Rumbo
May 8, 2005

Lawrence

Honran estudiantes de LHS

Yashira Robles, Estephany Berroa, Zachary Francisco y la maestra Rebecca Veilleux pertenecientes al Biodiversity Club fueron honradas el pasado 3 de mayo durante la reunión del cabildo de la ciudad.

LHS students honored

Yashira Robles, Estephany Berroa, Zachary Francisco and teacher Rebecca Veilleux were honored on May 3rd, during the City Council meeting. *(Page 10)*

Lawrence High School Biodiversity Club

During the summer of 2004, Groundwork Lawrence, a community outreach program, and an ecologist from the Urban Ecology Institute at Boston College, collaborated with Lawrence High School students and their biology teacher. The collaboration was an ongoing attempt to study the biodiversity in our community along the Spicket River. The studies on the biodiversity were carried out to preserve and improve the ecological conditions in our city.

The students employed the protocol developed by the Urban Ecology Institute (UEI) at Boston College (Urban Ecology Institute 2002; Water Quality Field Study Procedures Manual 2002). Ecological Rapid Assessments were conducted at various sites along the Spicket River in Lawrence, starting at Steven's Pond and ending on Island Street, were it connects to the Merrimac River. During each site assessment, 30 foot transects were used to collect data. Each transect was walked by all team members at the same time, for a minimum of 60 minutes. Plant and bird species were identified and counted at each transect. All data was recorded simultaneously.

Plans to extend the project during the current school and this summer year are underway. The Biodiversity Club has several goals for the summer. First, we will continue to record data using ERAs for birds, plants, and soil samples twice a week at 0600 (specific days are determined according to weather forecasts). Along with recording quantitative data, we plan on enhancing our qualitative data by purchasing digital binoculars to take pictures of birds up close, and plant presses, so a "nature library" can be created.

Biodiversity Club Students Yashira Robles, Estephany Berroa, Zachary Francisco and teacher Rebecca Veilleux were honored on May 3rd, during the City Council meeting. City Council President Patrick J. Blanchette reeds the proclamation honoring them.

to learn and apply a variety of skills critical to understanding ecological concepts in Biology within a real-life situation. Among these are:

- Learning to pose questions and state hypotheses based on prior scientific observations, experiments, and knowledge.
- Working with a student team to design and complete a scientific experiment that extends over several days or weeks.
- Using mathematics to analyze and support findings and to model conclusions.
- Communicating and defending a scientific argument.

Impact of the Project

Students have analyzed and interpreted the data collected so far. The data collected and findings from this project were disseminated to the community in an effort to raise public awareness of environmental issues which affect the City. The students

Project Goals

The following goals were established for the duration of the project:

(1) To gain knowledge of the biodiversity in the community,

(2) To understand the importance of watersheds,

(3) To observe how humans impact the health of our environment,

(4) To collect and record significant scientific data which can be shared with students at Lawrence High School and the community.

In January 2005, the participating Lawrence High School students were invited to attend the *First Earth Summit for Kids on Biodiversity*. HabitatNet was very impressed with both the level of the students' commitment to improving the biodiversity in our community and the extent of scientific data which the students collected. After the tremendous effort and amount of work carried out by our students, the opportunity to present their findings at this prestigious conference was an invaluable experience.

Zachary Francisco, Yashira Robles, and Estephany Berroa were the selected students in this worthwhile endeavor which served to validate their initiative, effort and commitment to an important cause. Here, they collaborated with other students from around the globe to write a symposium of what Biodiversity means, and to perform a field study in Mexico. This event was an eye-opening event to these students and I watched them grow as environmentalists throughout the week. They are now at a point where they are ready to lead the city's youth in a new and improved study of biodiversity in their community.

birds, plants, and soil samples twice a week at 0600 (specific days are determined according to weather forecasts). Along with recording quantitative data, we plan on enhancing our qualitative data by purchasing digital binoculars to take pictures of birds up close, and plant presses, so a "nature library" can be created. Second, we will collect and identify macroinvertebrates in the spring using the kick sampling method in wadeable waters. Third, the students are interested in an effluent pipe that extends from the Lawrence General Hospital which contains some peculiar substance entering into the river.

The students are going to test the water in four places: (1) downstream from the pipe, (2) in the pipe, (3) water flowing near the pipe, and (4) upstream from the pipe. Water quality data will be collected each time we visit the sites, at least once a week. These students are concerned about what substances are in this pipe, especially since it seems to be coming from the hospital. We are also opening up the conversation of contacting the Environmental Protection Agency (EPA) with Groundwork Lawrence and other community members.

Lastly, we plan to collaborate with another environmental team in the City called the Green Team (a youth group organized by Groundwork Lawrence). The members of the LHS Biodiversity Club and the Green Team have already collaborated and have organized an Earth Day activity where green space along the River will be cleaned by community members. Also, this summer they plan on working together (along with Special Education students from LHS) to put up bird houses to enhance habitats along the River.

Students who participated in the first phase of the project during 2004 will continue working along with newly recruited students. The continued scientific observations and data collection will yield invaluable information on the ongoing effects of urbanization on local natural resources. All students participating in the project will continue to have the opportunity

Impact of the Project

Students have analyzed and interpreted the data collected so far. The data collected and findings from this project were disseminated to the community in an effort to raise public awareness of environmental issues which affect the City. The students have presented their findings to all students at Lawrence High School, community members of Groundwork Lawrence, and the School Committee. The Eagle-Tribune (local newspaper) has published an article about the students, as well as a parent outreach program on community television. The projects planned for this summer will be completed by July 2006.

Findings from these projects will be presented again, to the community. A published report will be submitted to the Mayor's office, and students will also present their findings in a public forum at the City Council meeting. Through these efforts students will learn that they can play an active role towards improving our public recreational facilities, such as, parks, trails, riverside boating docks and preserving natural habitats. Students involved in this project have also been actively involved in efforts to clean the trash which is being dumped in the river, and this has served to heighten their awareness of the importance of educating the citizens of Lawrence.

One of the outcomes of this project is solidify the establishment of the *Lawrence High School Biodiversity Club*. Its primary purpose is to provide opportunities for students to become more actively involved with community outreach programs such as, Groundwork Lawrence. The Biodiversity Club will work towards encouraging members of the community to participate in projects such as the Annual Spicket River Clean-Up, and the development of habitat restoration plans. A fundamental objective of the club will be to encourage students to assume leadership roles promoting the conservation and preservation of our local natural resources.