in the Eastern United State, the Eastern Hemlock (*Tsuga canadensis*) can live for more than 800 years, remaining as tiny seedlings until canopy openings allow them to burst forth from the forest floor. The dense evergreen canopy hemlocks provide is critical habitat for many animal and plant species. More than 120 vertebrate species use mature stands including porcupines, white-tailed deer, and over 90 species of birds. Benefits of hemlocks extend past the forest floor into aquatic ecosystems where the shady canopy provides cooler waters and abundance of nutrients promoting both fish and macro-invertebrate diversity and abundance.

Named for its wool-like wax filaments that protect adults and eggs from desiccation and natural enemies, the hemlock woolly adelgid is a tiny (1.5 millimeters long) aphid-like insect. Hemlock wooly adelgid was introduced to the Western United States in 1924 from East Asia, but only recently established itself in the Eastern United States (earliest detection 1950s). Adelgids are dispersed by wind, wildlife (especially birds), and humans (through the transport of infected trees). Initially, the wooly adelgid was not considered harmful because it has no ill effects on western or Asian hemlocks. In the last decade, this pest has exploded across the Eastern United States, and just this year evidence of wooly adelgid infestation was found at the Huyck Preserve. Adelgids cause damage by depleting the hemlock's starch reserves, using long, sucking mouth parts. Without starches, hemlocks are unable to grow and produce new shoots. Tree mortality, however, is slow, occurring 2-12 years after initial infestation. As a result of adlegid infestations, many hemlock stands we see today may be replaced with deciduous species such as birch and red maple affecting water quality and changing assemblages of wildlife found in an area.

An imperfect solution: Treating hemlock wooly adelgid

Currently, no treatment for hemlock woolly adelgid is 100% effective although steps can be taken to speed recovery and minimize the impact that the loss of hemlock will have on ecosystem functions. Bird feeders should be removed near hemlocks because birds are known to transport both eggs and adults. While a number of insecticides are available, the high cost of treatment limits insecticide use to individual trees and insecticides should not be considered a permanent solution as applications must

Life Cycle of the Hemlock Woolly Adelgid

In Eastern North America, the life cycle of the hemlock woolly adelgid includes two complete all-female, wingless generations: the sistens or winter generation, able to produce up to 300 eggs an individual, and the progrediens or spring/early summer generation which produces 20-75 eggs per individual. The sisten generation is produced by eggs laid in early June that hatch in early July. These emerging crawlers disperse and settle on new shoots of hemlock produced in June where they enter a summer dormancy that lasts from July to October. As fall temperatures cool, this winter generation comes out of dormancy and begins feeding, developing through four nymphal stages during the winter months before becoming adults.

Because adelgids are active during cooler months and feed during late fall, winter, and early spring they avoid many natural enemies. This time of year, known as "leaf off", is also beneficial to the adelgid because photosynthates (the sugars produced by photosynthesis) and other nutrients are abundant in hemlock twigs at this time. Overwintering adelgids lay eggs in early winter/late spring that hatch in April and May becoming the progrediens generation. Dispersed by wind, wildlife (especially birds), and humans, this generation settles on previous years' twigs where they immediately begin feeding. These spring generation adults lay egg masses between mid-June and early-July producing the sisten generation.

be repeated for several years. Additionally, the effects of insecticides on soil and aquatic organisms and ecosystems are unknown. Biological controls of woolly adelgid are also available as an alternative to insecticides, but these natural predators are few because the woolly adelgid is not a native species. This lack of natural predators means that effective biological controls need to be developed or imported.

Imported predators known to feed exclusively on adelgids are currently being investigated and used in some areas. These biological controls, like their insecticide counterparts, are expensive and may require repeated application before populations are able to establish. The long-term effects of these invasive predators on native ecosystems are also understudied and potential effects must be considered before their use.

Hemlock wooly adelgid and the Huyck Preserve

Discovered this summer at the Huyck Preserve by forest interns at the New York Department of Environmental Conservation (DEC), the wooly adelgid infestation at the Preserve is at its infancy. A brief survey in late August indicated that the adelgid infestation is limited to the area around the lower Rensselaerville Falls about halfway up the trail. Few trees off the trail are infected and those with adelgid infestation can be identified by flagging tied around the tree base or hanging from branches. At this time, monitoring the adelgid infestation is our best course of action at the Preserve since available treatments for hemlock wooly adelgid are prohibitive considering their cost, ineffectiveness on such a light infestations, and potential dangers to the current natural ecosystem. Monitoring adelgid presence and spread is an integral part of the process to determine when hemlock woolly adelgids populations have increased to the level that hemlock trees will be impacted. Beginning this year, the hemlock stand located around the Rensselaerville Falls will be assessed annually for the degree of adelgid infestation, presence and density of egg masses, as well as tree condition. Hemlock stands located elsewhere on the Preserve will also be monitored in the upcoming years for the presence or absence of woolly adelgid. If you are interested in participating in this monitoring endeavor, please contact the Huyck Preserve main office for more information (info@huyckpreserve.org; 518-797-3440).

Honorary board member Shirley Stevens French's father, Winthrop Stevens, was honored this summer when a plaque in his name was installed on the east side of Lake Myosotis. "Steve" was a founding member of the Preserve and actively served on the board until his death in 1958. A strong advocate of community involvement with the Preserve, he led the popular trail blazes for maintaining the Preserve's trail system.

Winter Events

Meet at the Eldridge Research Center
284 Pond Hill Road, Rensselaerville, NY
unless otherwise noted

"Full Moon" Winter Night Hike

December 1 at 7:00-8:00 p.m.

Join us for a night hike by the light of the full moon. Snow permitting, there are a limited number of snowshoes available for adults and children. To reserve a pair, call 518-797-3440 or E-mail info@huyckpreserve.org.

Christmas Bird Count

December 15 at 8:00 a.m.-4:00 p.m.

Help us monitor our local winter populations. Dress warmly and bring binoculars.

Winter Festival

February 2 at 12:00-4:00 p.m.

Join us for a day of fun and winter recreation. Details to be announced.

Huyck Preserve
& Biological Research Station

2012 Annual Fund Form

Annual Fund donations go to support programs and fulfill our mission

Annual Fund
Suggested Donation Levels

- ❑ $ 50
- ❑ $ 100
- ❑ $ 250
- ❑ $ 500
- ❑ $ 1,000
- ❑ $ 2,500
- ❑ Other $_____

Name

Address

Annual Fund Donation $

City **State** **Zip**

This gift is given in honor of/in memory of

Phone **Cell**

Would you like to be added to our e-mail updates?

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Thank You!

The Huyck Preserve is a registered 501(c)3 orgainization and all gifts are deductible to the extent provided by law.

Connecting people to nature through conservation, research, education, and recreation

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Huyck Preserve
& Biological Research Station
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