



QUARTERLY

FALL • 1971
Volume X No.3



NOV. 12CONCORDIA SENIOR COLLEGE
MAIN DINING HALL**6:30**

P M

\$3.00

PLATE

Send or phone reservations by November 10 to:

Mr. & Mrs. Bruce Badiac
4607 Bittersweet Drive
Fort Wayne, Indiana 46825

483 - 9259

or

483 - 1532

Special table decorations by Mrs. Lyle Claphan

SPECIAL GUEST SPEAKER

◀ Dr. Kenneth W. Hunt, Director, Glen Helen
Antioch College, Yellow Springs, Ohio

Dr. Hunt, Director of Glen Helen, supervises the 1,000 acre area which is Antioch College's wildlife preserve, an outstanding area of bluffs, hollows and rockbound nooks.

Says Dr. Hunt, "Experiences of a wild area are too easily forgotten as we rush about - fearful of accomplishing too little in our own brief time. We need a larger allegiance. Perhaps if we linger among the lilies of the field we can outreach our anxious limitations. At least, let's preserve enough lilies and fields to allow our children to try this for themselves.

Several "wars" have raged at Glen Helen. To date, with Dr. Hunt leading the fray, the Glen has survived cut-thru highway plans, loss of area to a

sewage system and the building of a dam which would have drowned all life on the Glen floor.

From a year's visit in Britain, Dr. Hunt, who relishes the botanical beauty of England, found nothing left in that land which has not been continuously cultivated for four or five thousand years or which could compare to Glen Helen's raw, wild, unaltered and craggy naturalness. Dr. Hunt draws lessons from the British scene so that we might view our management of America's environment from the perspective of an older, more crowded, more experienced society. However, he stresses, unlike the experienced Europeans, we must learn new attitudes, not gradually over centuries, but NOW.

Dr. Hunt will present an illustrated talk, "The Man-Land Relationships in Britain".

QUARTERLY COVER ARTIST is Chris Nicklin, Senior at South Side High School and TeenAcres member. Chris heads the Art Club and her keen interest in animals and natural things leads her to look to a future career as a wildlife artist.

Dunes Nature Preserve**New Protection for a Famous Park**By William B. Barnes, Director,
Division of Nature Preserves

A State Park, no matter what excellent ends it serves, is primarily a region set aside for the preservation of native scenery. This was the governing principle laid down by Richard Lieber, Director of the Indiana Department of Conservation, at the time when the Dunes Purchasing Board was created in 1925 to acquire the Indiana Dunes State Park.

It was further stated: "A State Park must and gladly does serve its visitors. It will give ample opportunity for recreation and for healthful exercise and opportunity for living outdoors, for study and for appreciation. But a State Park does not only give to the people, it also makes certain demands on them. It demands that some of the primitive American land be left forever in its original state undisturbed and unmarred by man-made improvements."

How well this principle has served in the past is a matter of conjecture. It was not until 1967, when the Indiana General Assembly passed the Nature Preserves Act, that the terms of preservation and protection were legally defined. The Indiana Natural Resources Commission (which succeeded the Indiana Department of Conservation in 1965) now has the authority to dedicate *Nature Preserves*. These areas are legally described and placed in the county records.

Thus, on April 15, 1971, the Natural Resources Commission approved creation of the *Dunes Nature Preserve* within the *Indiana Dunes State Park*.

Articles of Dedication and a Master Plan were prepared and formal dedication was approved by the Natural Resources Commission on June 17, 1971.

Dunes Nature Preserve contains 1,500 acres of the 2,182 acres in the entire property, as shown on the map

This action does not mean that the tract will be closed to use by the

public. It does mean, however, that there will be no further encroachment upon its natural features by construction of buildings, parking lots, campgrounds, improved roads and other alterations for mass recreation. These facilities are now available in the West part of *Dunes State Park* outside of the *Nature Preserve*.

Rules and regulations for uses within the *Nature Preserve* are limited to walking and observing and restrict Man-made features to marked foot trails, foot bridges, service roads, fire breaks, boundary fences and similar necessities.

State Park rules require hikers to remain on trails. Man, when restricted to walking only, is less destructive to the landscape when compared with horse and vehicular traffic.

The area to be preserved is the largest and least disturbed part of a dunes system that originally extended across the entire Indiana frontage on Lake Michigan.

In 1821, John Tipton, who surveyed the state line between Indiana and Illinois and then followed the meanders of the lake shore Eastward, concluded that the ponds, marshes and sand hills "can never admit of settlement nor never will be of much service to our state." It was impossible for him to visualize the changes that would take place in 150 years, due to Man with his ever-increasing population and complicated industrial and mechanized society.

However, the geological history of this unique region dates back hundreds of thousands of years ago during the *Pleistocene Epoch*. Deposits are present from glaciation during the *Kansan, Illinoian* and *Wisconsin Ice Ages*.

But the important geologic story of the Indiana Dunes primarily began some 15,000 years ago toward the close of the last glacial period of the great *Ice Age*.

R. Dee Rarick, of the Indiana Geological Survey staff, writing in the December, 1963, issue of *Outdoor Indiana* said:

"The front of the vast continental glacier was divided into several lobes of extremely thick ice. The basin of present-day Lake Michigan, which was gouged from the shaly bedrock of the area by the grinding action of the glacial ice, was filled by one of these lobes.

As the climate grew warmer, melt water from the receding glacier was trapped between the ice-front and a prominent row of hills to the South now called the *Valparaiso Moraine*. Further retreat of the ice uncovered more of the basin of Lake Michigan, in which the melt water collected and eventually a huge lake was formed. This lake, much larger than the Lake Michigan of today, geologists named *Lake Chicago*.

"During each of the lake stages when the level of the water was static, the wind and waves formed beaches, a line of foredunes, and at least small dunes along the Southern shoreline. Three old beaches and associated dunes, now stabilized by vegetation, are found in Northwestern Indiana at elevations of 55, 35, and 20 feet above the present shore of Lake Michigan."

These formations during *Pleistocene* times, and subsequent changes since then, have exerted a profound influence on present-day topography and the plant and animal communities found there.

Cold climatic conditions occurred after the last glacier, and favored the growth of Northern species of conifers and hardwoods. Today these are represented by *jack pine*, *white pine*, *tamarack* and *birches*.

Then a dry period, about 4,000 to 7,000 years ago, supported the advance of prairie species from the West along with meadow communities. *Little bluestem*, *prickly pear cactus* and other grassland representatives still remain. Fires, set by Indians and later by settlers, have encouraged the persistence of both herbaceous cover and fire-resistant trees and shrubs.

Dunes Nature Preserve is unique

in that it contains habitats varying from the dry exposed beaches, with little plant life other than *sea rockets*, through forested cover of pines and hardwoods, to open ponds with floating and emergent vegetation. It is an area where Northern and Southern plants meet or reach the limits of their ranges.

Outstanding natural features can be best understood by beginning at the edge of Lake Michigan, where the water constantly deposits sand on the beautiful glistening white beach. The action of wind and waves, as well as periodic changing water levels, keeps this narrow strip clear of vegetation.

The first evidence of Nature's control of shifting sands can be found where the base of the dunes meets the more level lakeshore. *Beach grass*, with its spreading underground root system, establishes little islands of cover in the wind-blown sand.

Here and there, small mats of *bearberry* or *kinnikinnick*, a procumbent evergreen shrub, add more stability to the soil. *Sumacs*, *sand cherry*, *cottonwood*, and *prostrate juniper* gradually take over with increases in elevation. A few isolated stands of *jack pine* still persist on these lakeward slopes.

The first physiographic region is the dunal system of sand hills, within the North half of the *Nature Preserve*. This system, from 1/4 to 1/2 mile in width, is divided into three land formations, namely *foredunes*, secondary or *interdunes*, and *backdunes*.

Physiography of the area should be referenced into elevations above Lake Michigan.

A contour map, at two-foot intervals, was prepared when the water level in Lake Michigan was 579 feet above sea level. The base of the *foredunes* on the lakeside has been arbitrarily placed at points where a 10% grade occurs at elevations of 582' to 586'. Likewise, the base of the *backdunes* varies from elevations 598' to 600'.

The *foredunes* are characterized by a series of hills and depressions. Ridge tops exist at different elevations, with saddles dividing the higher hills. *Mount Tom* is the highest point at 765', and stands 186' above the lake. It is closely followed by *Mount Holden* at 763'. The next highest place in this *foredunes* area is about 1 1/2 miles Northeast at elevation 740'.

In between these high points and ridges in the *foredunes* are three important depressions: *Beach House*, *Furnessville* and *Big Blowouts*. Each is subjected to direct Northwesterly wind currents from Lake Michigan. Low barrier dunes, around 20 feet above the lake, exist at their mouths, with lower saucer-like depressions back of them.

The *interdunes* area is composed of a series of hills surrounding pockets and troughs, as well as the inner sections of the larger blow-outs. There are secondary peaks, with *Mount Jackson* being at elevation 750'. It is interesting to note that the lowest parts of these depressions are approximately 20 feet above the lake.

These pockets, coves and adjoining slopes are protected from the drying effects of the wind and often contain moist forest types. As soil moisture increases, *basswood*, *red* and *white oaks*, *tulip* (*poplar*), *white pine* and *ash* assume importance. On dry upper slopes and ridges, *black oak* again dominates, with an understory of *blueberry*.

The inner sections of the large blow-outs are examples of active wind erosion. Many spots are devoid of vegetation. In more sheltered spots, grasses and forbs and clumps of low-growing shrubs exist in response to these variations in environment. An occasional *cottonwood* or *aspen* will invade as pioneer species.

The continuous shifting of sand uncovers trees that were completely buried years ago. Remains of a former *white pine* forest can be seen in *Tree Graveyard* part of *Big Blowout*.

The *backdunes* area begins on the windward side of active blowouts some places and on protected ridges elsewhere. Leeward slopes usually face the Southeast.

Tops and upper leeward slopes of the *backdunes* are forested with nearly pure stands of *black oak* mixed with a few *white oak* and stunted *sassafras*. Thick stands of *blueberry*, *bracken fern* and *greenbrier* are found in the understory. *False Solomon's seal* is one of the few plants blooming in late May.

Lower slopes, above sandy flats or directly adjoining swampy places, contain a greater distribution of trees and shrubs. *Black oaks* (the largest measured 32 inches diameter breast high) share dominance with *white oak* in the overstory, along with *wild black cherry* and *some red oak*. *Witch hazel* and *sassafras* are in the understory and there is an increase in flowering plants.

Sandy flats and lower ground with greater organic matter border the swamps and marshes lying to the South. The forest composition on the sandy flats has *black oak*, *white oak*, *red oak*, *red maple*, *green ash*, *wild black cherry* and *black gum* on lower ground.

One sheltered cove on the North side of Trail 10 is known as *The Pinery*. Here *white pines*, up to 26 inches d.b.h., are associated with *oaks*, *tulip*, *white ash* and *basswood*.

In early Spring the understory is yellow with the unfolding leaves of the *spicebush*. *Witch hazel*, *maple-leaf viburnum* and *choke-cherry* are other prominent species.

Mid-May finds this forest floor bordering Trail 10 with dense stands of flowering plants. The umbrella leaves of *mayapple* shade *wild geranium* and large-flower *trillium* with their beautiful white petals that turn pink with age. *Jack-in-the-pulpit* has emerged in beds of *skunk cabbage*.

In other places, the dainty white

flowers of the *Canada Mayflower* can be found with *Indiana cucumber root*. Large clumps of *cinnamon fern* stand with their sterile fronds encircling brown-headed central fertile shoots. As wet ground is approached these often give way to *sensitive* and *royal ferns*.

The second physiographic region is composed of large marshes and swamps up to 1/2 mile wide occupying low ground South of the dunes. These contribute to the headwaters of a tributary flowage into *Dunes Creek*.

Open water stands in depressions at 593'. Incomplete drainage and slightly undulating topography show some isolated swamps as high as elevation 599'. There are many different plant and animal associations in this part of the *Dunes Nature Preserve*.

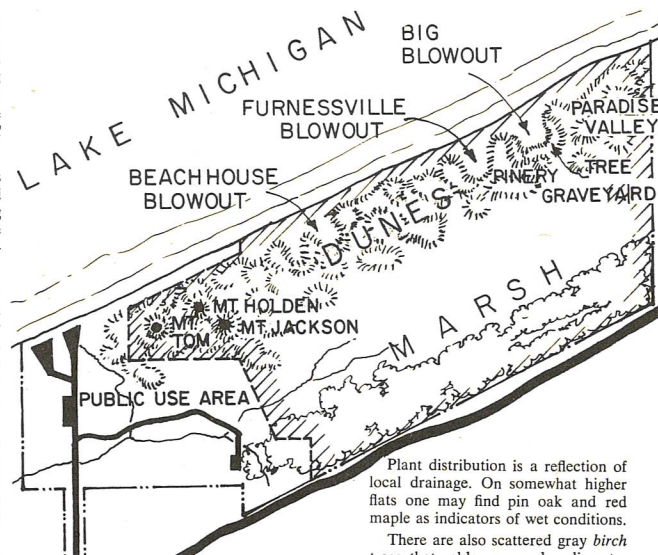
On the morning of last May 27, the writer was walking on Trail 8 near an open-water area in *Dunes Slough*. The early morning sun was just filtering its rays through a light mist. As I approached the South end of the rustic footbridge, seven wood ducks were seen exploding from the cover of thick *buttonbush* to the East. A green heron passed over above the tree tops, while a red-headed woodpecker loudly hammered on a dead *American elm* snag. Grackles fluttered among the low willows, and the bubbling songs of redwings were everywhere.

In the sand at the North end of the bridge, last night's tracks of a young *raccoon* mingled with the many shoemarks of hikers.

From this point, with open water near the western boundary of the *Nature Preserve*, the lowest land raises only four feet in the two miles to the Eastern edge bordering *Beverly Shores Road*.

One may find impenetrable rose thickets and moss-covered tussocks of *royal fern* interspersed with small openings of *sedges* and *narrowleaf cattails*. A difference of a few inches will change this habitat into *dogwood-buttonbush* - willow swamps, under which can be found yellow flowering *marsh marigolds* and *swamp buttercups*.

Catbirds, yellow warblers, cardinals and yellow throats find these shrubby stands particularly attractive. Rose-breasted grosbeaks, towhees, scarlet tanagers and flycatchers prefer nearby *black ash*, *alders* and *black*



willow trees along Trail 2 which crosses this tract.

The third physiographic region begins on the South edge of the marshy ground at elevation 600' and extends to the South boundary which parallels the railroad right-of-way with an elevation of 618' in the Southeast corner. It marks the beginning of one of the earlier shorelines of *Lake Chicago*. Although there is a gradual down-slope to the North, plant zonation does not follow this pattern, due to local differences in drainage and plant nutrients.

The best examples of mesophytic forests are found in rolling sandy areas abutting the swamps. The more mature stands contain some of the largest specimen trees within *Dunes Nature Preserve*.

Diameters breast high for some species, as well as their relative importance in forest composition, are as follows: *red oak* 25"; *white oak* 27"; *red maple*, *baswood*, *wild black cherry*, *white ash* 22"; *swamp oak* 29"; *green ash* 27"; *tulip*, *shagbark hickory* 19"; *sugar maple*, *sassafras* 15"; *butternut* 15"; *ironwood* 8"; *blue-beech* 6".

The occurrence of flowering *dogwood*, *ironwood*, *bluebeech* and *sugar maple* in the understory attests to this better growing site.

Plant distribution is a reflection of local drainage. On somewhat higher flats one may find pin oak and red maple as indicators of wet conditions.

There are also scattered gray birch trees that seldom exceed a diameter of 6" before dying. These are remnants of a relic colony, as the next closest location of this species is 200 or 300 miles away.

Dunes Nature Preserve is an outstanding natural area of not only State but National significance. The preservation of this largest block of relatively undisturbed landscape is the most important addition to our State-wide *Nature Preserve* system.

EDITOR'S NOTE: The ACRES Board considers the dedication of *Dunes Nature Preserve* a landmark "happening". ACRES' very beginnings sprang from the long struggle to preserve representative samples of the Indiana Dunes where land abuses told ACRES founders in definitive terms of the need to act in time and preserve areas here. So now it is with tremendous gratitude, even relief, that we applaud the dedication of the *Dunes Nature Preserve* into the system of natural areas protected by the State Division of Nature Preserves. ACRES Beechwood and Spurgeon Reserves are similarly protected by dedication as State Natural Areas under the Division of Nature Preserves. The total area so dedicated in Indiana is now 4,346 acres. Seven of these areas are in our State Parks, two in the State Forests, three in Fish and Wildlife areas, one held by the Division of Nature Preserves and two by ACRES.

OF BOGS AND LOGS

Hoosier Taste Treat Ripens

By JOHN W. KLOTZ
Professor Of Biology
Concordia Senior College

Late October is possum and persimmon time. An old Southern folk song starts out:

De raccoon up in de 'simmon tree

Dat 'possum on-de groun',

De 'possum say to de raccoon: "Suh!

Please shake dem 'simmons down.

Moonlight hunts, hound dogs, and possums grown fat on persimmons and roasted with sweet potatoes are part of country legend and folklore in the south.

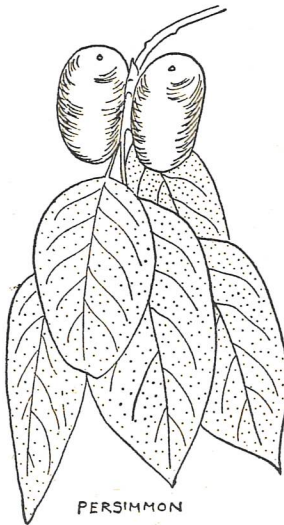
Actually the persimmon is more an Indiana tree than it is a tree of the deep south. Persimmons are ripening now in southern Indiana and the first hard frosts will change them from hard green things which if eaten will pucker your mouth for hours into mellow sugar-sweet reddish orange fruits.

The persimmon is a small to medium sized tree from 25 to fifty feet tall and about one foot in diameter: the maximum reported size is 130 feet tall with a three foot trunk. The tree has a broad, rounded crown. The leaves are alternate, three to six inches long, oblong-ovate to oval. They're leathery, without teeth or in-

dentations, dark green and lustrous above and paler and sometimes hairy below.

The persimmon has separate male and female trees. The female trees have yellow-green flowers which appear when the leaves are about half grown.

It's the fruit of this tree that is most interesting. There's a lot of tannin in it until it is ripe: biting an unripe persim-



mon is worse than sucking a lemon. It gradually changes from a mouth puckering green to yellow orange with a purplish sheen to a sweet yellowish orange fruit that's over an inch in diameter and which

will remain on the tree until midwinter unless it is eaten sooner. The bright orange fruit is a marked contrast to the dark green leaves and later to the naked branches.

The flavor of the persimmon is delicious. Unfortunately it doesn't ship well, but it can be made into all sorts of mouth watering desserts. I still remember a dish of persimmon ice cream I ate at the Parke County Covered Bridge Festival.

The persimmon belongs to a genus of over two hundred species that is almost exclusively tropical, one member of which is the ebony of commerce. It's an intolerant tree which doesn't do well at all in the shade. For this reason it was infrequent in the primitive forest but is rather common in clearings and abandoned fields. It's a tree that thrives on the poorest and hardest soils. It grows long surface roots from which numerous suckers develop forming "persimmon thickets."

Here in Indiana the farthest north that native persimmons grow are Fountain and Montgomery Counties. There are trees that have been planted growing north of us in DeKalb and Noble Counties. The largest persimmon trees grow in the fertile valleys of southern Indiana and Illinois.

The wood of the persimmon is one of the heaviest native woods. It is used for shuttles, boot and shoe findings, golf club heads, and in turnery.

Captain John Smith saw wild persimmons growing near Jamestown soon after settlement in 1607. He described them as follows: "The fruit is like a medlar; it is first green, then yellow and red when ripe; if it is not ripe, it will drive a man's mouth awrie with much torment; but when it is ripe it is as delicious as an apricock."

Just thinking about persimmons causes my mouth to pucker and drool.

*Ye who pass by and would raise your
hand against me, harken ere you harm me.*

*I am the heat of your hearth on cold winter nights,
the friendly shade screening you from the summer
sun and my fruits are refreshing draughts
quenching your thirst as you journey on.*

*I am the beam that holds your house, the board
of your table, the bed on which you lie, and
the timber that builds your boat.*

*I am the handle of your hoe, the door of your
homestead, the wood of your cradle, and
the shell of your coffin.*

*I am the bread of kindness and the flower of beauty,
Ye who pass by, listen to my prayer. "Harm me not."*

september 11

FALL FIELD TRIPS

Saturday Evening - 6:00 PM

NIGHT SIGHTS AND SOUNDS

Do you know a cricket when you hear one? A Katy-did? A tree frog? A Barred Owl? Do you know a glow worm when you see one? We'll visit Dustin's woods, creek bottom and fields for an "after dark" hike, look and listen.

MEETING PLACE: Peoples Trust Gold Dome Bank, US30 Bypass, Northcrest.

BRING: Flash light, portable tape recorder(if you have one).

october 12

Sunday Afternoon - 1:00 PM

MAKING A SELF GUIDING NATURE TRAIL

This field trip will sharpen your powers of observation. Naturally the naturalists will help us. We will find, and record the points of interest and prize specimens between self-guiding number posts already installed at the Spurgeon Reserve. The end result will be a printed Self-guiding Nature Trail Guide for the Edna W. Spurgeon Woodland Reserve. Clip boards, pencils and note paper provided.

MEETING PLACE: Fortmeyer's Tire Center(SW corner US33 & Wash.Center).

BRING: Sack supper and drink. Binoculars, cameras, field guides.

ACRES, Inc.
1802 Chapman Road
Huntertown, Indiana 46748

NON-PROFIT ORGANIZATION



Mr. & Mrs. Jerry Sauder
Grabill, Indiana
46741

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The QUARTERLY is published by ACRES, Inc. four times each year at 1802 Chapman Road, Huntertown, Indiana 46748, for the interest of its members, friends and others similarly dedicated to the preservation of natural areas in northeastern Indiana. ACRES, Inc. is a non-profit corporation, incorporated under the laws of the State of Indiana. Contributions are deductible for tax purposes. Jane Dustin, Quarterly editor.

MEMBERSHIP: Student, \$.50; Regular, \$2.00; Sustaining, \$10.00; Patron, \$50.00 payable annually to ACRES, Inc., 1802 Chapman Road, Huntertown, Indiana 46748.