

GREEN HORIZONS

NYC youth explore environmental careers



By Nancy Wolf
Photos by Rebecca Bullene

“Tree-climbing, lifting heavy weights with ropes and pulleys, examining water samples—what’s not to like?” wrote one Manhattan middle school attendee of Green Horizons, New York City’s environmental career conference. A popular annual fall event which celebrated its 15th anniversary last October, Green Horizons has attracted thousands of middle school students from more than 100 public, private and parochial schools, introducing them to a myriad of careers.

Brooklyn Botanic Garden, recently celebrating its 100th anniversary, provided the beautiful backdrop for 2010’s successful conference where students learned by doing with the experts. One public school guidance counselor, who has brought students each year, has often said, “It’s perfect, don’t change it!”

A Green Horizons day in October begins early in the morning with students arriving for a plenary session that includes a popular keynote speaker who gets the



With a variety of stations presenting hands-on activities—like exploring the world of solar energy (above)—Green Horizons allows middle-school students to explore various careers in the environmental field.

crowd charged up. Throughout the years, participants have been inspired and entertained by a number of successful speakers, including Luz Parris Sweetland of the USDA Forest Service who recounted stories of growing up in NYC as a Latina who had decided on an unusual career, and Dr. Eloy Rodriguez of Cornell University who engaged students and adults alike with stories of his research project in Amazonian rainforests. Participants have also enjoyed speakers from a variety of public agencies, with one city forester bringing his pay stubs to prove to skeptical students that one can make a good living, even while saving the earth. In 2010, Dr. Susan Pel of the Brooklyn Garden amazed (and sometimes revolted) the students with her close-up pictures of the plants and “bugs” that are the core of her research.

The heart of Green Horizons, however, is the opportunity for students to participate in the many stations, each emphasizing the real, “hands-on” work of various careers. Students get to choose from a variety of interesting and exciting activities (see sidebar), including planting trees, catching insects, growing baby plants, learning to compost, building bee hives, and using a rope and harness to climb and prune trees. This hands-on approach gets the students involved and is what makes Green Horizons popular. In turn, it is the students’ excitement that entices a growing number of volunteer leaders and educators to become involved with Green Horizons. Professionals from many environmental and natural resources careers work with experienced environmental educators to lead the stations. New York City is fortunate to have a wealth of practitioners from governmental agencies, non-profit organizations and private companies that have been willing and eager to share their expertise and enthusiasm with the participants.

The Green Horizons program targets middle school students from 6th to 8th



The opportunities for exploring environmental careers are endless at Green Horizons: from catching and examining insects in the woods, to learning to put on a harness and practicing tree-climbing techniques from ground level.

grade. The aim is to expose them to the environmental field before they enter high school and other advanced studies so that they can properly choose the courses they would need to pursue a career in this field. Those who become interested in the environment through Green Horizons are better prepared to make wise decisions in the future regarding the use of our natural resources.

Green Horizons has been extremely fortunate to have several long-time financial sponsors. Magnolia Tree Earth Center of Bedford-Stuyvesant, an environmental organization; Con Edison, New York City’s electric utility; and the F. A. Bartlett Tree Expert Company have been involved since the beginning, providing support that has ranged from donating materials and money, to contributing volunteers to teach at some of the stations. All hope that some of today’s participants will become future

employees in large cities where they are much needed. The U.S. Department of Agriculture’s Forest Service and DEC have also provided support for Green Horizons. The Forest Service provided a grant to produce the Green Horizons



Activities like making bee habitats are a good way for students to learn about the lives of insects, and the environment.

newsletter. Printed in English, Spanish, Chinese and Russian, the newsletter reached a wide diversity of homes. DEC has provided scholarships for youth to attend a week at Camp DeBruce (located near Livingston Manor in Sullivan County) during the summer. One recipient spoke about how much he liked the camp, though was exhausted at the end of the day because of all the strenuous activities, while another recipient described how much he enjoyed the hunter safety course.

To make it easier for all NYC schools to participate, Green Horizons switches its venue each year, making sure to visit every borough on a rotating basis. With its easy accessibility and wide variety of experiences, Brooklyn Botanic Garden has been a favorite venue, hosting the first, 10th and 15th conferences. Regardless of the location, however, each year the program attracts students from all five boroughs, and each site allows organizers to showcase special stations that reflect the site's unique characteristics. For example, at Staten Island Botanical Garden there is a station where participants can examine brackish water. At Van Cortlandt Park in the Bronx, a station has been held in the herb garden of an historic house. In Queens, students can view "green" architecture at the Botanical Garden's LEED Gold-certified administration building. And in Central Park, educators from the nearby American Museum of Natural History lead "Exploring Deep Time: Geology and the History of Planet Earth," which features ancient rocks of Manhattan.

The success of Green Horizons is measured by the excitement and the smiles of its participants. Whether it's the student who just finished planting trees and is anxious to go back and work in the community garden, the participant who put on a harness to examine a huge



Through composting, students learn how to reduce our impact on the environment.



Switching its venue each year allows Green Horizons to offer hands-on learning opportunities to students throughout New York City. The Brooklyn Botanic Garden is easily accessible and has been a popular locale for students and educators.

tree, or a youth fascinated by the discovery of the wonderful diversity of insect life that surrounds us all, each attendee takes away a new appreciation for, and understanding of, the natural world around us.

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Green Horizons introduces NYC youth to a variety of topics that can lead to a career in the environmental sciences. Hands-on activities are the cornerstone of the program, and are what keep students coming back year after year. During the 2010 Green Horizons conference, students were able to:

- Explore the secrets of healthy forest soil by collecting samples of soil layers, and conduct tests to identify what was in the samples and if they had the right ingredients for good forest growth.
- Catch different insects in the woods and learn how insects and plants depend on each other.
- Grow baby plants by tending seeds and cuttings, and practice layering, grafting and rooting. Participants even got to take home their samples.
- Perform tree CSI using the latest instruments to discover how and why trees die.
- Use the laws of physics to lift immense weights. Students used ropes, pulleys and levers to lift heavy tree trunks and limbs, some weighing as much as 200 pounds.
- Climb and prune trees. Leaders demonstrated techniques for climbing, swinging, jumping and walking on limbs, before allowing students to practice rope-climbing techniques from the ground level.
- Create a new forest by planting understory trees at the site. Students learned the importance of creating and preserving urban forests and providing wildlife food and refuge.
- Create a “mini-world” in a terrarium to take home.
- Use a cloud meter, rain gauge and weather balloon to make weather forecasts.
- Learn about composting by adding the right amount of “browns,” “greens” and water to make a new compost pile, as well as observing compost worms in action.
- Examine charts and maps, and design a portion of the new Fresh Kills Park being created from the closed Staten Island landfill.
- Build bee hives to study how garden plants depend on them for successful growth.
- Investigate the air we breathe by using scientific instruments to record and analyze air quality measurements, and learn how to recognize the effects of poor air quality in their own neighborhoods.
- Collect water samples at the Garden’s Japanese Pond and test for pH, iron, nitrogen, temperature and turbidity.
- Learn to identify the invasive Asian longhorned beetle and watch climbers go high into the tree canopy to inspect for damage.
- Explore the emerging solar energy field, learn about solar panels and build solar-powered cars.
- Prepare an herb garden for winter by removing and composting vegetable plants, and preparing the beds for planting cover crops.

Plans are already underway for 2011’s event, scheduled to take place in October in the Bronx. To learn more about Green Horizons, visit: www.treesny.org