



Ecology Camp students, Mia Smith, Zenon Padua III, Eli Neugeboren, Nicolas Livon-Navarro, Madelaine Smith, Jacqueline Park and Jake Stout pose with their fieldwork gear before sampling for macroinvertebrates with Nature Conservancy scientist, Arlene Olivero. (Photo courtesy of Christine Heady)

Ecology camp students protect North Cambridge Urban Wild

By Christine Heady and Anthony Lamattina

“**R**iver Restore” is the name of the Friends of Alewife Reservation’s 9th annual Summer Ecology Camp, sponsored by the Mayor’s Summer Youth Employment Program (MSYEP) in Cambridge. MSYEP also sponsors many other sites, each of which provides a 6-week job and learning experience for local high school youth.

At the Alewife Reservation in North Cambridge, students learn about the natural resources of this urban wild 130-acre state park of the Department of Conservation and Recreation. “It’s our job to both protect the Alewife Reservation and bring attention to its current unhealthy state,” says Anthony Lamattina, co-supervisor of this year’s ecology camp. Through fieldwork, campers make ecologic and hydrological observations of water quality through testing and assessments of vegetation and wildlife along the one linear mile of Little River in Cambridge and Belmont, while learning about the Mystic River watershed that eventually flows into Boston Harbor and the Atlantic Ocean.

“This is a great opportunity to teach this year’s crew of city youth, most of whom

who are unfamiliar with ecological issues, while simultaneously improving those issues at Alewife,” says co-supervisor Christine Heady. Students’ findings will set the stage for future River Restoration implementations such as wetland plantings, stream bank erosion control, and general watershed improvements for a more meandering river.

Friends of Alewife Reservation (FAR), a local environmental stewardship non-profit organization, has been protecting Cambridge’s rare urban wild through education, advocacy, and community service for 15 years on behalf of the Department of Conservation and Recreation. Under the lead of FAR’s President, Ellen Mass, the environmental group provides the community with educational tours and Reservation clean-up days and teams with lo-

cal schools to teach ecology and stewardship. The Alewife Reservation is unfortunately surrounded by continuous development that negatively affects the health of the Reservation’s wildlife and habitats. FAR is working to help improve Little River, which recently received a D- on the EPA’s ‘Report card of Swimming and Boating Compliances,’ through advocacy and the River Restoration project.

The Ecology Summer Camp program has been a major annual undertaking for FAR for the past nine years, and, with River Restoration as a goal, is no exception in 2015. FAR’s summer ecology camp is an interesting mix of education and community service work with ten local high school youths. As supervisors, Christine and Anthony aim to show these urban youths that they do not need to drive two hours to a mountain in New Hampshire to enjoy the great outdoors. However, in order for this to remain, we all must take measures through community service and natural resource protection. Throughout the multi-levelled camp program, the youths learn the ins and outs of local-ecology and apply it to bettering their community and environment. Divided into different groups called “Stream Teams,” the campers focus on designated sites of the river, using the techniques they learn throughout the summer program to study river health at these sites. Their growing attachment to Little River and the fu-

ture of its wildlife and habitats inspire them to work diligently and with precision to identify problems on their river sites.

After a trip to Deer Island, Boston's wastewater management facility, students were excited to inquire about runoff and pollution from surrounding construction affecting the river. "It should be considered that all of the land where all the building is taking place used to be a floodplain area," states camper Jacqueline Park with concern. "They should try to mimic what the land once was, which is what we're showing through our research."

waders to trudge around the muddy water, they were able to relate their macroinvertebrate findings to their water quality results. "We found that the whole river has really low dissolved oxygen content," says camper Nicolas Livon-Navarro. "We want to fix that by increasing the river's flow rate so more species like snails and mussels, can live in the river."

After visiting their sites several times, the students have thought about what can be done to improve water quality. "I think it's understandable that Little River has such a poor water quality rating, because of all the construction

around" says camper, Jake Stout, "but it's our responsibility to fix it." Jake considers potential restoration solutions, suggesting that the situation could be bettered "by adding more plants, or connecting Little River to a healthier water source away from the construction."

FAR volunteer Bill Green taught students about invasive plant species, leading them in an effort to remove these intruders from Blair Pond. Camper Madelaine Smith sums up the group's feelings on invasive plants, stating that, "It's upsetting to think we have such little natural space left in Cambridge, and these plants, which don't contribute much to the environment, are taking over the space, killing native plants and animals." The youth felt accomplished after spending an afternoon removing Japanese knot-weed, poplars, and bittersweet, improving the area's biodiversity.

By the camp's end, the students' results and observations concerning water quality, invasive plants, macroinvertebrates, and erosion will be formatted into a River Restore booklet. This format will mirror a similar study completed in 2000, allowing for a direct assessment of how much the reservation has changed in the past 15 years. "This is a visual representation of how the local natural resources are so critically depleted," says camper Julian Baxandall. The booklet will highlight impaired areas through sketches, charts, graphs and writings, enabling FAR and the ecology camp students to eventually demonstrate their work to city officials, local businesses and even state legislators.

A visit to the State house, where the students spoke with the aides of Representative Denise Provost and Representative David Rogers, allowed campers to make a final con-



River Restore campers Jake Stout and Natalia Ruiz test water quality at a cross-tributary on Little River. (Photo courtesy of Christine Heady)

The camp works with several specialized consultants throughout the summer who share their knowledge on everything from insects to art in nature. One of the most relevant areas of study was water quality testing with consultant and scientist, Matt Wilson. Matt led the youth to their assigned "Stream Team" sites and helped them test for factors including dissolved oxygen and coliform bacteria. Students had fun with this important activity; using testing kits, expandable poles, and a water quality probe they acted as citizen scientists in an effort to save Little River. Most other areas of study through the camp refer back to water quality, as it is the major indicator of the health of the river and surrounding habitat.

Nature Conservancy scientist, Arlene Olivero, taught the students about macroinvertebrates (insects, snails, clams, etc.), touching on which species can survive in different levels of water impairment. Not only did the students get the chance to don their rubber boots and



Dragonfly Studies—photographed at Friends of Alewife Reservation's Summer Ecology Camp (Photo by camper Jake Stout)



Great Blue Heron Flies Amongst Alewife Construction—photographed at Friends of Alewife Reservation's Summer Ecology Camp (Photo by camper Jake Stout)

nection between their fieldwork and implementing tangible changes in their local environment and community. They explained the impaired state of Little River, and their goals for the River Restoration project, arguing that the river needs the attention of local representatives immediately. "A large area of the river is so shallow that carps' backs are actually protruding out of the water. With additional help, we can get the river meandering and add depth" camper Eli Nuegeboren told the aides. Provost's and Rodger's staff validated the ef-

forts of the Stream Teams, explaining that it is groups and people like them whose work makes the difference and gets bills passed.

One Aide said their knowledge is "a mile wide and an inch deep," says Eli. "Advocates like us help inform representatives and get them interested in certain topics." The aides assured the campers that the Representatives will read their final River Restore booklets and take into account their observed environmental issues when looking at future bills and

campaigns. It was a powerful and rewarding moment for the students and knowing that their work will be taken seriously by state politicians, campers left with boosted spirits. They look forward to completing their Little River observations and creating a useful and detailed River Restoration booklet for the remainder of the summer with the hope of influencing a healthy river, wildlife and habitats in the Alewife Reservation. ■

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About Alewife (from "The Great Swamp" by Sheila Cooke found in past journals)

Colonial time

Across the Menotomy River (Alewife Brook) large estates were granted to Justinian Holden and Licutenant Gov. Thomas Danforth.... Over time, the swamp was ditched and drained for orchards.... Fresh Pond Meadow, below the Holden Farm was reserved as Common land for cattle grazing as was the Ox Pasture between Rindge Avenue and Cedar Street. Then in 1703, a "Common Division" separated Cambridge from Arlington at Mills-Ware or weir, and from Belmont at a point somewhere between Pleasant and Lake Street. About the same time the Ox Pasture was divided into farms.

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Clay pits

Between 1845 and 1900, six clay pits were dug; after the Civil War eight more.... Clay Pit Pond (formerly a dumping area) is a handsome adjunct to Belmont High School campus, but it often causes floods. Some of the pits were used as dumps or filled in for other purposes. The Federally subsidized housing projects, Jefferson Park and Walden Square, were both built on former clay pits, as were the three Rindge Towers and the Fresh Pond Mall. In 1953 the largest pit became Cambridge's official dump despite the fact that it was situated but a quarter mile from the City's reservoir.

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Cambridge Allies Football

In 1908, the MPC took land adjacent to Alewife Brook and Little River to build another roadway, the Alewife Brook Parkway. The course of Little River was changed and straightened to increase its flow and Alewife Brook was buried in a culvert from Fresh Pond to Route 2, where its course was confined to a narrow concrete ditch, too small to handle heavy rainfall runoff until it reached the Mystic.

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Roads and cars

In 1934, following the model of New York's Bronx River Parkway, the MDC widened Fresh Pond, Alewife Brook and Mystic River Parkways, to allow two lanes of cars and small trucks in each direction. Fresh Pond Parkway was soon lined with automotive shops and gas stations, just 400 yards away from the City's Reservoir.

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More cars

By the mid 50s, the Alewife Brook axis had emerged as the focus of evening entertainment for the surrounding area. Movie theaters, nightclubs, bowling alleys, motel, restaurant, automotive shops and gas stations formed a continuous commercial strip from Route 2 to the Cambridge waterworks, all attracting more automobile traffic, for all was inaccessible by foot from the surrounding residential neighborhoods. ■

—(Vol. 8, p. 35)