The Lost Group: Bridging the Gap Between Elementary School and Adult CBM at Mosquito Hill Nature Center

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Goal

To continue a biotic inventory of all flora and fauna on the nature center property while using, and at the same time promoting and enhancing, the talents and involvement of our currently under-utilized middle school students in Northeast Wisconsin.

Background

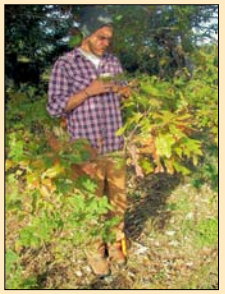
In the past 4 years, *less than 6%* of our visiting school field trips have been *middle or high school* groups. Mosquito Hill Nature Center would like to offer hands-on research opportunities, via Citizen Based Monitoring (CBM) projects, to this under-represented and under-utilized student population in Northeast Wisconsin. We know that 7th and 8th grade students have the cognitive ability to perform CBM projects well and in a timely fashion when combined with their existing classroom curriculum.

Several middle schools have requested projects for the *entire grade level* on field trips, upwards of 120 students simultaneously, so we need to offer largely self-directed opportunities which support short-term, high volume student participation; their existing classroom curriculum; ongoing data collection and processing; and the potential for off-site involvement.

Project Area

To make the 430-acre nature center property more manageable, we created a spatial grid with areas about a hectare in size. Each inventory site is centered around the hectare corner points, giving us about 175 usable sites and the students an 18.2 foot radius circle at each site in which to collect their data. Anything larger would have been too overwhelming and time consuming for them. Sites have various habitat types including an upland prairie, fallow fields, and mixed forest as well as a lowland deciduous forest, wetland, and pond edge areas.

The spatial grid used to create inventory sites on the nature center property. The blue line indicates the property boundary. The red dots indicate the inventory site center points.



Fox Valley Technical College students meeting to discuss project details which are then utilized in the field at the inventory sites.

Inventory documentation photographs taken by the students:

For more information, please visit our website:
http://www.mosquitohill.com/CBMproject/Bioticinventory.htm

Methods

We collaborated with nine students in the Natural Resources program at Fox Valley Technical College to assist with the design and inception of this project. Given their course requirements, many of the students used skills learned in their classes to establish site points (GPS), create training materials and data forms and put together supplies needed for the inventory fieldwork.

Our target audience for the biotic inventory is middle school (7th - 8th grade) students and teachers from Outagamie and Waupaca counties. Students are required to collect flora and fauna data on each site and report it on an online depository. This allows each student to conduct careful observations, become familiar with plant and animal identification characteristics, gain knowledge about using a variety of field guides, learn how to photograph each sighting, become proficient in mapping (compass and GPS), develop team building skills, and holds them accountable for information collected due to the data reporting and documentation.

Results

We didn't anticipate school district budget/field trip cuts mid-year which prevented many of our local schools from assisting in the inventory project during the spring and fall of 2011. That said, the groups that did participate, documented valuable information. Given that there is no end date to this project, we will continue to market it to area middle schools as well as broaden our audience (location and age) over the next few years. It is our hope to expose as many students as possible to scientific research through CBM projects, such as this, to keep them interested in the sciences.

The district school curriculum states that students should *understand the characteristics and functions of living plants and animals, including how to classify them*. In addition, students should be able to *apply simple mathematic formulas and concepts to graph and analyze investigative results*. The very project we have implemented incorporates all of these benchmarks. We think that this introduction to completing a biotic inventory will inspire a competitive spirit in the students and the quest will soon achieve a momentum of its own as teachers and students see the results coming in.

Each inventory site center point is marked with an orange stake labeled with the site number. Students use GPS units to find their way to each site.