



EEAC

FALL/WINTER 2007

ENVIRONMENTAL EDUCATION ADVISORY COUNCIL NEWSLETTER

FROM MOUNTAINTOP TO TAP

by Marissa Morton and Sarah Place

This past summer, we were among six students from Sidney High School and six students from the New York Harbor School who made a remarkable journey from the Catskills to Central Park— the same journey that New York City’s water makes. The trip commemorated the 10th anniversary of an agreement between upstate communities and New York City. Under the historic agreement, upstate and downstate communities work together to protect the land and streams that supply almost nine million people with some of the cheapest, cleanest water of any large city in the world.

The six upstate youngsters accompanied the six Brooklyn youths from New York Harbor School on a 200 mile, three-week watershed trek. Along the way, we got blisters on our feet and photography lessons from a famous National Geographic photographer; we sang and danced with Molly and Jay Unger, were filmed for a documentary and interviewed by ABC and NBC news, and rubbed shoulders with politicians and scientists. We learned about the geology of the Catskills, the science of clean water and the purpose of maintaining a healthy, viable riparian buffer while getting soaked in rainstorms and baking in the heat.



The preparation for the trip took months. We signed liability waivers, got checked out by our doctors, arranged for insurance, prepared for the physical challenge, read about the history of the New York City water supply system, and bought or borrowed



supplies we needed --- backpacks, hiking boots, sleeping bags, rain gear, and food.

We reached Belleayre Ski Resort on July 7th. Before setting out, we met with several key people and learned the history and ecology of the watershed. A forest ranger taught us about hiking safety. We could proudly say that we knew what to do in a tent during a severe lightning storm and how to go to the bathroom in the woods. We also spent a few days working out the group dynamics of our city and country companions. Every decision had to be made by reaching a consensus. One experience that brought us together was a swimming hole we found in Delaware County, known as “The Blue Hole.” The water was crystal blue, 46° F and showed all of us how truly clean and pristine the Catskill water is.

Then we laced up our boots, put on our 60-pound packs, and headed out on the first leg of our journey, a four-day hike. We took along chemical test kits and leaf packs to see how clean the small streams of the headwaters were. The leaf packs were used to help identify some of the aquatic insects that might indicate stream health. The hike was physically and mentally challenging. We climbed over boulders, battled pouring rain down slippery cliffs and walked until we couldn’t take another step.

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UPCOMING EEAC EVENTS.....

Steering Committee Meetings

EEAC Steering Committee members meet on the third Wednesday of every month (except August). Upcoming EEAC Steering Committee meetings are November 7, December 19, and January 16. Steering Committee meetings are held at New York University, Pless Building, 32 Washington Square Park East and Washington Place in the 5th floor Conference Room. Steering Committee meetings are open to anyone interested in learning about environmental education in New York City and sharing information about special programs and projects.

Meetings are occasionally held at New York City sites associated with our members. Please be sure to contact an EEAC Steering Committee member or visit the EEAC website at www.eeac-nyc.org to confirm meeting location and schedule.

Newsletter Deadlines

The Newsletter deadlines are the first Monday in April, July, October and January. Send articles as Microsoft Word attachments to lmiller296@aol.com.

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The Environmental Education Advisory Council (EEAC) would like to acknowledge the support of the New York City Department of Environmental Protection (DEP) for helping to produce the EEAC newsletter. Visit the DEP Web site at www.nyc.gov/dep, email educationoffice@dep.nyc.gov or call (718) 595-3506 for information about DEP's education resources for students and teachers.

ENVIRONMENTAL EDUCATION ADVISORY COUNCIL

c/o Teresa Ippolito
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This newsletter is a publication of the Environmental Education Advisory Council (EEAC), a voluntary organization of educators, classroom teachers, administrators and other professionals in active support of quality environmental education.

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GET CONNECTED!

If you are a member of EEAC and want to be part of information sharing and on-line discussion on the EEAC listserv, contact:

Cfranken@schools.nyc.gov

MESSAGE FROM THE CHAIR

Our organization has recently drawn some outside attention. We have been working with Alexey Kudryavtsev, a doctoral student from Cornell University, who is studying EEAC. Jointly with his advisors, we will be presenting a poster at the NAAEE (North American Association of Environmental Educators) conference in November about our networking capability. Our network is valuable and unique in that we not only provide support to formal and non-formal educators regarding environmental education, but allow different agencies and organizations to share resources. This kind of exposure does EEAC and all we work for a lot of good.

In the past year there has been more talk about global warming than many of us have heard in our entire careers. This awareness is reason to rejoice. Another point of celebration is the bloom of green initiatives, specialized networks, and new environmental and sustainability organizations in New York City. Bloomberg's PlaNYC, One Million Trees, Focus the Nation, and the Museum of Water are just a few endeavors that come to mind.

EEAC historically has focused on what is happening in our schools, but I submit that in this time of green expansion, we can be most helpful to educators of all sorts by being well versed in the changes to the environmental, economic, and social landscape of our city. Simply put, it is essential that these initiatives come with an educational component.

Let us reach out to new players in this scheme such as the Nature Network and the Science Barge/Sunworks and less obvious environmental education partners such as the Intrepid Sea, Air & Space Museum, and community activists and city planning groups such as the Newtown Creek Alliance, Transportation Alternatives, and Green Home NYC. We should be asking ourselves how the broad experience of the EEAC membership can assist their missions and include them in our network.

Jill Weiss

LETTER TO THE EDITOR: The Price of Environmental Success

As an environmental educator, I've always looked at the banning of DDT as an environmental milestone in helping to save the bald eagle and many other species, and bestowing many other benefits on our planet. But recent events in my own life show me how even a "success" can have unforeseen consequences.

The event I speak of is my now very personal acquaintance with *Cimex lectularius*, also known as the bed bug. A constant companion of many Americans before World War II, DDT quickly made *C. lectularius* a thing of the past. However, these adaptable and pernicious pests are making a fast and furious comeback across the nation. With the last DDT working itself out of our ecosystems, coupled with the greater mobility of people around the world, our little friends are settling back in. Which brings me to my story.

For nearly a year now, my wife and I have been battling these critters, and at a high cost, especially for me. After some \$1500 in medical, exterminating, and other expenses, including loss of furniture, and a case of Shingles, caused by the stress of the situation, and some 40-50 bites, things are finally quiet, at least for now. In the process, I've become quite an expert on this species, which may help me on "Jeopardy" some day, but these days is a help to my neighbors who are also besieged.

There is often shame and embarrassment surrounding *C. lectularius*, as people think they did something wrong in getting infected, which usually is not the case. There's also a lot of ignorance of the problem, even among exterminators, not to mention two generations who have never seen them. But this is changing quickly, and a "cottage industry" of exterminators specializing in this species has emerged almost overnight. Clearly, we'll all have to learn to live a little differently.

My point is that I'm starting to wonder which is personally more important to me, majestic eagles on the Hudson or my wife's and my health and peace of mind. If there were no other option, would I vote to bring back DDT? I really don't know. There are always two or more sides to every environmental issue. We shouldn't always be so quick to pat ourselves on the back until all of the consequences are seen and felt.

Maybe this is a debate teachers could have with their students, as this is also a fast growing problem in our schools. What would they do if they and their families were faced this unnerving situation? Or maybe they already are.

An EEAC Member

E.E. IN THE NEWS

John Lancos

Two important current environmental initiatives deserve mention, as they can create great ecological benefits for the tri-state area.

There are currently 5.2 million trees of 125 species that cover some 24 percent of the Big Apple's landmass. Join the New York Restoration Project, Mayor Bloomberg, Bette Midler, and others in a project to plant one million more trees over the next ten years. Find out more about the *One Million Trees* project at www.nyrp.org, and click on "Plant a Tree."

Focus the Nation is a huge initiative on global warming. By coordinating teams at over a thousand colleges, universities, and K-12 schools across the nation, the initiative aims to engage educators and students in a nationwide, interdisciplinary discussion of the topic. The drive also works to engage Americans in their places of worship, and in businesses and civic organizations. This will culminate on January 31, 2008 in simultaneous national symposia on global warming. Political leaders will be invited to these non-partisan, round-table discussions on Global Warming Solutions. Visit www.focusthenation.org for more information on how to join the effort.

Finally, take a few minutes to find out how sustainable your current lifestyle is. Play *Consumer Consequences*, an online game from American Public Media. The game measures how many earths it would take to sustain your lifestyle if everyone lived like you. Start the game at <http://sustainability.publicradio.org/consumerconsequences/>.

I scored a dismal 6.3 earths!

MAKE EARTH DAY EVERYDAY

By Michelle Fufaro

Fall is here and the holidays are right around the corner. Each of us needs to begin to take action to reduce our ecological footprint when celebrating. Below are some ways we can have more sustainable holidays.

- Compost all food waste that is not going to be eaten as leftovers. Kitchen composting is easy and ideal for apartments. For information on how to set up a composter at home, go to www.composters.com.
- If you're the cook this year, make sure to buy local and organic food. Most NYC neighborhoods have a Green Market close by. To find them go to www.cenyc.org.
- Think up fun and creative ways to wrap gifts. Reuse old newspapers, maps, or paper bags and decorate them with stamps and ribbons. Or give gifts that don't require wrapping such as gift cards or larger items that might get a simple festive reusable bow.
- Send holiday e-cards instead of cards made from paper. There are several websites such as www.e-cards.com and www.egreetings.com that will give you a variety of cards to choose from.
- If you are buying most gifts online and having them shipped, bring all recyclable packing material to a local mailing center. You can find one near you by calling The Plastic Loosefill Council's Peanut Hotline at 1.800.828.2214.
- Bring your own bags when shopping. With all the purchases you'll probably end up making, this is one way to keep those wasteful plastic bags to a minimum.

STUDENT HIGHLIGHT *Angel Garcia Arcentales: Future Marine Biologist*

Angel is a bubbly 14-year-old sophomore at The Green School, a relatively new high school in its second year located in East Williamsburg, Brooklyn. She's also a budding marine biologist and environmentalist.

This summer, Angel spent one week at the University of North Carolina Wilmington's (UNCW) MarineQuest program. MarineQuest is a marine and environmental education program that targets K-12 students and teachers in North Carolina. The program combines both classroom and field study experiences for students. Angel attended their summer camp in a program called Ocean Lab which is specifically for 13-14 year olds. Angel said that during camp, she and the other Ocean Lab campers boarded a trolling boat and caught various marine creatures including shark, squid, jellyfish, killifish, seaweed, and sea urchins. The campers were able to handle and examine the critters up close and then safely returned them to the water. During this boat trip, the campers also took sediment samples and performed a variety of water tests. They also discussed current issues around trolling boats, dredging, over-fishing and pollution.

Later in the week, Angel and her fellow campers got a behind-the-scenes tour of the Center for Marine Sciences, an aquarium which is part of UNCW. She was thrilled to be able to view one of the Center's largest tanks from the top—an area that is not open to the public. It was a thrilling experience for her to be able to observe and assist the Center's marine biologists at work.

Angel chose to attend The Green School because she knew it was the type of learning environment that would help her achieve her goal of becoming a marine biologist. The Green School's themes are sustainability and environmental careers and she knows that this school will help her get into the right college. She is also extremely concerned about the future of our environment. Angel hopes to make a difference in the fate of our world as a marine biologist.

AN ENVIRONMENTAL TRANSITION: CHANGE IS GOOD

Normally, I share cool environmental resources in this section. This issue, as EEAC Secretary, I need to speak on a new initiative we are pushing forward.

Over the years, EEAC has offered a newsletter to members, sharing great resources and information on environmental topics. We strive to make the newsletter better with every issue. Now, it is time to make the newsletter more environmentally friendly by moving to an electronic format. This will be a slow process and does not mean that you cannot receive a paper copy, if you wish.

If you would like to receive the newsletter electronically, please email me at baukerit@gw.dec.state.ny.us or call me at 718-482-6404. (Also email or call me with questions or concerns about this transition.)

This issue and the Spring issue will be printed and mailed, but I would like to see the transition to the electronic newsletter for the Summer 2008 issue. This electronic newsletter will be in PDF format and emailed to you to read or print out. This will also give us the ability to post one or two articles on the EEAC website to “tease” new members.

In all of this talk of reducing carbon footprints, conserving resources, and making the environment a constant part of our day-to-day decisions, EEAC should be leading by example. This switch to an electronic newsletter is just a small, first step. Also, it will save us postage that we can use to promote special events or put toward a panel in the late winter on PlaNYC or alternative forms of transportation.

THE SCIENCE BARGE, AN URBAN FARMING EXPERIENCE

Jennifer Nelkin



Come, see and taste tomatoes growing right on the Hudson River! And there is plenty more to eat than just tomatoes. The Science Barge grows cucumbers, squash, bell peppers, lettuce, dark leafy greens, herbs and more right in New York City. Did you know the average food item travels 1500 miles to get to your plate, consuming fossil fuels all along the way? Try urban farming, and learn how at the Science Barge where food is grown with no net carbon emissions and no pesticides.

The Science Barge is a sustainable urban farm powered by solar, wind and biofuels and irrigated by rainwater captured from the greenhouse roof and desalinated river water. Built by New York Sun Works, the Science Barge focuses on ecologically responsible methods for the production of food, water and power

in urban areas. The barge also features an outdoor classroom, Earthbox demonstration garden, constructed wetlands system and oyster garden.

Educational opportunities include group visits for schools and camps, public tours, sustainability workshops, professional developments and special events. Public tours are offered Tuesday through Friday at 4pm and Saturday and Sunday at 12, 1, 3 and 4. Our group visits include a tour of the food, water and power stations followed by hands-on activities including planting seedlings, water quality monitoring and pedaling on the energy bike! Our education programs are offered to grades 3 through 12.

The Science Barge operates seasonally between May and October, moving to different waterfront parks around the city every 2 months. The Science Barge is currently finishing up its first season at its last location for the season at Pier 84 in Hudson River Park, and will be open until October 31. To find the Science Barge at a pier near you next season be sure to check the website for up-to-date location details.

The Science Barge calendar fills quickly, so be sure to reserve your dates now.

We hope to see you onboard!

For more information, visit www.sciencebarge.org



TROUT MARKINGS

designed for the New York Trout in the Classroom Program
by *Rochelle Gandour*, NY TIC Coordinator
conceived by *Germaine Shick*, Trout Unlimited
pilot lesson reviewed by *Cate Collier*,
Edward J. Arthur Elementary School

Objective: To teach students that trout coloration and markings are indicative of specific habitats and therefore a form of camouflage that varies between species.

Materials: images of various trout species, cups, paintbrushes, water, watercolor palettes, and copies of the trout outline from www.troutintheclassroom.org (featured lesson plan)

Background: Brook trout are important native residents of the cold Catskill streams that feed our city's drinking water reservoirs. Trout are an indicator species, which means that they are pollution-sensitive; their presence indicates that water is very clean. Like the forests they live in, brook trout are largely dark-colored—olive-green and blue—with a flush of orange that arrives every fall during the spawning season. Trout species all over the world similarly match their native habitats. For example, sea-run trout are mostly silver and trout in the arid west feature golden hues.

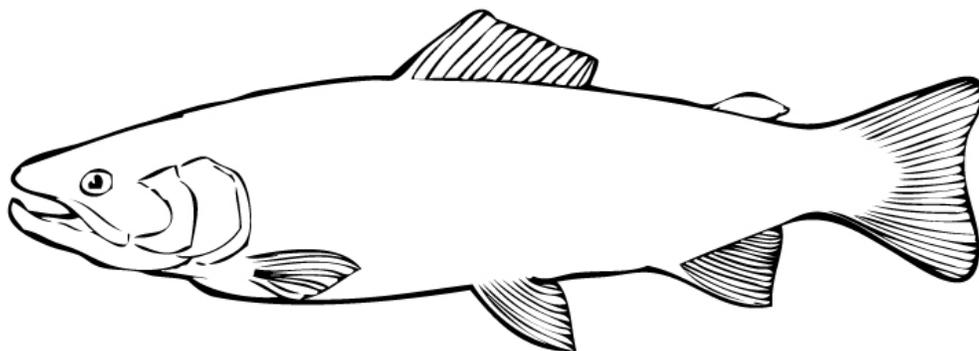
Trout have many characteristic markings and external features. Every trout has eight fins, the smallest of which—the adipose fin between the dorsal fin and tail fin—is unique to salmonids (trout, salmon, and char). Many times these eight fins, along with the hard, protective gill cover, are colored in contrast to the fish's body. Most trout also have small spots that are more dense on the dorsal side of the fish than on its ventral side. In addition to these small spots, some trout have dark parr marks—large oval spots that remain from the time when, as a parr (fingerling fish), the trout uses them for camouflage. Finally, most trout have a colored lateral line that extends from the center of the gill cover to the tail.



Procedure:

1. In small groups or as a whole class, have students look at artistic images and photographs of different species and sub-species of trout. (Older students can do this research themselves.) As they look, tell students to observe and identify the colorings of the trout body, the eight fins, the gill cover, any spots, the parr marks, and the lateral line.
2. Explain to students that trout often match their habitats in coloration and ask why this might be a good idea (protection from predators, more successful predation).
3. Give each student watercolor supplies and a trout outline. Some students may like to have crayons to make small spots that resist the paint.
4. Ask students to paint their trout, keeping in mind or referring to the images they just saw. Their trout can be unique, but it must still have trout-like features.
5. Students who finish quickly can add habitat with paint or crayon.

Ask students to share their trout paintings, explaining to the class which distinct features they gave their trout. Students might also describe the kind of habitat in which their trout lives.





Continued from page 1

We learned how to find water in a tiny puddle and filter it to drink and that nettle plants hurt worse than spider bites. As we hiked three mountains—Slide, Cornell, and Wittenberg—we got to see firsthand where the headwaters start and we touched the droplets that would some day make it to a drinking glass in New York City.

After a few days of rest and regrouping with some hiking, learning, and some fun tubing down the Esopus Creek, we made our way to the Hudson River Maritime Museum in Kingston, New York, and began the second leg of our trip, rowing down the Hudson River.

There was a huge storm that night, so we woke up wet and grouchy. There were two 26-foot wooden rowboats waiting for us, a sailboat called the Green Lantern, and an authentic wooden tugboat named the W. O. Decker. Five students and a leader occupied each rowboat at a time. Each day we covered about 15 miles. Some days we rowed with the tide; other days we rowed against it. We docked in various towns. With each new location people asked us questions and encouraged us to keep going. We traveled in all types of weather, but it never discouraged us from seeing how beautiful the Hudson River Valley really is. Many of us had a chance to learn to sail from a real skipper who even spoke with an English accent. We charted our course, operated the tugboat, rowed together as a team, did some chemical tests and became immersed in maritime studies

of the Hudson River. One day we rowed too close to the Indian Point nuclear power plant and the armed guards came zipping over to us. We shared a dock with a replica of Henry Hudson's Half Moon and got a first-rate tour by the crew.

We docked for the last time in Croton Point Park, on the east side of the Hudson. The final part of our adventure was walking to Manhattan, about 60 miles south along the entire length of the Old Croton Aqueduct. As we moved closer to the city, we saw great changes in the landscape. Relationships between students grew, we saw fewer and fewer trees, and the buildings got taller. We noticed that when we were upstate, the people seemed to appreciate the water and were very curious and understanding about what we were doing, but as we approached the city, fewer people seemed genuinely interested. A person on the street even commented, "I wouldn't drink that water, I have my iced tea instead." As the mountains turned to grass and the grass to concrete, we all realized that what we were walking for is a great cause and we all hoped that people would realize just how precious the water they are receiving from the Catskills really is.

The trek was partly a physical challenge, but it was more about just how connected upstate New York and New York City are by water. Our hiking group, six of us from upstate and six from downstate, grew together in the course of the trip in the same way that different regions of New York State have worked together to solve problems. Through the trip we all became experts on water and the watershed and will try to spread the need for protecting and conserving this vital resource.

None of this would have been possible without the support of so many sponsors: The Stroud Water Research Center, the New York Harbor School, the Catskill Center for Conservation and Development, NYC Department of Environmental Protection, the Upper Susquehanna Watershed Project, the Catskill Mountain Keeper, the Riverkeeper, Sidney High School, and many others, including our parents. We especially give thanks to our leaders, Wes Gillingham, Sara Scott, Todd Paternoster and Tizoc Gomez who made it happen for us and gave so much of their time and energy. Please visit www.stroudcenter.org/nytrek2007/ to find maps, many exciting pictures, and journal entries from the 21-day trek.

Journalism students at Sidney High School, participated in the Watershed Trek this summer.





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Jay Holmes, Treasurer, EEAC, American Museum of Natural History, 79th Street and Central Park West, New York, N.Y. 10024

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Thank you!

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Please provide me with information about the following committees:

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