

IPM Interpretive Trail at Conley Park

Project Leaders

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Project type and location

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Abstract

Protecting water quality in Cayuga Lake and in its tributaries can be enhanced by teaching watershed residents and landscapers IPM—ways to manage lawns and gardens with alternatives to chemical pesticides. Through this joint project with the City of Ithaca, we created the first interpretive IPM walkway in the country, located in a downtown park that borders a stream. Along the walkway we planted pest-resistant shrubs, trees, perennials, and annuals, and erected five outdoor signs that teach visitors how to reduce pesticides in their homes and gardens. We invited the community to an educational event in the park and tested the effectiveness of the signs. Forty-two visitors took a pre-test, then walked the trail, read the signs, and took a post-test. Eighty-nine percent of the respondents with incorrect answers improved their scores. Our results indicate that visitors who weren't familiar with IPM concepts were able to gain those concepts by reading the interpretive signs. We created a free booklet called *Teaching in Conley* and informed local teachers about its availability.

Background and Justification

More than three-fourths of American households use pesticides. According to the EPA, about 80 million pounds of conventional active ingredients were applied to homes and gardens in the U.S. in 1999 (EPA, 2002), and the United States Geological Survey (1999), states that “decades of pesticide use have resulted in their widespread occurrence in streams and ground water.” Non-point source pollution is now the dominant threat to water quality (Volk, 2003). NYS DEC surveys since 1972 (unpublished, S. Eidt 12/03, per Hackett) indicate a trend of increasing non-point source pollution that is degrading New York water quality. Residential neighborhoods can be a major source of non-point source pollution when pesticides and fertilizers are washed from parks, lawns, driveways, and roads into waterways (Connecticut River Joint Commission, 1998). New research has shown that widely-used pesticides migrate in trace amounts to many bodies of water (WRI, 2002) and traces of pesticides have been found in the Tompkins County's drinking water (Hackett, 2003). According to the authors of the *Cayuga Lake Watershed Preliminary Watershed Characterization* (Cayuga Lake Watershed I.O., 2000), “...major pesticide use occurs in residential settings and golf courses in the watershed.” Fertilizers and pesticides have been detected in Cascadilla Creek, a tributary of Cayuga Lake. This creek, with wild brown trout spawning in it, is included in the State's Priority Waterbodies List, which focuses on surface waters that cannot be fully utilized as a resource or have problems that damage their environmental integrity. For Cascadilla Creek, the health of fish propagation is characterized as “threatened” because of silt from streambank erosion. The creek's aesthetic qualities are listed as “stressed” due to nutrient loading from urban runoff and other sources. Many citizens are concerned about pesticide use and willing to learn more about alternatives, even if they do not always know about such methods as integrated pest management (Burgess et al., 1989). In the

past three years, residents in the Cayuga Watershed participated in a number of public forums, such as “Neighbors Around Cayuga Lake Watershed Mini-Conference I.” In two conferences, a total of 150 people identified two key components of their vision for the future: protecting water quality and educating the public to be environmentally aware and responsible.

Our goal for this project was to educate the public about ways that they can protect water quality, the environment, and their health through their individual choices. The demonstration site we chose was a park in Ithaca’s Northside neighborhood that straddles Cascadilla Creek and borders the Sciencenter (with its 80,000 annual visitors) and the headquarters of Cornell Cooperative Extension of Tompkins County (CCE—Tompkins).

Objectives

1. Create interpretive signage and demonstrations about Conley Park’s sustainable, IPM features;
2. Expand visitation to the park through programming offered by the IPM Program, the Sciencenter, and Cornell Cooperative Extension;
3. Increase the community’s knowledge of, appreciation for, and practice of IPM through interaction with the signage and demonstrations.

Procedures, Results, and Discussion

1. Prior to finalizing plans for the IPM walkway, we met with city officials, city committees, and a neighbor association, sharing with them the plan for a hands-on exhibit that community residents, grounds managers, home owners, students, teachers, and others could use. Our plan was to also feature native species, low-maintenance grasses, and pest-resistant ornamental plants that require few or no sprays. We would showcase other low-risk ways to manage lawn grubs, turf diseases, weeds, mosquitoes, and other pests. Professionals and visitors would benefit from seeing IPM concepts at work in the park.

At the beginning of the project, we hired a landscape architect whose knowledge of planning, construction, horticulture, and art positively affected the project. We also engaged the assistance of an IPM horticulturist whose knowledge of plants and nurseries was extremely valuable. With help from the city forester, we analyzed the site from an IPM perspective, paying attention to the many decisions that had already been made in Conley Park to keep plants, turf, and the stream bank healthy. Then we decided on five themes: streamside helpers (riparian buffers); IPM; right plant/right place (choice of site, species); healthy lawns; and beneficial insects.

We decided that the signs should be small, to be in keeping with the scale of the park, and should be grouped along a sinuous walkway, which the architect designed with berms of plantings. We planned the signs to mimic in-situ National Park interpretive signs, to be of outdoor quality, and to fit with the nearby footbridge and Neptune sculpture. Furthermore, we wanted the signs to appeal to children as well as adults. For this reason, we created structures with rotating disks that emphasized the themes. The structures for the signs were created in collaboration with Accufab, Inc. of Ithaca. For the laminate faces of the signs, which were created by Folia Industries (Quebec, Canada), the landscape architect rendered original drawings of five scenes in the park and we fit the IPM message to these drawings in layout software.

For sitting areas, we chose about 13 tons of Llenroc sandstone from a local quarry, Finger Lakes Stone, and laid these in advance of the concrete and stamped/colored walkway being laid by McPherson Builders. Plants were purchased from four nurseries and planted by youth, IPM staff, and city staff. We designed and inset six engraved stepping stones for children to play on; these reinforce the theme of beneficials, such as spider, Tachinid fly, etc. (see booklet for descriptions of the stones). Finally, we produced 50 weather-proof plant labels and staked these near the specimens.

2. & 3. We planned an educational event for September 24, 2004 that consisted of eight different mini-workshops on such topics as tree choices, keeping lawns healthy without chemicals, and pest-free plants (see attached schedule). We printed 1,000 invitations and distributed these to elected officials, neighbors, Cornell faculty, and others. The event was attended by about 80 people, including the mayor of Ithaca. Many people networked, viewed the park, attended the workshops, and filled out the pre- and post-test. We distributed literature about IPM, including the *Teaching in Conley* booklet created especially for this audience.

We administered a pre-test to visitors at the opening event consisting of six questions. Thirty four adults and teens took the test and 38% answered all of the questions correctly the first time. Sixty-two percent had incorrect answers or didn't know an answer. After walking the trail and reading the signs, participants took the post-test; 89% of the respondents with incorrect answers improved their scores. In fact, 85% of the visitors answered *all* of the post-test questions correctly. Our results indicate that visitors who weren't familiar with IPM concepts were able to gain those concepts by reading the interpretive signs.

This project was an extremely successful partnership involving the NYS IPM Program, Cornell University, Cornell Cooperative Extension, the City of Ithaca, the Youth Employment Service, the DEC, and local businesses. With a minimum of discussion, all entities involved seemed to understand the spirit of the project and participate with enthusiasm. The public quickly grasped the new concept and has responded enthusiastically to Conley Park's new walkway and the IPM Program. Cornell Cooperative Extension was involved in the opening event and plans to use the park in upcoming programming.

One benefit of the project was upgrading a city park that serves about 900 local residents and their pets. In this densely-populated portion of Ithaca, green space is scarce and the community has appreciated an improved place to walk dogs, take children, and relax. Conley Park is now complete and open every day of the year to anyone who would like to visit.

References

- Cayuga Lake Watershed Intermunicipal Organization, Sept. 2000. Cayuga Lake Watershed Preliminary Watershed Characterization. <http://www.cayugawatershed.org/characterization/>; online report summary: <http://www.cce.cornell.edu/tompkins/characterization/Executive%20Summary.pdf>
- Burgess, R., J. Kovach, C. Petzoldt, A. Shelton, J. Tette. 1989. Results of an IPM marketing survey," New York State IPM Program, NYS Dept. of Ag. and Mkts., NYSAES Geneva. Cornell University, Fingerlakes Research, NY.
- Connecticut River Joint Commission, 1998. Fact Sheets 1,2,4,6 and 8 in the Series: Riparian Buffers of the Connecticut River Watershed, www.crjs.org.
- EPA, 2002. Pesticide industry sales and usage: 1998 and 1999 market estimates. http://www.epa.gov/oppbead1/pestsales/99pestsales/market_estimates1999.pdf
- Hackett, K., 2003, chair of Tompkins County Water Resources Council. Personal communication 12/10/03.
- USGS, 2000. Pesticides in stream sediment and aquatic biota: current understanding of distribution and major influences. Fact Sheet 092-00 based on the book by L. Nowell, P. Capel, and P Dileanis, Pesticides in Stream Sediment and Aquatic Biota, CRC Press, Fla.
- Volk, T. 2003. Increasing benefits from riparian buffer strips by incorporating Willow bioenergy crops. SUNY-ESF pub.
- Water Resources Institute, 2002. NYS Pesticide Projects. <http://wri.eas.cornell.edu/projects/pesticides/>

Samples of Materials

- *Teaching in Conley* booklet
- Opening of Conley Park: List of workshops
- Walkway Quiz