

SECTION 4

Remote College and University Properties

Many colleges and universities own land that is located beyond the borders of the main campuses. These properties can include educational or research-oriented biological field stations, experimental fields and farms for agriculture, and lands that come from gifts, bequests, and other sources. Most are rural with natural forests, grasslands, deserts, mountains, wetlands, lakes, streams, or other wild, intact ecosystems where wildlife abound. The majority are highly valued for the field research opportunities they offer to students at all levels. Many have laboratory facilities, sleeping quarters, and classrooms, and are equipped to study the ecosystems where they are located.

Featured below are several campuses with remote natural land holdings that are used for hands-on student learning. To see the range of the more developed, research-focused field sites around the country, check the list of members of the national **Organization of Biological Field Stations**.⁹⁷ OBFS was founded in 1968 and currently has around 130 members, with many operated by colleges and universities. Following are three examples:

Fifty miles west of the main campus of **Oregon State University**⁹⁸ (OR) is the Hatfield Marine Science Center. This 49-acre property on Yaquina Bay houses research programs from several colleges and other university programs, including the Marine Mammal Institute. HMSC is a hub of activity for studies of marine science, coastal ecosystems, and other oceanographic topics, offering a range of research and outreach opportunities for students from community college through post-doc.

Established in 2010, the **Towson University**⁹⁹ (MD) Field Station sits 19 miles from the main campus and is protected by a conservation easement. Its 223 acres of forest, floodplain, and slough are used as an outdoor laboratory by herpetology, ornithology, fish biology, and art classes. In one of the field station's long-term projects, deer enclosures were constructed and students study the impact of deer browsing on native plants, invertebrates, and salamanders.

The **University of Oklahoma**¹⁰⁰ (OK) owns the Kessler Atmospheric and Ecological Field Station, a 360-acre research and learning property 17 miles southwest of the main campus,

in a dry, hilly region dominated by grasslands. The Kessler station is the site of several long-term studies of weather and precipitation as well as the biology of the Great Plains.

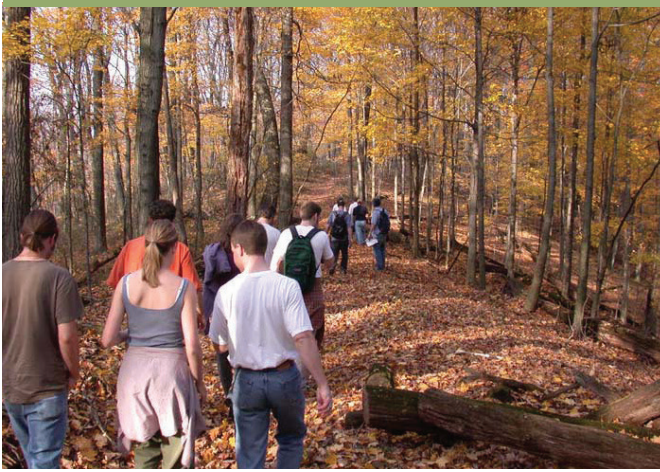
FEATURED CAMPUSES

Indiana University¹⁰¹ (IN)

While Indiana University is known for natural areas right on campus such as Dunn's Woods, it also has a constellation of wildland preserves located off campus. Its Research and Teaching Preserve (RTP) is composed of seven separate properties, spread over three counties and at distances ranging from one mile (Griffy Woods) to 28 miles (Bradford Woods) from the main campus in Bloomington. Established in 2001 with two sites and 446 acres, it has grown to 1,600 acres. Each property has different characteristics, such as the natural aquatic habitats at Griffy Woods and Moores Creek, or the experimental crop fields at the Bayles Road property. RTP's stated mission is "to provide natural field settings for research, teaching, and outreach that complement existing facilities and infrastructure at Indiana University." Its Ten-Year Report 2001-2011 gives an excellent summary of preserve sites, their uses for student and faculty research, and much more.

Educational opportunities at the preserve are extensive. On average, 500 IU undergraduate and graduate students each year conduct course-based research or participate in outdoor laboratory exercises. In addition, the preserve hosts events like the Women In S.T.E.M. program for first year undergraduates, educational opportunities for high school students, and a citizen science experience for community members and volunteers. Stream monitoring, removal of invasive species, interpretive hikes, and other educational offerings are available.

Recently, the RTP was placed within IU's new Integrated Program in the Environment, which is developing innovative ideas for the preserve. RTP's Administrative Director Sarah Mincey is eager to integrate non-science based learning into the preserve. "Looking forward," she said, "we want to create a more multidisciplinary approach at the preserve. For example, a historian at the university is teaching a course on the cultural



Students hike through the Lilly-Dickey Woods property, owned by Indiana University.
Photo: Keith Clay

aspects of trees, and a portion of Lilly-Dickey Woods is dedicated to bringing the arts into the RTP experience. We are hoping writing courses and other outdoor programming will become a greater part of the preserve activities.”

A wide range of scientific research is being conducted at preserve sites. At Lilly-Dickey Woods, a study of tree regeneration and carbon storage is taking place within a 25-hectare plot. This is part of a multi-institution project with the Smithsonian Center for Tropical Forest Science in which 24 countries, 53 forest plots, 4.5 million trees, and 8,500 species are being monitored across the globe with the goal of increasing understanding of forest ecosystems and climate change. At the study site, 35 species of woody plants and trees are being monitored, resulting in the mapping of more than 29,000 trunks and stems.

Research on the abundant wildlife at the various preserve sites has focused on such species as southern flying squirrels, whitetail deer, prairie voles, salamanders, dark-eyed juncos, cicadas, and other invertebrates, as well as invasive fish, mussels, and insects like the emerald ash borer. Research and teaching opportunities for students, faculty, and others at the RTP are constantly evolving.

Ithaca College¹⁰² (NY)

Of the four Natural Lands (ICNL) reserves owned by Ithaca College, two are located a few miles south of campus. All are managed by committees composed of IC students, faculty, and staff. The two remote properties are the Ithaca College Natural Resource Reserve and the Bob Robinson Family Reserve (for the two natural areas located on campus, see Section 3). The Natural Resource Reserve is a rural reserve of 46 acres

that supports teaching and research in forestry management for students in the Topics in Natural Resources and Ecology course. As part of the management of the reserve, students participate in thinning trees, a regular practice to ensure the healthy growth of the forest. The Bob Robinson Family Reserve is 82 acres of upland and riparian flood plain forests of oak, eastern hemlock, tulip poplar, and white pine, with a creek that is ideal habitat for trout and other native fish. The Robinson reserve provides a study opportunity for students to examine the relationship between eastern hemlock trees, stream water quality, and breeding populations of native trout. Other courses that use the two preserves as outdoor labs include the Environmental Sentinels, which uses wilderness awareness training to teach local natural history and ecology, and Land Use and Management, a course that focuses on land use science.

Two off-campus parcels, totaling 128 acres, are protected as part of the Ithaca College Natural Lands reserve system.
Photo: David J. Eagan



Harvard University¹⁰³ (MA)

The Harvard Forest, a property of Harvard University, is a 3,750-acre field site for research and education located 70 miles west of campus. Established in 1907, it has been a nationally prominent site for studies of biodiversity, conservation, invasive species, ecosystem processes, carbon cycling, and, most recently, for research on the successional ecology of returning a golf course to a meadow. Since 1988, Harvard Forest has been part of the Long Term Ecological Research program of the National Science Foundation.

On average about 1,000 students a year (K-12 and beyond) visit or study the Harvard Forest. Undergraduate and graduate students from Harvard conduct research for courses or thesis projects. A summer research program involves 20 to 30 undergraduates who conduct a range of independent research on wildlife and conservation topics. Of that number, around 80% come from different schools and 20% from Harvard.

One of the tools used in research is a game camera. There are more than a dozen of these motion-activated cameras in the forest, which take photos of wildlife in and around long-term study plots.

A central research focus is on how wild creatures impact the landscape and, conversely, how landscape influences wildlife. A current topic is the widespread destruction of eastern hemlock forests by the hemlock woolly adelgid, an invasive aphid-like insect. Researchers are looking into how the loss of tree cover affects forest floor dwellers like native salamanders, rodents, and ants, as well as its effects on larger wildlife like deer and moose that are adjusting their diets to trees that replace the hemlock.

A new project at Harvard Forest is the conversion of a former 70-acre golf course back to an open meadow. Grazing by cows is used to help keep the land free of trees, and teams of scientists and students are documenting the birds, mammals, butterflies, and other insects that colonize the area. Notably, it took only two years from the project's launch for bobolinks, a threatened bird species, to begin using the new meadow.

College of the Atlantic¹⁰⁴ (ME)

The College of the Atlantic, located along the coast in Bar Harbor, owns 300 acres of nearby farmland and forests used for research, education, and conservation opportunities for students. Properties include Beech Hill Farm, which is 15 miles west of campus near the town of Mt. Desert. Beech Hill is a working farm that provides organic vegetables and heirloom apples for college dining halls. Of its 73 acres, 67 are forested. Closer to campus, the 125-acre Peggy Rockefeller Farms, which raises organic produce as well as cows, sheep, and chickens, includes 62 acres of forest and wetlands. Both farms use border plantings along fields that serve as wildlife habitat, attractants for beneficial insects, and runoff control. A 100-acre pristine woodland, the Cox Protectorate, is near the Rockefeller Farms. In 2010-11, a Farms Task Force reviewed the history and land-use capacity of COA's remote properties and developed a set of goals. A top priority was to increase support for student educational connections. All three sites are currently used for independent and group studies, senior thesis projects, and research on the Northeast Creek watershed.



Aerial view of the Beech Hill Farm, owned by College of the Atlantic.
Photo: College of the Atlantic, 2014

COA also owns 12 acres of the 220-acre Great Duck Island, which it shares with The Nature Conservancy and the State of Maine. The college property, named the Alice Eno Field Research Station, hosts teams of students and faculty who study the island's nesting colonies of Leach's storm petrels, black guillemots, black-backed gulls, and other seabirds and raptors. The college also owns Mount Desert Rock, located 25 miles offshore, which is a fully operational marine mammal research station where students carry out research projects involving humpback and northern right whales, harbor seals, white-sided dolphins, and other species. And in the literal backyard of the Bar Harbor campus itself, Acadia National Park's 30,000 acres offer further opportunities for recreation and outdoor study. Among other projects, students helped with the reintroduction of peregrine falcons to the park 30 years ago and with surveys of Acadia's birds and other wildlife.



In the U.S., harbor seals are found along the coasts of the north Atlantic and Pacific Oceans.
Photo: Sequoia Hughes

“The College of the Atlantic was recently ranked as having one of the top 20 Best College Farms in the U.S. The criteria used to determine this include sustainability, integration with the main campus, the number of courses taught at the farm, students’ use of the farms, and integration with the community.” – Darron Collins, COA President (and 1992 COA graduate)