



Nathanael Lichti

“To be an effective ecologist, you have to use statistics. Statistics become a tool for seeing what’s going on in the field, much like a microscope in the lab.”

- Nathanael Lichti, Ph.D., Forestry & Natural Resources, December 2012

The student: Nate Lichti grew up in Lubbock, Texas. After studying biology at Reed College, he worked for a small nonprofit in Oregon that focused on science-based mediation to address thorny environmental issues. Lichti did “whatever needed to be done” there, he says—field work, modeling and computer tech support. He earned a master’s degree at Portland State University.

Why Purdue? Lichti mentioned an academic paper that caught his attention to one of his Portland State instructors. “My professor knew the author, Rob Swihart [professor and department head of Forestry and Natural Resources] from grad school and suggested I give him a call.” Lichti received an Andrews Fellowship to work toward his Ph.D. at Purdue, and wrote most of a National Science Foundation grant to fund a portion of his dissertation research under Swihart’s supervision.

The research: Lichti developed advanced statistical approaches for his field research on what tree squirrels and blue jays do with acorns. Both species bury acorns and other tree seeds for a winter food source, and most oak seedlings originate in abandoned caches, he explains. He studied how the animals make decisions about the seeds they eat versus those they store and where they store them. Acorns are an important food source for many animals, Lichti notes, and his research on seed disper-

sal by wild vertebrates could help scientists understand and overcome barriers to natural oak regeneration in fragmented agro-forest ecosystems.

Outsmarting his subjects: “Never pick a study animal that’s smarter than you,” Lichti says sheepishly. A tiny antenna protruded from the first radio-tagged acorn he engineered. Lichti placed three of them into a feeder with a hundred unaltered nuts. After the blue jays feasted, only the three radio-tagged acorns remained. He finally was able to drill, fill and disguise the acorns to outsmart the suspicious birds. “It’s been a long, slow process,” he says of his research.

What’s next: Lichti remains at Purdue as a postdoctoral associate on a project on carbon storage in eastern forests headed by Doug Jacobs, professor of Forestry and Natural Resources. Lichti helped write the proposal for the NASA/USDA Carbon Cycle Science grant that is funding the work. He has published more than a dozen scientific articles and looks forward to working in a new area that will provide additional writing opportunities: “Especially if you’re planning to go into academia, the publication record is the single most important thing on your resume.”

Graduate Advisor: Rob Swihart