

Field Notes Summer 2006

From the Forest: Back from the brink and awash in amphibians and caterpillars.

As we enter another summer, I'm once again ensconced in my post as HMF Manager after more than five months on professional leave. This fact-finding mission took me on a tour of biological field stations throughout the country and beyond in order to meet with their managers and to learn what works and doesn't work in facilitating field based research and education elsewhere. The experience was rich and diverse: from the heavy hitting Jasper Ridge and Coweeta biological stations, to the less heralded facilities of Skidmore and Hiram Colleges, each visit had much to impart and impress upon me. I am now in the process of conveying my findings to the Faculty at CES. Many thanks are due the CES staff (including Tom Merrill, who stepped in as interim manager) and the Hopkins Forest Users Committee for making this leave possible.

Back in the neighborhood, this spring saw the initiation of a study of the amphibians in two vernal pools on the periphery of Hopkins Forest. The pools lie on private property, just outside of the Forest's southern boundary. This land faces an uncertain future, which prompted faculty at Williams, Berkshire Community College and MCLA to devise a study of the diversity of life in these pools in order to inform future land-use decisions.

Working day and night for two months from 'ice-off' in late March through Memorial Day (and continuing at a less rigorous pace into the summer) students and faculty from the three colleges, in addition to a cadre of enthusiastic volunteers from the community, monitored 30 pit-fall traps that encircled both ponds (they were connected by a 'drift-fence' assuring that wandering amphibians (and myriad other life forms) would eventually find their way into the buckets).



Pitfall trap during installation.

Our efforts throughout the spring resulted in the capture of 11 species of amphibians, three reptiles and several other interesting critters including some aquatic invertebrate larvae and small mammals. Most exciting of them all were four Jefferson salamanders that appeared in the traps. These large and very rare members of the *Ambystoma* family (mole salamanders) migrate to the ponds each spring to lay their eggs; they subsequently return to upland forests to spend the rest of the year in obscurity. Unlike their yellow spotted cousins, our local Jefferson salamanders represent an intricate hybrid complex (owing to our location within a zone of Jefferson/Blue-spotted salamander sympatry). The result of this hybridization is a local population dominated by females that possess three sets of chromosomes and attempt to produce offspring without fertilized eggs—a very risky evolutionary strategy indeed.

While sights of Jefferson salamanders, drew 'oows' and 'aahs' from the biologists, it was the spotted salamanders that had the largest impact on the vernal pools and volunteers alike. Over the two months we caught and photographed over 1700 individuals as they migrated to and from their breeding ponds. It will be the charge of an enterprising honors student in computer science—working under the guidance of Hank Art and Andrea Danyluk—to develop software with the capacity to identify each individual salamander by its spot pattern—every one of which is unique. Being able to recognize each individual by the spots on its back will allow for some interesting studies of movements of these salamanders in future years (and may prove of interest to officials in Washington).



In addition to the mole salamanders, project participants pulled myriad other herpetological species from the buckets including: wood frogs (more than 10,000), green frogs, pickerel frogs, bullfrogs, American toads, spring peepers, dusky salamanders, Eastern newts, red-backed salamanders, garter snakes, painted turtles and even two errant snapping turtles. We've even found aquatic insects--including hellgrammites, water tigers and crane-fly larvae—having traversed the ground to end up in the buckets. Yes, it's been a remarkably wild spring at the vernal pools.

I would be remiss to exclude our other eruptive spring visitors, the Forest Tent Caterpillars, which have invaded the forest in their highest numbers in years. This year mats of these one inch long, hairy caterpillars could be found on buildings, doors, sidewalks and car tires, as well as up and down the trees. As of this writing, many trees of different species in the forest had been completely defoliated. We expect that, but the time of this publication, our spring invaders will have entered pupation and be well on their way to adult moths, and that the trees will have been left to flush out once again. The duration of this outbreak in terms of years may determine how severely our trees will be affected in the long run. Meanwhile, bird enthusiasts have been excitedly scurrying around to catch glimpses of normally elusive black-billed and yellow-billed cuckoos, which, through their dietary preferences, are benefiting royally from this lepidopteran onslaught.

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