

## FORGET-ME-NOT



The Edmund Niles Huyck Preserve, Inc.  
 & Biological Research Station  
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## Facilities Improvements Underway

Alden Pierce

The Board of Directors has approved several projects that will improve the appearance of our main administration building, the Mill House, provide for substantial infrastructure repairs, and provide a new Visitor Center with increased parking availability. The new projects have been funded largely through several generous private donations. The Preserve has retained Gus Dudley as the architect of the Mill House modifications. Hudson & Pacific Designs, Inc. will provide natural landscape design of the environs of the Mill House and parking area, and TEC Builders will perform the construction at the Mill House.

Additional projects slated for completion in 2004 are repairs to the stone abutments for the upper falls bridge, and various aesthetic and functional improvements to the picnic and beach areas at Lake Myosotis.

The changes most noticeable to the community of Rensselaerville and our visitors, will be the rebuilding of the rear of the Mill House to accommodate our new Visitors Center, with direct access from an improved and enlarged parking area. A new trailhead with information panels, landscaped using indigenous plants and in harmony with the existing topography, will greet our members and visitors. The front yard will be landscaped consistent with the overall new appearance of the Mill House and Visitors Center. You may have already noticed the reconstructed creek-side stonewall in the front of the Mill House.

Our goal is to improve the appearance and ease of use of Preserve facilities and to better inform our members and visitors about the ecology of the Preserve (via the Visitors Center) while maintaining the historic and traditional values of the Mill House and its setting at the edge of the woods on Ten Mile Creek



Proposed entrance to the new  
 Visitor's Center at the Mill House

*Alden Pierce is a member of the Board of Directors and co-Chair, along with Dick Bryan, of the Facilities Committee. He has held corporate environmental management positions with Getty Oil Company, Martin Marietta Corp., and W.R. Grace & Co. He retired from Grace as vice president, environment, health, and safety in 1996. Most recently, he has worked as a consultant in environmental management. He lived in Rensselaerville from 1970 through 1972. He holds a B.S. in Chemistry and a Ph.D. in Ecology, both from the University at Albany. Alden and his wife Cheryl reside in Rensselaerville.*

## How I Came to Study Salamanders on the Huyck Preserve

Richard L. Wyman

This story begins a long time ago in 1957. When I was little (hard to imagine me ever being little, but I was), I lived in rural New Jersey (back then there was such a thing as the Garden State) and in front of my home we had a stone patio. I would often look under the rocks of our patio to see what was under there. Regularly, I would find salamanders. Sometimes under one rock in particular I would find a bunch of salamanders. At the time I thought they were quite mysterious, these long, little things with legs and pop up eyes.

I was the kind of kid who spent a lot of time out doors and in the streams, fields and woods around our 14 acres. Streams ran down both sides of our property and there were woods and farms on all sides. I could walk in any direction for hours and still be in the woods. I also collected anything I could collect that was either alive or recently dead.



These collections included insects pinned to boards, skeletons, and live animals in cages. At the time you could actually order alligators through the mail, and of course I did. The alligator lived in a fish tank in our dining room and you could feed it ant eggs or hamburger. It got rather smelly, and my mother did not always appreciate the budding biologists storing things here and there throughout the house. In cages around the house I had owls, homing pigeons, muskrats, a raccoon, turtles, snakes, horses, and any thing else I could catch. Let me tell you that if you can catch an owl, it is not long for the world. Mine lasted only a couple of days. I also had dogs and cats. I remember at one time we had 13 cats; most of them were kittens.

As a teenager, I worked on the various farms around our place. These included a horse farm, a sod farm, another horse farm, apple and peach orchards, and another sod farm. College found me in the panhandle of Oklahoma, where I attended Panhandle State College and of course was a biology major. The wonders of life on Earth were introduced to me in biology and botany laboratories and in field trips with my vertebrate biology course. I did a senior research project on the ectoparasites of the white-footed mouse (*Peromyscus maniculatus*) along the Beaver River in Texas County, Oklahoma. This work resulted in my first scientific publication in 1971. From here, I went on to graduate school at Illinois State University on a National Science Foundation fellowship. This meant I could take courses and do research and the school would pay me. That was great. As a graduate student, you could choose which professor you would like to work with. There was an avian paleontologist (someone who studies dead bird bones – not my line), a mammalogist (someone who studies mammals), and an ethologist (ethology is the comparative study of animal behavior). I chose the latter. Professor Jack Ward studied the behavior of fish. Not any fish, but cichlid fishes from the Island of Sri Lanka (Ceylon). Two species of cichlid fish (Cichlidae is a family of fish found around the world, mostly in fresh water) occur in Sri Lanka, the orange chromide (*Etroplus maculatus*) and the green chromide (*Etroplus suratensis*). These are quite remarkable fish. They have biparental care, that is, both parents take care of their young. This includes tending eggs in small pits that the parents dig with their mouths. They fan the eggs with their pectoral fins (fins on the sides of their bodies, like your arms) to oxygenate them and to remove debris that settles onto them. When the young hatch, they are not developed enough to swim and are called wrigglers because they wriggle around a lot in their holes. After about a week, the young become free swimming and form a tight school around their parents. During this schooling phase, the young bounce off the parents' bodies. We found that when they were touching their parents they consumed small quantities of mucus, which we also showed was of nutritional benefit for the young. The parents stayed with their families for over a month, by which time the

young were over an inch long and able to fend for themselves. As adults, during courtship and in parental care, these fish use about 20 or so specific behaviors, that we call fixed action patterns. Fixed action patterns are used by many animals to communicate things about species identification and courtship behavior. Humans use the eyebrow flash (raising the eyebrows when you see someone you know) as a form of individual recognition. My work on these fishes was to try and figure out how these little fish could develop 20 or so behaviors in three weeks after popping out of their eggs. Well, I spent four years in graduate school doing so and received masters and doctoral degrees. I also got to spend five weeks in Sri Lanka, snorkeling around Negombo Lagoon and watching my fish do some pretty amazing things. These observations of course made me think very differently about human behavior as well.

After graduating, I found a position with an engineering and environmental consulting firm in New York. This position allowed me to work with problems associated with power plants and fish. Electric-generating power plants affect fish populations because the cooling water flow they use carries and traps fish eggs, larvae and adults. (The accidental trapping of fish eggs and larvae is called entrainment and the accidental trapping of adult fish is called impingement.) This is because the eggs and larvae are simply sucked into the cooling water flow and end up traveling completely through the cooling water system. This kills most of them. Adult fish are too big to pass through the cooling water system and are instead trapped on moveable screens placed in the cooling water intake. These screens can rotate up out of the water, where the adult fish fall into collection trays. Most of these fish are killed as well. My job was to try to determine what these losses meant to the fish populations, that is, were enough eggs, larvae, and adults taken and killed to adversely affect the survival of the population. At one plant on Lake Ontario over a million fish were impinged yearly, sometimes many thousands in one day. Trucks carried away the bodies to the dump. However, most of these fish were alewives, species introduced into the Great Lakes and considered to be a nuisance.

These investigations brought me to work on the Hudson River, Lakes Erie and Ontario, and the shoreline of the Pacific Ocean. I also set up a laboratory in South Carolina to try to determine why fish in a cooling water pond had misshapen heads. To keep myself entertained on weekends during this time, I began a one-hectare (100m by 100m) study plot on Clausland Mountain, near Nyack, NY. Every weekend that I could manage it, I would survey this area for amphibians. Eventually I found about 15 species of amphibians and again found my old friend the red-backed salamander. This species was the most common, accounting for over 90% of the individuals that I found. I did some mapping of soil moisture and other habitat characteristics to try to determine what factors were influencing the distribution

of this species. I also took Marilyn, my wife, there for our first date to help look for salamanders.

After six years of looking into power plant effects on fishes, I left the company and Marilyn and I moved to our farm in Delaware County. While I was there, I found a position as a vertebrate biologist with Hartwick College in Oneonta, where I taught animal behavior, ecology, vertebrate biology and other non-major courses. I also continued my research on the red-backed salamander at Hartwick College's Pine Lake Field Station. There, with the help of students, I began to see that soil acidity, and hence soil acidification due to acid rain, was affecting the amphibians, including the red-backed salamander. I also had an aquatic lab, where I continued to do experiments with my two cichlid species. Having both salamanders and fish as study objects was a handy combination because I could trick the fishes with artificial photoperiods into breeding and producing offspring like they would in Sri Lanka, but during our winter when the salamanders were hibernating. Thus I was able to continue my studies of the development of their complex behaviors. In summer, I could study salamanders in the forests around me. I left Hartwick College and moved to the Huyck Preserve in 1986. I brought my fish lab with me and, of course, my salamanders were all around me in the woods.

Two years after arriving here, there was a freak snowstorm on the night of October 3<sup>rd</sup>, and when we got up on October 4<sup>th</sup> there was 18 inches of snow. The trees still had their leaves, hence there were many broken limbs. The landscape looked like an army battle had occurred; downed trees and limbs made driving almost impossible. We lost electricity for 7 days and my tropical fish that needed 80F water all died. These fish had been imported from Sri Lanka and because of the on going civil war there I was unable to import any more. Thus ended my fishy business.

It proved to be a blessing, of sorts, because I was able to devote myself completely to salamanders. Marilyn and I attended the first international meeting of herpetologists in Canterbury, England in 1989. There we heard from researchers around the world about how their study populations were disappearing. I came home in shock and tried to figure out what to do. The declining amphibian phenomena continues with many different causes depending on the species and the location. In 1991, I was asked to head the Northeast U.S. Working Group of the Declining Amphibian Population Task Force, a subgroup of the Species Survival Commission of the International Union for the Conservation of Nature. There was a meeting in Louisiana and I prepared a paper about amphibians in the Northeast US. I found that 60 percent of the amphibians in the Northeast US were listed by one or more states as rare, threatened or endangered. Not too surprising, given that the region is one of the most densely settled areas in the country.

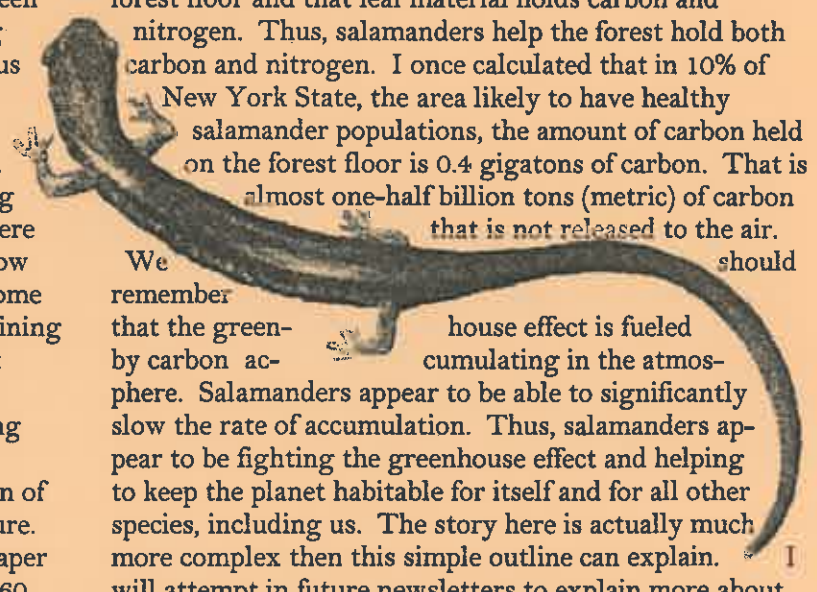
Upon my return to New York, I decided that many people were looking into the causes of amphibian decline

around the world (and still are by the way). But no one was looking at what the loss of these species might mean. I therefore began experiments with the red-backed salamander to determine what their absence might mean to forest ecology. I chose this species because it is the most abundant terrestrial vertebrate in the Northeast US. In the over 7500 meter square plots we have searched in over 30 study sites throughout the Northeast US over the last 30 years, we have found that there is, on average, about one-half a salamander per meter square. This means that there are at least 5000 salamanders per hectare (1 hectare = 2.4 acres, so about 2300 salamanders per acre). This is what makes the red-backed salamander the most abundant terrestrial vertebrate in the northeast. Their range extends from southern Canada to southern North Carolina, and west to Michigan. I have estimate that this area may contain over 100 billion red-backed salamanders.

Thus I used these salamanders to experiment with because I thought that if there were a species in which I was likely to see an effect, it would be this one. I began a series of experiments in 1992 that continue today, 14 years later. Very briefly, what I have found is that these salamanders eat enough leaf litter fragmenters (things that chew up dead leaves), that decomposition is slowed. This is because bacteria and fungi are the chief decomposers, and their ability to decompose is, in part, limited by the availability of leaf surface area. Leaf litter fragmenters increase leaf litter surface area. When salamanders eat leaf litter fragmenters, leaf surface area available for bacteria and fungi colonization is reduced and therefore, decomposition is reduced. This reduction in decomposition means more leaf material stays on the forest floor and that leaf material holds carbon and nitrogen. Thus, salamanders help the forest hold both carbon and nitrogen. I once calculated that in 10% of New York State, the area likely to have healthy salamander populations, the amount of carbon held on the forest floor is 0.4 gigatons of carbon. That is almost one-half billion tons (metric) of carbon that is not released to the air.

We should remember that the greenhouse effect is fueled by carbon accumulating in the atmosphere. Salamanders appear to be able to significantly slow the rate of accumulation. Thus, salamanders appear to be fighting the greenhouse effect and helping to keep the planet habitable for itself and for all other species, including us. The story here is actually much more complex than this simple outline can explain. I will attempt in future newsletters to explain more about how the wonderful example of biodiversity – the red-backed salamander – helps forests provide valuable ecosystem services for you and I.

Illustration: Red-backed salamander by Manabu Saito, COM. EN. ART 1996 (detail)





## Huyck Preserve to Host Second Biodiversity Workshop

Marilyn Wyman

In May of 2004 the E.N. Huyck Preserve will host a workshop focusing on the topic of biodiversity in the Hudson River Valley region. The Preserve hosted the first workshop in May of 2002, when over 50 participants learned about the incredible diversity of life that exists in this region. In fact, over 70% of the biodiversity in New York State is represented in the Hudson River Valley and surrounding areas. A range of agencies and organizations, including the Preserve, that are involved in biodiversity outreach education and research, facilitated this workshop. The organizing team is a collaborative effort among Cornell Cooperative Extension of Greene County, the Hudson River Estuary Program, Cornell University, and Hudsonia (which is affiliated with Bard College). Other participants include the Department of Environmental Conservation, the Hudson Mohawk RC&D Council and regional land conservancies. This year, there will be an update on various projects that resulted from the initial workshop. These projects were funded by mini-grants available to workshop participants only. They covered a wide range of topics, including youth curriculum on the topic of biodiversity, gardening that supports biodiversity, and a photography contest that captured the biodiversity in a community. There will also be a focus on the upland influence on the biodiversity in a watershed, (which is particularly relevant to the Huyck Preserve as it is a good example of this). In fact, the Preserve has been chosen to host this event in part due to the rich history of research, education and preservation it has in an ecologically rich, diverse area. Hudsonia will also be hosting an outdoor activity utilizing their Biodiversity Assessment Manual, which was developed specifically for communities to assess the biodiversity and use it as a tool for decision makers.

For further information on this workshop please contact Marilyn Wyman at 797-3440.

## Audrey Kropp Attends Geographic Information Systems (GIS) Training Workshop



*The Sevilleta NWR spans approximately 100,000 hectares (220,000 acres) and contains four different terrestrial biomes including Great Plains Grasslands, Great Basin Shrub-steppes, the Chihuahuan Desert and Montane Coniferous Forests. At the junction of the biomes there are ecologically unique biome transition zones (BTZ) which are currently under study at Sevilleta NWR to understand the effect of BTZ's on ecosystem structure and function. The Sevilleta consists of two mountain ranges within these biomes, the Los Pinos Mountains ("Mountains of the Pines") and the Sierra Ladrone ("Thieves Mountains") with the Rio Grande valley lying in between. At the time of my visit, the riparian wetlands surrounding the Rio Grande River were marked by the cottonwoods and Russian olives in brilliant fall color, visible from the research station at an elevation of 9000 feet.*



In November of 2003, I was fortunate to attend a Geographic Information Systems (GIS) training workshop on the Sevilleta National Wildlife Refuge (NWR) in New Mexico. The GIS training was held at the Sevilleta Biological Research Station, located about 50 miles south of Albuquerque, NM. The training was funded by the National Science Foundation and sponsored by the University of New Mexico in conjunction with the Sevilleta NWR. The training was offered to the Organization of Biological Field Station member's to help research stations utilize the most current technological advances in information management. The workshop consisted of a week of hands on

training in the latest GIS software, data management and the use of Global Positioning Systems (GPS). The ultimate goal of the workshop was to centralize research station information and make it accessible.



*Sevilleta Biological Research Station- Computer Laboratory*

For many, the first question is what is GIS? Geographic Information Systems are systems of hardware, software, data, people, organizations, and institutional arrangements for collecting, storing, analyzing and disseminating information about areas of the Earth. In other words, GIS is a twenty first-century approach to technology-based data management, analysis, interpretation and display of geographic information.

GIS has revolutionized science and research. It offers the ability to perform multiple functions within a single system of information. The advent of GPS has allowed users to easily define accurate coordinates of positions on the ground. The ability of GIS to then capture, store and relate both the geographic and tabular data, obtained using GPS, is an advantage. With its range of functionality, GIS has helped simplify some of the most challenging parts of

scientific research. Some basic functions of GIS serve to isolate relevant information, illustrate relationships and quantify results. Moreover, it has allowed researchers to quickly and precisely perform a variety of analyses on large and complex data sets. In turn, organization, analysis and interpretation of data are more easily accomplished using GIS. Finally, one of the most visible and innovative functions of GIS is the capability to create accurate and demonstrative maps, reports and graphs. The ability to visualize data in its geographic context can also aid in the identification of important trends and relationships. Using GIS technology, researchers can easily and concisely display findings and results to the public. The wide-ranging capabilities of GIS have made it one of the most useful tools in understanding and solving problems in the real world at any scale.

This GIS training not only provided the technical knowledge to use GIS, but also aided in assessments about how GIS might be implemented at individual research stations. Assessing the resources and information management needs of a research station is important to develop a suitable GIS program. The first consideration for the Huyck Preserve is that it is one of oldest biological research stations in the U.S. As such, the Preserve has accumulated and continues to produce large quantities of valuable and irreplaceable long-term ecological data. Research on processes such as primary production, decomposition and acidification has produced considerable amounts of complex data sets. Long term monitoring of small mammals, amphibians, invertebrates and forest inventories are further examples of data that could be utilized more efficiently with GIS.

At the Huyck Preserve management and dissemination of data resources has been an important goal, and should be at any biological research station. In this day and age of technology, GIS is at the forefront and would be integral at the Huyck Preserve to help achieve its' goals concerning information management. The only major barrier to implementing GIS at the Preserve is insufficient computer capabilities and the need for a GPS receiver. Nonetheless, with the proper hardware, equipment and training the possible applications for GIS at the Huyck Preserve are limitless.



*Sevilleta National Wildlife Refuge*

*November, 2003*

*Audrey Kropp graduated from the University of Albany in 2002, with a Bachelors of Arts in Biology with concentrations in Anthropology and Geography. Much of her interest in Science came from her experiences growing up in Rensselaerville and at the Huyck Preserve. After completing an internship at the Preserve, she was hired part-time as a research assistant. In May of 2003 she started working full-time at the laboratory as research manager. Audrey recently received certification in GIS at the training workshop offered by the National Science Foundation.*



## Bank of Greene County Boosts Wildlife Alive! in Local Schools

Deb Monteith

Wildlife Alive!, the Huyck Preserve in-school environmental education program, received a boost in 2003, courtesy of a grant from the Bank of Greene County. The bank provided sufficient funds for the program to be offered in six area schools, reaching out to approximately 500 students throughout the area.

Elementary students in Greenville, Westerlo (two schools), Coxsackie, Tannersville and Catskill participated in the program, which brings rehabilitated wildlife into the schools for a close-up educational experience. The grant allowed staff to present the program free of charge for participating schools, with a small portion of this money funding the housing, feeding and medical costs of the wildlife currently undergoing rehabilitation.

Wildlife Alive! is a unique program developed specifically for students and teachers by the Huyck Preserve education team. Using the expertise and resources of our own NYS licensed Wildlife Rehabilitator, Kelly Martin, this classroom-based program uses live birds of prey, songbirds and other varieties of birds to teach a wide range of concepts, while building on the existing classroom science program. Our education staff presents a wide range of environmental information to students, including a brief summary of our mission at the Preserve.

The program was well received by all participating schools and we look forward to revisiting these schools again in the future. A special thanks to the Bank of Greene County for helping to get this new initiative off the ground and running.

## Huyck Preserve in process to become a Natural Heritage Institution

Liz LoGiudice

The Huyck Preserve recently applied for a grant from the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) through the Zoos, Botanical Gardens and Aquariums Program (ZBGA). The ZBGA is a program of the Natural Heritage Trust, with funding appropriated through OPRHP.

The ZBGA Program supports non-profit organizations that house and care for living collections or systematically organized collections of objects of natural origin. For example, at the E.N. Huyck Preserve, our living collection is the forests, wetlands and wildlife in the 2,000-acre preserve. Our extensive collection of preserved specimens of insects, birds, mammals, plants and fossils are an example of an organized collection of objects of natural origin. In order to qualify for the ZBGA Program, the applicant must also interpret the collections for members of the general public. The ZBGA Program provides funding in support of staff members who provide maintenance of the collections and those who provide education about the living collections.

The ZBGA program is different from many grants in that it is not awarded on a competitive basis. The proposal is written and a site visit conducted by OPRHP staff in order to determine that the applicant fits the criteria for funding. If so, the applicant is regarded as a Natural Heritage Institution and the amount of the grant awarded is determined using a pre-determined formula to provide a percentage of the organization's budget request.

As a new member of the Huyck Preserve education staff, writing the ZBGA proposal was an excellent opportunity for me to learn details of the history of the Preserve, as well as the educational programs and biological research that occurs here. I was impressed with the depth and scope of the research projects undertaken at the Preserve. The many levels of educational programs at the Preserve also impressed me. From Kindergarten students experiencing the wonders of nature; to graduate students conducting field research; to senior citizens learning more about the Helderberg and Catskill region, the Huyck Preserve staff provides an impressive variety of educational opportunities to people of all ages and knowledge levels.

On November 17, staff members from the Office of Parks, Recreation and Historic Preservation made a site visit to the Huyck Preserve. Preserve staff members were on hand to provide a tour of the facilities and to discuss research and educational programs. After meeting at the Mill House and taking a walk to the falls, the visitors toured the Eldridge Lab and Bullfrog Camp, viewed the collections of preserved specimens and reviewed the curriculum for our educational programs.

We were very pleased to be informed by OPRHP staff that the Preserve does qualify for funding from the ZBGA program. The Huyck Preserve joins approximately eighty other Natural Heritage Institutions in New York State that receive financial support from the ZBGA program on an annual basis. We must re-apply for funding each year, but the application in subsequent years will be an abbreviated version of the initial proposal written this year. We are delighted to have been accepted into the program, but will not be notified of our level of funding until spring. Although we do not

anticipate that the funding level will be very high, we are pleased to be able to have access to an additional source of dependable annual funding and to join the ranks of organizations that are formally recognized as being caretakers of our natural heritage.

## 2004 Schedule of Activities and Events

### January

- January 10 Story Hour, 1:30 pm at the Rensselaerville Library  
January 12 Wildlife Alive! at the Helderberg Christian Academy  
January 28 Educational Advisory Committee Meeting, Eldridge Research Center  
January 30 Board of Directors Meeting, American Museum of Natural History, NYC

### February

- February 1 Groundhog Day Celebration, Eldridge Research Center, 1:00-4:00 pm  
February 14 Story Hour, 1:30 pm at the Rensselaerville Library

### March

- March 13 Story Hour, 1:30 pm at the Rensselaerville Library

### April

- April 10 Story Hour, 1:30 pm at the Rensselaerville Library

### May

- May 6 Minds On: Scientific Method (Middle School)  
May 8 Board of Directors Meeting  
May 10-12 Biodiversity Conference  
May 21-22 Northeast Natural History Conference: Bat Illustration, Structure in Nature & Nature Printing Workshops (all-day) at the Preserve, registration required  
May 25 Tools & Observation/Wildlife Alive! Fieldtrip, Berne, Knox Westerlo Elementary - 2nd Grade  
May 28-29 Photography Workshop with Thomas Teich, registration required (raindate May 30)

### June

- June 5 Bird Festival  
June 19 73rd Annual Membership Meeting, Eldridge Research Center  
Guest speaker: Ed Johnson, University of Calgary/ History of Field Stations

### July

- July 1 Nature Study: grades 3-5 begins (class meets every Thursday, July 1-29)  
July 6 Nature Study: grades K-2 begins (class meets every Tuesday, July 6-27)  
July 7 Swimming Lessons begin at Lake Myosotis / M,W,F  
July 7-August 6, 1:00-3:30 pm  
July 9-11 Plein Air Landscape Painting Workshop with Jim Coe, registration required  
July 17 Science Symposium, Eldridge Research Center. Guest Speaker: Art McKee  
July 26-30 Environmental Camp for middle school students, residential or day/registration required

### August

- August 8 Observations on Nature with Barry Kuhar and Membership BBQ  
Eldridge Research Center, 2:00 pm  
August 16-20 Environmental Camp for middle school students, residential or day/registration required

### September

- September 2 British Trust for Conservation Volunteers at the Preserve September 2-16  
September 4 Annual Benefit Dance, Conkling Hall, 7:30 pm  
September 25 Hudson River Ramble: Guided Hike of Rensselaerville Falls Trail, 2:00 pm

### October

- October 16-17 Plein Air Landscape Painting Workshop with Jim Coe, registration required

Wendy Hollender  
Creeping Bellflower (graphite details)  
COM. EN. ART 2003



## 2003 Environmental Camp

Deb Monteith

Our Middle School Environmental Education Camp grows in stature and popularity each year, with 2003 being no exception. It was a great week for the campers and leaders, with plenty of excitement and fun all week long.

Eight boys and four girls enjoyed the comfortable accommodations of Bullfrog Camp for the week, chaperoned by 1999 camp graduate, Justin Wexler, education staff Barbara Barrett and the ever-expanding, Deb Monteith. Justin proved to be a very knowledgeable and fun addition to the camp, teaching the campers many new games, facts about nature and outdoor skills. Having worked at a nature camp all summer, he was a fantastic asset to the camp and a big help to Deb.

The campers participated in a number of interesting workshops and activities throughout the week, beginning with an exploration of the Huyck Preserve and the aspects of research at a biological field station. Marilyn Wyman conducted the hiking tour, revealing aspects of the Preserve previously unexplored by the participants.

Continuing in the science realm, our newest educator, Liz LoGiudice, teamed with researcher Sean Madden to present an informative session on water quality and aquatic studies. Students collected samples and investigated different facets of water as part of their orientation to scientific research. In learning more about the scientific method, students designed and conducted a mini-experiment of their own under the guidance of our staff, gaining valuable first-hand knowledge and skills in the scientific world. Thanks to Audrey Kropp, our Lab Manager, for providing help with equipment, and research questions (especially the tough ones).

Our very own Preserve Director, "Dr. Rick" led the campers on an exciting night walk, exploring another aspect of the Preserve that is usually not seen. Although it was difficult to get the campers to be quiet enough, they did manage to see and hear some interesting things on the back side of Lincoln Pond including a flying squirrel.

In an opportunity to be less quiet, campers showed their creative skills (or not) in a workshop with singer/songwriter Dana Monteith. Dana led the whole group through a songwriting process with each team performing their masterpiece at the end of the session. While some of campers proved to be artists in the making, others should probably stick to research.

Once again, our on-staff wildlife rehabilitator, Kelly Martin, provided us with an interesting project throughout the week, feeding and caring for 3 kestrels. The birds had been in Kelly's care while undergoing rehabilitation and were slated for release. Thanks to construction efforts of staff member, Adam Caprio, a hack box was built from a refurbished rabbit hutch. Thanks also to Shirley Siegel who loaned us a corner of her property to use for the release. Campers walked to the site daily and fed the birds, observing behaviors of the birds both before and after the release. We set them free on Thursday morning and all delighted in their flights to freedom. A job well done, Kelly.

Barbara Bolster-Barrett put campers to the test on Friday, with an orienteering challenge, which took them all over the Preserve. Students had to follow a series of compass navigations and clues in nature, which led them from one station to another. It seems that the group's orientation skills were well honed, as no one got too lost.

Some of the other highlights of the week included a campfire night, complete with ghost stories, s'mores and flashlight games. Some great reading, writing and drawing opportunities were scattered throughout the week, as were many chances for games and swimming. The weather was very accommodating for all of our plans, including that delicious fried turkey BBQ, courtesy of the Kammerers (A yummy thank you).

We culminated our week with a great, festive BBQ at the Eldridge Lab on Friday, presenting science research papers to family and friends. It is agreed that we have a group of budding scientists, naturalists and Hollywood stars coming out of this group.

A big thank you to everyone who helped in some way with this effort - parents and families, chaperones and staff, Ally Wyman for supervising, and of course, the campers themselves. It is truly a team effort to bring this camp to fruition.

In preparation for Camp 2004, we have received so many inquiries for placements that we will be offering two camps during the summer. If you have children interested in attending the camp in 2004, please call the office and indicate which week would best suit your needs. Again, we will only have 12 places per week, so let us know as soon as possible and we will do our best to accommodate you.

2004 CAMP DATES:

CAMP 1: JULY 26-JULY 30

CAMP 2: AUGUST 16-AUGUST 20



Campers build a raft

## The Maintenance Files

Adam Caprio

Throughout the year, a variety of tasks must be done to ensure that the Preserve runs smoothly. The purpose of the maintenance position is to maintain the grounds and buildings of the Preserve, and make repairs as needed. There were a number of important projects that kept people busy throughout 2003.

**May:** Summer is, in many ways, the busiest time on the Preserve. During May, much time was devoted to preparing for the larger numbers of people that come to the Preserve throughout the season. This included grading the trails for safety and repairs, and preparing the many facilities of the Preserve for summer usage, including Bullfrog Camp, Lincoln Pond Cottage, and the beach at Lake Myosotis.

**June:** Much of June was devoted to final preparations for summer activities. The swimming area at Lake Myosotis was set up and inspected by the Board of Health by 6/10. By this time, regular maintenance of the lawns throughout the Preserve was necessary, and all of the equipment for this purpose had to be prepared for use throughout the season. In another vein, preparations began for the building of bird enclosures.

**July:** By July, summer activities were in full force on the Preserve. The lawns, trails, beach, and other facilities were all regularly maintained. In addition, a number of other projects were undertaken. The work at the bird enclosure site began. A sparrow hawk box was also built for the Middle School Environmental Education Camp in August. Work also began on the roof of the valve house, which posed quite a challenge because of its location - below the dam on the south side of Lake Myosotis.

**August:** August saw the continuation of many of the projects that were worked on during July. The building of the bird enclosure began, and the work on the valve house roof was continued. Again, all of the lawns, trails, the beach, and other facilities were regularly maintained.

**September:** By September, the activities that kept the Preserve buzzing throughout the summer had all wound down. On Labor Day, 9/3, the beach at Lake Myosotis closed for the season. Work continued on both the bird enclosure and the valve house roof. In addition to the regular maintenance of the grounds and trails, some focus was shifted to research assistance.

**October:** During October, Bullfrog Camp was shut down and winterized. The work on both the valve house roof and the bird enclosure was completed. The grounds and trails of the Preserve were maintained.

**November:** By November, the Lake entrance was closed and locked for the season. The horse stables at Bullfrog Camp were cleaned and organized. In addition to the regular maintenance of the trails and grounds, much needed major repairs were undertaken on the Ordway shed.

**December:** By December, winter had descended on the Preserve. The maintenance of the grounds was broadened to include snow removal. In addition, the remodeling work on the Visitor Center at the Mill House began, a records room and lab work space were in progress, and work began to correct problems with the sewage pump. The pump moves sewage from Lincoln Pond Cottage and the Lab to the transpiration system on Bullfrog Camp Road.

## Donald R. Griffin Passes On

Donald R. Griffin, whose study of bats at the Preserve helped stimulate the discoveries of radar technology, died November 7, 2003 at his home in Lexington, MA. He was 88.

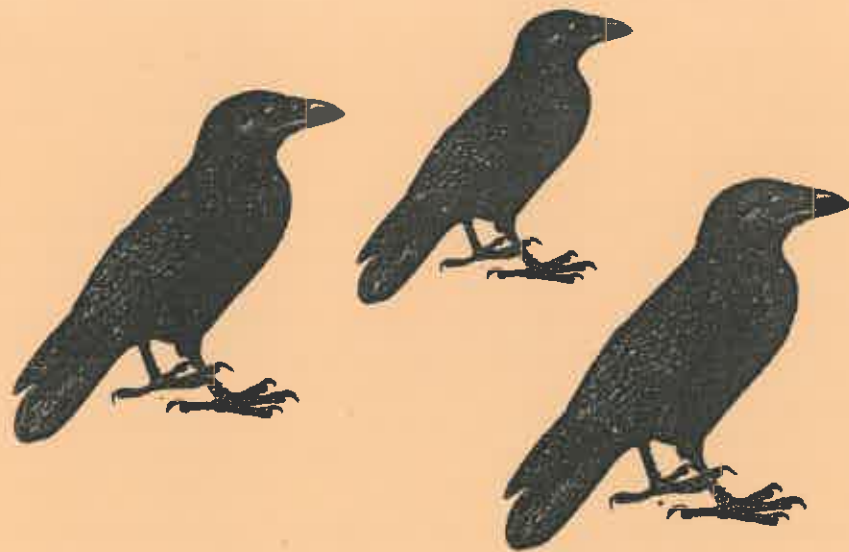
Dr. Griffin was one of the first three scientists to conduct studies at the Preserve's Biological Research Station during the summer of 1938. At the time, he was an undergraduate student at Harvard University interested in migration and homing in small mammals. Bats, due to their ample population and a desire to know how they navigated in dark caves and cross-country travels, became the focus of his study. He discovered that bats emit high-pitched clicking sounds then use the timing of the echo to determine distance, shape and direction of objects and prey. He called this process echolocation and the discovery was considered a major breakthrough in both zoology and the developing radar and sonar technologies.

Dr. Griffin was considered by many to be the creator of the field of cognitive ethology - the study of animal behavior under natural conditions - pioneering techniques to study animals in their natural habitats. He was credited with starting a revolution in the way we see animals by legitimizing the study of mental processes in animals and suggesting that they have the capacity to think and reason to some degree. During his career he wrote several books and received many distinctions including the prestigious Daniel Giraud Elliott Medal of the National Academy of Sciences in 1966.

In 2001, Dr. Griffin returned to the Preserve as guest speaker at our annual Science Symposium. He spoke about the work he conducted here and credited the Preserve with playing an important role in his early research. He spent one evening with Rick and Marilyn and after enjoying dinner, he illustrated his new "bat finder". A small device that receives back signals and amplifies them so we humans can hear them. We sat in our backyard at dusk as bats emerged from our attic. Frequently Donald would interrupt our conversation and say - "here's one now" and sure enough his "bat finder" would buzz out the bat sound. He told us that his first bat finder he used in the 1940's had to be carried around in a truck.

Like many of the people we have met on the Huyck Preserve since 1986, Donald Griffin illustrates one important role we provide - a place where future great scientists find a beginning.





## The Indomitable American Crow

Liz LoGiudice

I hurry through the brisk air of the fading day, past the hospital and into a nearby parking lot. Disregarding the crusty black snow at my feet, I look up at the crows, silently flying overhead. I cross the parking lot and approach a cluster of trees where the birds are converging. Their bodies decorate the naked branches like raucous leaves. During the cold-weather months, crows congregate in huge roosts at night. These colonies can range from hundreds to hundreds of thousands of birds.

When I reach the trees, the chatter of crows almost drowns out the sound of rush hour traffic. I am delighted by the din, but certain that many humans in this heavily populated area must be cursing the birds, annoyed by the noise and the droppings. In many places crows are labeled 'rats with wings', equated with death, considered pests. People seem to forget that crows are wild animals, a native species that has proven adaptable enough to thrive in the adverse conditions of the human city.

The trees are like islands of wildlife in a sea of pavement. The crows crowd together on branches, unperturbed by the deafening noise. But after dark, their behavior will change significantly. The group will silently sneak to their roost, where they will pass a quiet night, hidden from predators.

Crows place a high value on community life. They are fiercely loyal and are known to come to the aid of injured or embattled comrades. They are family birds. The young stay with their parents for at least a year, helping to protect each brood of nestlings until they themselves are ready to mate.

Many Native Americans revere this noble trickster. An Iroquois creation story credits the crow for bringing the first grain of corn to earth. The Iroquois recognized that crows ate seedlings, but also controlled agricultural pests. They provided crows with offerings of corn at harvest and peacefully co-existed with the bird.

But the European settlers arrived in America with an itchy trigger finger that sent many species to their demise. Not so the common crow. The tall tale my father told turns out to be true: crows forage in small groups and post sentry birds that are able to recognize a person with a gun and utter a specific danger call when one is spotted. In response, the group scatters and flees, eluding the would-be assassin.

It's not terribly surprising that crows can outwit humans. These birds can count, fashion and use tools and yes, even speak English. Mimicry is an art of the crow and in captivity these birds have learned to speak up to one hundred words and fifty complete sentences. But we humans are stubborn creatures and instead of admiring the crows' ingenuity, we persecuted them. When guns failed, we resorted to using explosives and poison to kill roosting crows. Some explosions wiped out forty thousand individuals in one fell swoop.

Today, we are more tolerant of crows, but still view the winter roost as a problem, rather than an opportunity to observe wildlife behavior. We seem oblivious to the fact that we invaded the crow's habitat, not the other way around. Perhaps someday, we will see things from the crow's perspective. Humans view West Nile Virus as a public health threat, but few of us consider its devastating effect on crows. I hope it does not take a decline in their population for us to finally appreciate our neighbor, the much-maligned, ever-magnificent American crow.

Back at the trees, I watch a particularly charming bird through my binoculars. The crow holds a twig in its beak and drops it, barely missing my head, then caws repeatedly, as if laughing. I walk away, recalling a quote by Henry Ward Beecher: "If man had wings and bore black feathers, few of them would be clever enough to be crows."

*Liz LoGiudice is an environmental educator who joined the Huyck Preserve staff during the summer of 2003. In addition to her position at the Huyck Preserve, Liz currently works at the Cohotate Preserve, in Athens, New York and has been on staff at Five Rivers Environmental Education Center in Delmar in the past. Liz has been a visitor to the Huyck Preserve for nearly twenty years and is delighted to be on staff. In this essay, Liz shares an experience of encountering a large flock of American crows near the College of Pharmacy in her hometown of Albany.*

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