



QUARTERLY
SPRING • 1967

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Colby Knerr

ACRES' SPRING FIELD TRIP SCHEDULE

MAY 6 - Saturday - Aquatic Life Study at Bowen Lake and a trip through the Lloyd W. Bender Memorial Forest (ACRES' newest acquisition west of Albion).

MEET - Corner of Old U.S. 30 and Route 33.

TIME - 9:30 AM

Morning stop will be Bowen Lake at Chain of Lakes State Park where Dick Hurley and Father Conan Taylor will conduct an aquatic life demonstration. Included will be a lake profile showing temperature, dissolved oxygen, carbon dioxide and other physical properties at varying strata of the lake. We'll take plankton samples, use microscopes and study shoreline vegetation.

BRING - Boots, lunch, drink.

MAY 20 - Saturday - We'll visit the Wickwire Woods in Stueben County for a spectacular wild flower display. Then we'll see ACRES' Woodland Bog, also in Stueben County, to see fern curls and tamara rack feathers.

MEET - Parking lot of The Peoples Trust & Savings Northcrest (gold dome) Bank.

TIME - 9:30 AM

BRING - Boots, lunch & drink.

JUNE 3 - Saturday - A "Soils" field trip led by SCS men, Frank Kirshner and Glenn Poe.

MEET - Parking lot of the Allen County Agent's office. (First building on 37 east of By-Pass 30 and 37 intersection.)

TIME - 10 AM

We'll examine six soil profile holes permanently maintained on the Extension grounds for soil's studies. We'll learn about soil origins, characteristics, capabilities and uses. (Both agricultural and non-agricultural)

In the afternoon we'll travel to several "in the field" sites for a broad look at soil types and uses.

BRING - Boots, lunch & drink.

NATURALISTS IN CHARGE: Richard Hurley, 421-9291 and Father Conan Taylor, 744-3397.

RAIN - OR - SHINE POLICY



A lot of ACRES time and personnel goes into field trip planning, so we go as scheduled no matter what the weather decides to do. Really, it rarely rains all day!



QUARTERLY COVER ARTIST, Colby Knerr, is a Senior at New Haven High School. Colby plans to enter Indiana University Extension as a music major next fall. His linoleum block print was first used by ACRES at the Conservation Coffee House in February. Colby lives at 3216 Senate Ave, Fort Wayne.

RENEW NOW WITH



Regular: \$2 Sustaining: \$10 Patron: \$50

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WORK IN THE NATIONAL PARKS * * * * *
HIGH SCHOOL AND COLLEGE STUDENT SUMMER OPPORTUNITIES * * * * *

This year, the Student Conservation Association, Inc. offers an even wider range of summer job opportunities to High School and College (undergraduate and graduate students). Jobs range from independent conservation research projects in Acadia National Park on the east coast to jobs with the wilderness program in the Olympic National Park on the Pacific Coast. Opportunities for both men and women (single or married) are available. Some positions are paying jobs, others furnish room, board & travel.

For details of specific assignments, and how to apply, contact Dr. John W. Klotz, 483-1532.

Dr. Marion T. Jackson
Department of Life Sciences
Indiana State University

Indiana was a land of majestic forests. Few temperate hardwood forests of the world rivaled our primeval stands, either in diversity, complexity, extent or beauty. Of course, no one will ever again see the vast unbroken presettlement forest that was Indiana -- the forest that the settlers thought to be eternal. But even a virgin forest covering over 20 million acres has proved not to be eternal. It was cut, burned, logged, grazed, bulldozed and cultivated until now it remains only as scattered remnants and imperfectly-recorded memories. Plant ecologists have, however, through some clever detective work and by using electronic computers to facilitate data analysis, accurately pieced together the nature of Indiana's forests of presettlement times.

When Indiana was originally platted (about 1799 to 1834) by the General Land Office Surveyors, two bearing or "witness" trees were used to mark each section and quarter section corner. The species name, diameter and distance from the corner point were recorded for each bearing tree. Allowing for trees common to two or more sections, data were recorded for an average of six trees per section. These survey records furnish much of the same type of information concerning a forest that an ecologist might obtain from an existing stand. Computer analyses of these records enable scientists to determine the species composition, dominant trees and general nature of the original forests. In this manner, the presettlement forests of the entire state have been studied by Dr. Alton Lindsey of Purdue University. The location and extent of each of the various forest types have been mapped.

Not all of Indiana was forested because the eastward extension of the "grand prairie" of Illinois terminated in grassy fingers projecting far into the hardwood forests of the northwestern Indiana counties. The presence of long-grass prairie in a forest climate resulted largely from poor drainage, recurring fires and grazing by buffalo. Including floodplain and depressional woodlands, Indiana was about 90% forested.

The forests of presettlement Indiana, like all the north-temperate zone hardwood forests of the world, had their origins in the richly-mixed forests of the Tertiary geologic period which occurred some 60 million years ago. With the onset of Pleistocene glaciation, the warm-adapted Tertiary forest migrated southward along the Appalachian Mountain chain and found refuge in the moist coves of the southern Appalachians. The magnificent cove forests found in the Great Smokey Mountains National Park today are very similar to the Tertiary "mother-type" forests, indicating that evolutionary changes were conservative during this long geologic period. Of the many modern forests which radiated outward and segregated from the mixed Tertiary forest in the wake of the glacial retreat, three main upland forest types were much in evidence in early 19th Century Indiana.

- These are: (1) A mixed forest dominated by several species of hardwood trees, which covered about 8% of the original vegetation of the state; (2) Beech-maple dominated forest which occupied 50%; and (3) Oak-hickory dominated forest which was present on 29% of Indiana's landscape.

The mixed or mesophytic forests occupied the limestone-derived soils on the unglaciated "sinkhole" topography of southcentral Indiana and on the steeper slopes along the Ohio River, Whitewater River and Laughery Creek drainage in the southeastern corner of the state.

Although this mixed forest type was not extensively found in Indiana, it was one of the most interesting plant communities of the state because of the great number of species sharing dominance. Frequently 10 to 20 species shared in the crown cover and exerted their controlling influence on plants of shorter stature. Beech, sugar maple, white oak, tulip-poplar, black walnut, white ash, red oak, wild cherry, shagbark hickory, black gum, chestnut, basswood, elm and various other oaks, hickories and species of lesser importance were often found in a single stand. Trees of enormous proportions of all species were present, along with a rich selection of shrubs, vines, ferns and wildflowers.

These forests were removed rapidly because of their proximity to the settlement routes from Kentucky and because the pioneers quickly learned that land which grew the best trees would also grow the best corn. It made little difference to the settlers that they were cutting the finest hardwood forest in the world. Tulip-poplar and walnut six feet in diameter and 150 feet tall -- trees that would bring a fortune from veneer buyers today -- were quickly felled and reduced to ashes. This is not offered as an indictment of the early settlers; forest decimation was inevitable because it impeded settlement, and because subduing the wilderness was an integral part of pre-television pioneer life.

Probably the best remaining virgin stand of mixed forest -- perhaps the most impressive forest in the state -- is an 80-acre tract known as Donaldson's Woods in Spring Mill State Park.

The beech-maple type developed from the mixed forest as northward postglacial migration occurred. There was a natural shift of dominant species toward those able to advance rapidly onto the youthful glaciated topography. These beech-maple dominated forests were still undergoing compositional changes and boundary adjustment at the time of Indiana's settlement. Forests classified as beech-maple usually had beech as the most abundant canopy tree, while sugar maple was co-dominant in the canopy and frequently dominated the understory. This forest type occurred most commonly within the areas of northern and central Indiana that were covered by Wisconsin age glacial till, but it continued southward onto older Illinoian age till in both southeastern and southwestern Indiana. Its northwestern extension stopped short of the prairie border.

Although lacking the diversity of the mixed forest, beech-maple forests had a majesty all their own. The grey-barked, straight-boled beeches of a primeval forest are among the most impressive of all hardwood trees, whether you see them with the tender green of spring, the deep shade of summer, the copper-gold of autumn, or with their twiggy crowns against a red winter sunset. The enormous mast crop of the beeches provided a banquet for hosts of passenger pigeons, grey squirrels, wild turkeys, deer and bear.

The favorable climate and more uniform topography occupied by these forests permitted a lushness and uniformity of vegetation that perhaps prompted Morris Birkbeck to write of Indiana in 1818:

"It is a feeling of confinement which begins to damp the spirits, from this complete exclusion of distant objects. To travel day after day among trees of a hundred feet high, without a glimpse of the surrounding country, is oppressive to a degree which those cannot conceive who have not experienced it; and it must depress the spirits of the solitary settler to pass years in this state. His visible horizon extends no farther than the tops of the trees which bound his plantation -- perhaps, five hundred yards. Upwards he sees the sun, and sky, and stars; but around him an eternal forest from which he can never hope to emerge. . . ."

But we have emerged. Today the beech-maple forest is mostly farmland. Because it was a forest type which occupied the soils most favorably adapted to farming, it suffered most from agricultural clearing. Drainage has lowered the water table of the depressional soils so that they too are now farmed. As one drives across the gently-rolling Tipton Till Plain of central Indiana, only a few scattered, well cut-over beech-maple forests break the horizon of the vast crop lands.

Hoot Woods, a privately-owned stand of about 60 acres, in Owen County, is one of the few outstanding examples of this type left in Indiana. The Hoot family has preserved this stand since their grandfather homesteaded the farm in the 1860's. As a result of their careful husbandry of the family forest for over a century, today we can view a virgin stand of timber which soars upward as straight as marble

columns to over 100 feet, just as Birkbeck described.

The oak-hickory dominated forests have their best expression in the northern Ozarks where they cover the entire landscape. In Indiana, however, oak-hickory communities were largely found within the matrix of previously-mentioned types, but generally on steeper, drier soils. It seems probable that the oak-hickory forests of Indiana were generally undergoing a gradual replacement by more mesic forests at the time of European immigration.

Oak-hickory forests were most common on the dry unglaciated ridges of southern Indiana and on the excessively-drained glacial deposits of the northern lake region. This forest type had much greater variation in composition than did the beech-maple type. On the dry southern Indiana ridges, chestnut, chinquapin, scarlet, red, white and black oaks were found along with mockernut and shagbark hickory. Sometimes oak-hickory forests were found on lowland sites with bur, pin, Shumard's and swamp white oaks plus shellbark and bitternut hickories increasing in importance. Even pecan was found in the Lower Wabash Valley. In northwestern Indiana, black oaks provided shade for dozing buffalo on the dry ridges at the prairie border.

Oak-hickory forests were best viewed in the fall when the trees were full of nuts and squirrels. Autumn coloration is more somber in the oaks and hickories than in other types, but the rain of hickory nut cuttings whets the appetite for a browning bushytail, and brings back momentarily the hunting instinct of the self-sufficient settler. These trees grew to huge proportions and it was a sure-shooting (or lucky) pioneer who could "bark" a squirrel near the top of a 100 foot hickory. The oaks reached even greater size, as evidenced by a giant oak tree 7 feet in diameter and 70 feet to the first limb which remained standing in Berkey Woods near Warsaw until recent years. Dr. C. C. Deam reported this tree to be the largest oak in America. Unfortunately, few outstanding examples of the oak-hickory forests remain in Indiana today.

Although not generally considered to be one of the major forest types, the floodplain forests bordering the Wabash, White, Tippecanoe, Blue and other Indiana Rivers were the most impressive of all hardwood forests. In the fertile alluvium of these broad valleys tulip trees reached 11 feet in diameter and towered 180-200 feet in height. Almost equally impressive were the huge black walnut, silver maple, elm, cottonwood, ash, and in the Lower Wabash Valley, the bald-cypress. The largest known tree in Indiana today is a bald-cypress in Knox County that tapes just under 7 feet in diameter. However, no floodplain species in the original forest could top the girth of the giant sycamores, which commonly exceeded 10 feet and grew as large as 14 feet in diameter. These were frequently hollow, and doubtless sheltered many a bivouacking backwoodsman - at least when the bear family was not at home.

Rivers were the frontier highways and growing towns and cities along their banks needed vast quantities of wood for everything from cradles to coffins. The fertile bottomland soils were eagerly sought for agriculture, in spite of the flood hazard, so the floodplain forests were largely gone by the 20th Century. Perhaps the best remaining example is Beall Woods, a superlative Shumard's oak-sweet gum dominated tract, along the lower Wabash on the Illinois side of the river.

No doubt it was inevitable that the presettlement forest of Indiana - among the finest of all hardwood forests of the world - would melt before civilization's advances. Since we had a state and a nation to build, it was only a matter of time until the forest which stretched virtually unbroken from the banks of the Ohio to the prairie's edge near Illinois would be gone. As early as 1902, a young forester, Samuel Record, addressing the Indiana Academy of Science, lamented the loss of nearly all the good forest stands in Indiana. What young ecologist starting his career today would not count it a windfall of fortune to just see some of the primeval forest remnants which have been lost since 1902? Although the best is gone, there are still bits and pieces of our hardwood heritage that we must pass on as a legacy to hoosiers who follow us. These remnants, however small, must be saved as

nature museums and outdoor laboratories for the quality that they, like churches, colleges and libraries, add to human life. Some people believe that remnants of our natural landscape and the history which they represent may not be worth preserving and that we do not need such areas. Others, perhaps more nostalgic and sentimental, and yes, more perceptive - do feel this need. These remnants, in addition to their value as outdoor teaching and research laboratories, are the only living link with our pioneer past - the living history books that can mentally transport us to the original Indiana scene.



Enormous clear length of smooth boled beeches in Hoot Woods, a Beech-Maple presettlement forest remnant. (Man on log gives scale).

LANDMARK LEGISLATION FOR INDIANA ***

The 1967 General Assembly passed a bill which establishes a State System of Nature Preserves. It sets up a special Division in the Indiana Department of Natural Resources to administer this program. This legislation provides a vehicle for the dedication of wild areas within state owned lands as well as a means for acquisition and acceptance of gifts into a permanent system of State natural areas. ACRES Board member Jim Barrett authored this legislation and the Indiana Division of the Izaak Walton League of America, and it's Resource Chapter, sent the State's top naturalists to testify for this bill. Passage was in great part due to the efforts of legislators in both Senate and House from the northeastern Indiana counties.

* You * are

* invited * to * a * WORKSHOP IN CONSERVATION AND OUTDOOR EDUCATION.

April 28, 29, and 30

Bradford Woods - Martinsville, Indiana

Sponsored by Indiana State Board of Health, State Department of Natural Resources and State Department of Public Instruction with assists from Indiana University, Purdue University, Ball State University and the U.S. Department of Agriculture.

The program includes lectures, field trips, films and excellent discussions. Lodging, meals and registration - \$12.50. (Dormitory sleeping arrangements, bring your own bedding. Adults only. Registrations are limited to the first 100 persons.)

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Don't forget - a yearly \$7.00 Golden Passport enables you to visit more than 2,500 Federal Recreation Areas (including the National Parks all across the country) without paying entry fees. The revenue from your passport boosts the Federal Land and Water Conservation Fund. This fund, among many other things, is the helping hand to acquiring land for your County Park system. Write: Operation Golden Eagle, Bureau of Outdoor Recreation, 3853 Research Park Drive, Ann Arbor, Michigan 48104.

Note: If you are a member of the American Automobile Association, call the local office (742-0107) and they will arrange your "passport".

We live in such an artificial environment, insulated from the natural world. It's like living in a greenhouse with controlled heat, light, and humidity. As a consequence we come to accept and even prefer the artificial; we like manicured and well kept parks, we like symmetrically arranged plantings, and we like nursery developed flowers.

There's hazard in living in a greenhouse. You never know when the power will fail; our artificial society faces real problems because it has become so dependent. More than that: there's a lot outside the greenhouse and if we stay inside we miss a great deal. ACRES is devoted to an appreciation of the world outside our artificial greenhouse. We think it's worth exploring and worth preserving. Parks have their place and are necessary, flower beds have their place to relieve the drabness of the non-living, and landscape architecture contributes much to man's esthetic enjoyment. But the natural, too, is important and esthetically satisfying.

ACRES has set up its field trip program so that you get out of your greenhouse and visit the natural world. We also want you to see what your support has accomplished. There's still a lot to do: in many cases we're only a few steps ahead of the bulldozer and the chainsaw and in others we lose the race. Join us on our spring field trips. We know you'll enjoy them and will have a new appreciation of the natural world.

Jon W. Klotz

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Fort Wayne, Indiana

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