



December 2008

Geographic Information Systems (GIS)

GIS in the College Classroom

Throughout November, the FLI's GIS Specialist Nathan Burtch led three Hobart and William Smith Colleges classes through GIS laboratory exercises. Nathan assisted Professor Meghan Brown's Field Biology (BIO 316) class in creating an exercise relating field work with aerial imagery of the Hanley Field Reserve, located near Cayuga Lake. The class learned how to create land cover maps with GIS using field collected data and aerial imagery in a process called supervised classification. For Conservation Biology (BIO 167), Nathan and Professor Susan Cushman created a lab to use GIS to find potential places to build under road tunnels in the Central Pine Barrens of Long Island to aid the migratory patterns of the Eastern Tiger Salamander. This GIS process, called a suitability analysis, allows the user to use their own knowledge and values to judge the applicability of each data set in finding optimal habitats. For Water (ENV 110), Nathan and Professor Darren Magee used GIS to model the potential affects of sea level rise in downstate New York. This process used digital elevation models to show which land would become inundated if the sea level rises.

Education Outreach

Geology and State Parks Focus of FLI Education Outreach Program

Cindy McVey – HWS Staff Writer

This past summer, the Finger Lakes Institute Education Outreach program worked with the New York State Parks system to offer teachers an opportunity to explore the wonderful geology of the state parks in the region and design lessons plans around them.

Teachers from several school districts were able to take part in the program. Funding from the Dorr Foundation and State Senator Michael Nozzolio, provides stipends for the teachers to participate. Each teacher is developing a lesson plan that involves bringing his or her classes to a state park. Additionally, each school district is receiving a \$500 grant for field trip expenses as part of the program.

As a result, teacher Randy French and students from the Geneseo Middle School visited Dishmill Creek in Letchworth State Park to identify and interpret the various natural phenomena.

"The Finger Lakes Institute program I participated in made it possible for about 60 students to explore a little used area of Letchworth State Park," explains French. "Without the funding, these students would not have been able to experience firsthand the fascinating geology that is in our backyards. The people at the Finger Lakes Institute were wonderfully helpful to organize such a program."

Laura Van Vleet, an eight-grade earth science teacher from DeWitt Middle School, is featured in an article in the Ithaca Journal for an innovative geology program she has implemented in her classroom the recent field trip the 8th grade classes took to Taughannock Falls State Park, as part of this program.

According to Van Vleet, she took the entire eighth-grade, 168 students, to Taughannock Falls State Park on October 3, for an Environmental Activities Day.



Students from DeWitt Middle School of Ithaca try their hand at catching fish during their field trip to Taughannock State Park.

Photo Credit: Laurie VanVleet

"Students were able to select sessions ahead of time and got to participate in three while there," she explained. The sessions included: Fishing for Beginners; GPS/Geocaching; Birding Quest; Macroinvertebrates; Fossil Hunt; Digital Photography; Geology Walk; Kayaking for Beginners; Beach Stone Tower Building Contest; Model Boat Races; and Buoyancy Activity, among others.

Forty adults including teachers, community volunteers, parents, and specialists from Cornell's Lab of Ornithology, Finger Lakes State Parks, and Hobart and William Smith's Finger Lakes Institute helped lead the activities.

"It was a great day, wonderful weather, gorgeous setting, and the kids loved it," she said.

Rayza Reports

Rayza Santiago is a student ambassador representing HWS, the FLI, and the HWS Center for Community Engagement and Service-Learning in their mission to promote and foster education, outreach and community engagement programs that connect the Finger Lakes environment with numerous stakeholders, educators, and students in the region. Her recent projects include...

Recycling 101: HWS Students Talk to Geneva Middle School Students about Recycling



Ryan Aruck and Alison Rodman present a slide show on recycling prepared with assistance from Darrin Magee, HWS Professor of Environmental Studies.

Senior Hobart and William Smith Colleges students Alison Rodman and Ryan Aruck didn't know what to expect when they entered Mr. MaCall's class last Friday morning at Geneva Middle School. Their goal: to teach 7th grade students about recycling. The result: a fulfilling experience with an engaging group of kids who were eager to learn about recycling.

As part of their Environmental Studies Senior Integrative Experience taught by Prof. Darrin Magee, Ryan and Alison worked with Rayza Santiago; Bonner Leader for the Environment at the Finger Lakes Institute, and Sheila Myers; FLI Education Outreach Coordinator, to develop a lesson on recycling that would garner interest in the FLI-hosted Cell Phones For Science recycling campaign. Rayza also placed several cell-phone recycling boxes throughout the North St. and Geneva Middle Schools for students to drop their used/old cell phones. Each cell phone, which is then recycled and/or refurbished, can raise up to \$12 for Finger Lakes scientific research.

During the lesson, Ryan and Alison asked students about their recycling habits and tested their knowledge of recycling. The students learned about objects that are recyclable and are those that are not by viewing objects that they would find in their schools and homes, like plastic bottles, cans, and clothing. Afterwards, students moved around the classroom in an activity about landfills. Each corner of the room had a sign with a different time interval, for example 50-100 years or 1-2 years, etc. When Ryan and Alison presented the students with an everyday item, the students were instructed to go to the corner of the room that they thought best represented the amount of time it would take for that item to decompose in a landfill. They were astonished to learn that some of the objects that they throw in the trash every day take over 500 years to decompose in the landfill!

Ryan, Alison, and Rayza are conducting more lessons on recycling at the Geneva Middle School throughout the semester. Because of the great success of the first visit, plans are in the works for FLI Education Outreach to expand this program to more schools in the Finger Lakes region. They would like to thank Carin Cunningham and Brenda Senack from the Geneva School district for their assistance. To view the Recycling 101 lesson plan visit the [My Place in the Finger Lakes](#) website. Members of the public can drop off (or mail in) their cell phones for recycling at the Finger Lakes Institute in Geneva, NY.



FLI's Bonner Leader Rayza Santiago picks up Geneva Middle School's box of cell phone to be recycled.

Community Outreach and Public Service

A Historical Record of Finger Lakes Research

Henry Parker Sartwell, Botanist, 1792-1867



After serving as surgeon for the US Army, [Henry Parker Sartwell](#) settled in Bethel, NY where he devoted himself to the study of botany. He later moved to Penn Yan, NY in 1830 where his collection grew to over 8,000 specimens over the following 40 years. Sartwell is acknowledged for his 1845 publication, *Catalogue of plants growing without cultivation in the vicinity of Seneca and Crooked Lakes, in western New York*. Hamilton College, to whom his collection was given at the time of his death, recognized Sartwell's work with an honorary Ph.D. in 1864. In 1983, the collection was donated to the New York Botanical Garden where 200 specimens are currently [catalogued](#) online as part of the William and Lynda Steere Herbarium. The sedge pictured here (left) is assumed to have been collected in Junius, NY by Sartwell himself.

Sartwell specialized in the genus *Carex*, sedges often found in marshes and wetlands. In recognition of his commitment to the study of *Carex*, the genus *Sartwellia* was named in his honor by botanist Asa Gray. The threadleaf glowwort (*Sartwellia flaveriae*), a native perennial herb found in Texas, is one of five species of *Sartwellia*.

Another *Carex*-lover, Dr. Chester Dewey of Rochester, leisurely studied botany and meteorology while being a professor until his retirement from the University of Rochester in 1860. Chester Dewey discovered several new species, such as *Carex Sartwellii* (Sartwell's Sedge), also named after Henry Parker Sartwell. Both Finger Lakes residents, Henry Sartwell and Chester Dewey, frequently contributed their discoveries and botanical descriptions of *Carex* to John Torrey for the first-of-its-kind publication, *Flora of the State of New York*, published in 1843.

Today, Sartwell's Sedge is a rare and protected NY native plant. The [New York State Department of Environmental Conservation Protected Native Plant List](#) (August 2000), includes Sartwell's Sedge as a threatened native species "likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges in the state". The NY Natural Heritage Program lists Sartwell's Sedge as a rare native plant in its [2008 Rare Plant Status List –Active Inventory List](#) with confirmed sightings in only two Finger Lakes region counties, Seneca and Monroe.

The Finger Lakes Institute's Exhibit, *Collection Fever and Scientific Adventurers*, highlights the historical record of Finger Lakes research. Often times it was by self-studied enthusiasts, like Henry Sartwell and Chester Dewey, that major contributions were made to our understanding of the botanical world. Members of the public are encouraged to visit the FLI's exhibit to learn more about the different scientific 'adventurers' of the Finger Lakes region.



Sartwell's Sedge
(*Carex Sartwellii* Dewey)

[Learn More](#)

Genus: *Carex* L.
Species: *Carex Sartwellii* Dewey
Source: Chester Dewey



Threadleaf Glowwort
(*Sartwellia flaveriae* A. Gray)

[Learn More](#)

Genus: *Sartwellia*
Species: *Sartwellia flaveriae* A. Gray
Source: Asa Gray

December Events

December 4, 6:00 pm; The Seneca Room (adjacent to 603 S. Main St., Geneva) **NEW LOCATION!**

Local Food - Growing in the Finger Lakes

Andy Fellenz, *Fellenz Family Farm*

The Fellenz Family Farm is a NOFA-NY certified organic fruit and vegetable farm in Phelps, NY. In this presentation Andy Fellenz, owner of Fellenz Family Farm, will discuss the importance of buying local food in order to support local farmers and to help the Finger Lakes environment. Fellenz is a supporter and major contributor to the Geneva, Canandaigua, and Pittsford CSAs. A CSA (Community Supported Agriculture) program is often characterized as a risk sharing partnership between the farmer and the members. Members purchase a share of the farm's production and over the growing season they receive a share of what was harvested that week. Fellenz will speak about his experience as a local farmer and how he works to provide organic and locally-grown produce to residents of the Finger Lakes Region. He will speak specifically to the growth of local foods in the Finger Lakes, seen primarily through the lens of one farm, while providing some historical and regional context. This event is free and open to the public.

Visit the FLI website at <http://fli.hws.edu/workshops.asp>

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