



Ross Biological Reserve & Alton A. Lindsey Field Laboratory

Biological Sciences, Purdue University, September 2009

RESEARCH FOCUS

Fall 2009

During Purdue's Homecoming weekend, we had our biennial pancake breakfast to celebrate the 60th anniversary of the Ross Reserve and tenth anniversary of the Lindsey Lab. We welcomed some 50 alumni, faculty, students, friends, and families at the Lindsey Lab, including distinguished alum Marion Jackson. We recounted some history of the Reserve and discussed the future.

For six decades, the Ross Reserve has fulfilled Alton Lindsey's vision of a "living laboratory", and has been the focus of dozens of PhD dissertations and Masters theses, as well as hundreds of undergraduate honors theses, independent studies, and class projects. The fabric of a natural community is both impossible to create artificially and an incredible bargain in virtue of its capacity for regeneration, like a library whose journal subscriptions renew themselves. The Reserve was a patchwork of pastures and partially logged forest in 1949, but has recovered

to be as diverse and well studied as any forest in the Midwest. Courses in Ecology and Evolutionary Biology regularly use the Reserve and Lab, as do outreach programs including a "Greening the Science Curriculum" initiative involving teachers from Gary. Courses and projects based in other departments also use the Reserve, currently including studies in Forestry and Natural Resources and Entomology.



In the 1948 proposal to establish the Reserve, Lindsey said that "...the resultant data would increase in scientific value year by year, and the opportunity to compare current status of the permanent sample plots with definitely known past developmental stages will prove a great stimulus to students ...".

The images above, taken from the same marker (N9) in 1950 and 2009, attest to the power of the Reserve to bring concepts of community ecology to life. This year we are conducting the decadal tree census with the support of ecology faculty, former grad caretakers, and the Reserve gift fund. It is clear that the forest continues to mature and change, and areas that were open fields in 1950 are impressive woods now.

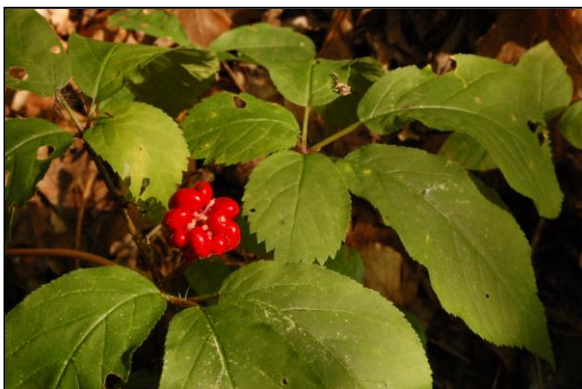
Ken Henry, recipient of the Lindsey Fellowship for outstanding ecology grad students, is finishing his dissertation research on the acoustic properties of vocal communication in forest birds. New faculty member Esteban Fernandez-Juricic and students are initiating studies of mechanisms of vigilance in bird species with different visual systems that will make extensive use of the Lindsey Lab for experiments



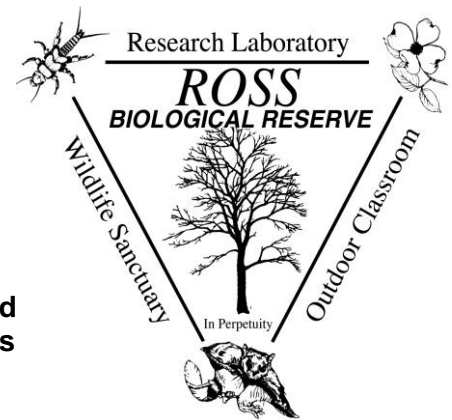


Commitment to the Reserve in the Biological Sciences community remains strong. With help from the Department, we are producing detailed plans, including fundraising, to replace the 30-year-old trailer that houses the caretaker. A preliminary cost estimate is being developed by University facilities personnel to construct a structure matching the log-cabin style of the Lindsey Lab, forming a courtyard between them. The Department continues to support the live-in graduate caretaker, currently Jill Detwiler, and to provide maintenance for the facilities.

Ecology faculty and students recently held two work days with potluck dinners at the Reserve, making repairs and battling exotic plants. The Biology Club, with an ecology club from Burnett Creek Elementary school, has twice planted trees and native spicebush near the lab. In spite of advances in computer modeling and teaching technology, ideas in Biology still have to be verified in living systems too large to replicate indoors. The Reserve lets students experience natural complexity personally for “reality checks” on theories presented in textbooks and lectures.



Lindsey’s pioneering investment in this living laboratory has paid dividends to the Purdue community. Today’s research can be placed in the context of well understood forest composition and dynamics, and students can test ideas about ecological succession using a 60-yr database.



The Reserve lies between the Ravines golf course and the Ross Hills County Park, on the north bank of the Wabash in Tippecanoe County. From campus, follow South River Road (which later becomes Division road) downstream (southwest), leaving Route 231 where it turns to cross the River. Continue past Fort Ouiatenon County Park, Granville bridge, and the Ravines golf course, turning left (S) on county road 875, with signs to Ross Hills. Just before a turn and the county park, and just after a golf-course road, the cinder drive to the reserve leads left.

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