HISTORICAL AND INTERDISCIPLINARY LINKAGES: STUDYING THE PAST AND PRESENT AT HANLEY BIOLOGICAL FIELD PRESERVE

Thomas Rood, Meghan Brown, and Nathan Burtch
Hobart and William Smith Colleges
Geneva, NY 14456
(315) 781-3464
mbrown@hws.edu
Undergraduate student

Hobart and William Smith Colleges' Hanley Biological Field Preserve is located about 15 miles southeast of Geneva, in the town of Fayette, New York. Even though the preserve is less than 110 acres, it contains forest, fields, a stream, wetlands, and numerous man-made ponds. Biological surveys of plants and animals, as well as geological studies, have been conducted since the colleges acquired the property in the 1980s. However, the history of this highly human-manipulated landscape is lacking to properly contextualize research findings. In the summer of 2007, research was conducted over a ten week period at the preserve that focused on detailing the history of the man-made ponds on the property.

The first major pillar of our research was determining the chronology of pond construction on the preserve. After obtaining aerial photographs from Cornell University's Institute for Resource Information Systems (IRIS), we were able to track the property from having no ponds in 1954 to its present complement of over 60 ponds. The first pond was dug in the summer of 1963 (pond number 11) and seven more ponds were present by 1968. Most of the ponds were added to the property during the 1970s, but no new construction was evident after 1980. Over this same time period, the surface area of some ponds reduced and other ponds dried up entirely. An interview with Jim Brown, the caretaker of the Hanley Field Preserve who has worked continuously on the property since the early 1950s, reaffirmed the general order of pond development that had been estimated using the historical images. He was also able to provide information regarding the intent behind many of the ponds. For example, Mr. Henry Hanley, the owner prior to HWS, dug ponds 7 and 11, two of the oldest and deepest ponds, for private recreational fishing. In the years that followed, Mr. Hanley dug shallower ponds for fish bait production. Many of these shallow ponds have become seasonal and in some cases even succeeded to wetlands or meadows.

The second major pillar of our work was to map the bottom of two of the presumed deepest and oldest ponds—pond numbers 11 and 7. Using a Trimble GPS backpack unit and a depth finder, bathymetric information on these ponds was collected in a grid pattern. We used kreig interpolation in ArcView 9.2x to generate bathymetric maps. Both ponds have a maximum depth near 4 meters and have gentle even slopes. These maps will provide support to the ongoing biological survey on these two ponds, which have similar abiotic conditions, but exhibit notably different biological communities.