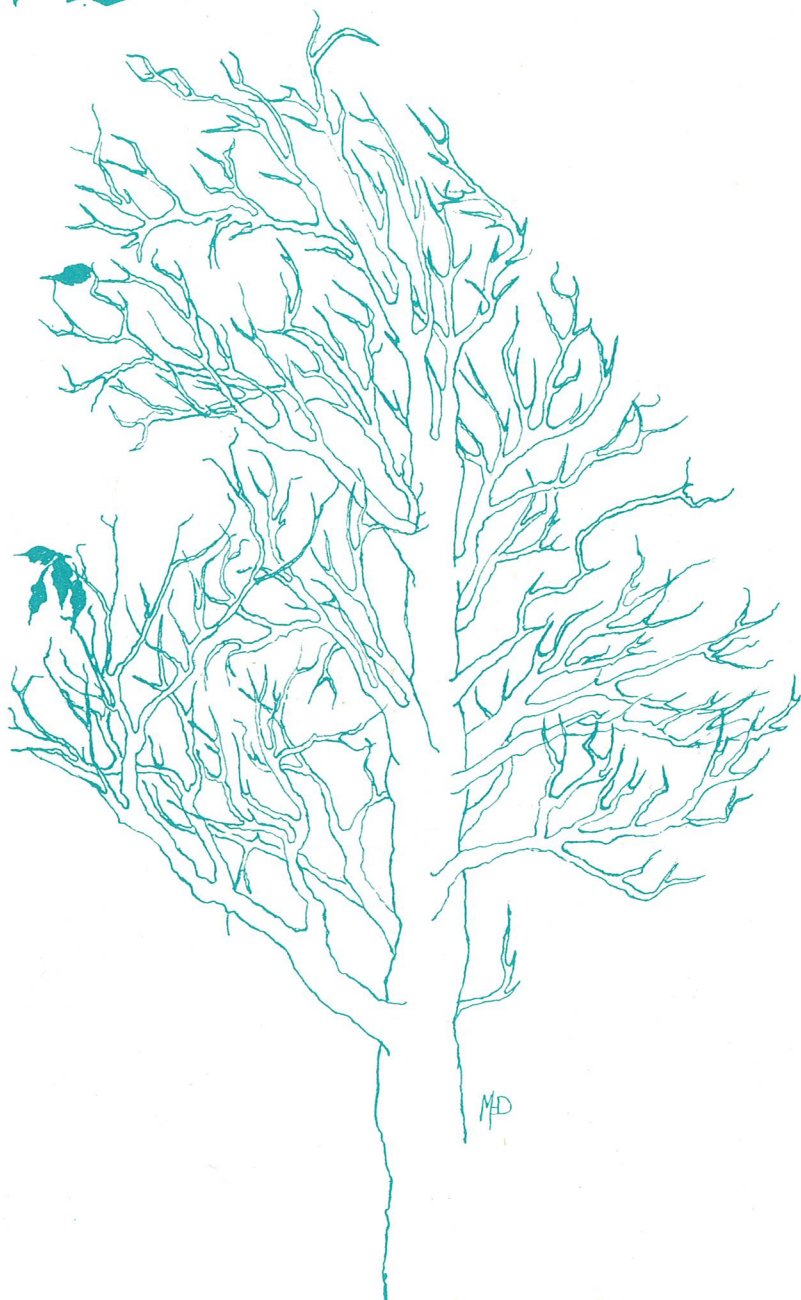


A C R E S

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Intertwined Societal Problems

The public is aware of problems with respect to the environment, energy, balance of payments, and national security. However, there does not seem to be general awareness of the extent to which these problems are intertwined.

The demand for clean energy has continued to grow, while reserves of natural gas and petroleum have diminished. Imports of hydrocarbons have expanded sharply and seem destined to increase much more. Already these imports are responsible for much of our deficit in the balance of payments. Continuation of present trends must lead to much deeper deficits, more devaluation, and massive loss of confidence in the dollar. At the same time, we are becoming vulnerable to petroleum blackmail.

The demand for clean energy has caused major shifts in the utilization of fuels. To the householder, electricity is the cleanest form of energy possible, and his use of it continues to increase. Emissions from the generating plants are someone else's problem. The utilities, under pressure to reduce sulfur dioxide pollution, have turned from coal to oil. Near the Atlantic coast, the number of electric generating stations burning coal has dropped sharply. In New York City, for the first time in 90 years, not one pound of coal is being burned by Consolidated Edison. Along the East coast during the period from 1968 to 1972, some 28 million tons of coal were displaced by oil from foreign sources.

The desire for clean energy has also increased the demand for natural gas, which is one of the most convenient and pollution-free forms of energy. However, gas distributing companies in many states are finding it necessary to refuse to serve new applicants. Last year, consumption of natural gas was 22 trillion cubic feet. Current reserves are 278 trillion cubic feet, and new discoveries fall far short of matching consumption.

A number of installations are now developing processes for obtaining methane from coal, but the level of effort hardly seems commensurate with the need. In addition, schemes are being implemented to import liquefied natural gas from North Africa. This procedure has the drawback of depending on sources that have not heretofore proved reliable.

Our major, and perhaps most vital, source of energy is petroleum and its various refined products. These materials provide 44 percent of our energy needs, but reserves and producing capacity are falling. In 1957, during the Suez crisis, we were able to supply our own needs and much of Europe's. Today, about 25 percent of our needs are supplied from abroad, and imports are increasing rapidly. Last year, total consumption of petroleum and its products was 5,523 million barrels. Reserves in the 48 contiguous states dropped to about 28,000 million barrels. New discoveries during the year contributed a trifling amount.

In the face of this deteriorating position, we are projecting increased consumption of gasoline. Schemes for controlling auto emissions entail losses in engine efficiency ranging in the neighborhood of 17 percent.

A continuation of our present trends in the utilization of energy and in growing dependence on foreign sources must lead to problems of unprecedented magnitude. We must place more emphasis on finding means of curtailing energy consumption while moving vigorously to develop acceptable substitutes for oil and natural gas.—PHILIP H. ABELSON

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QUARTERLY COVER ARTIST is Mary Dustin, ACRES student member. Mary is a Senior at Carroll High School with special interests of horses, back-packing and arts and crafts.

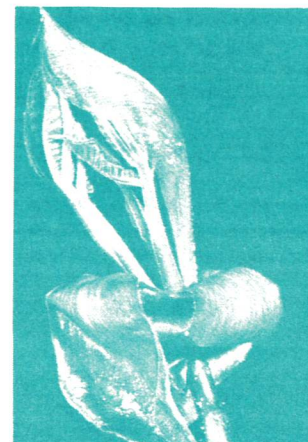
HICKORY



Hickory Bud



Green Hickory Nuts



Hickory Leaves
Unfolding



Hickory Blossoms



Ripe Hickory Nuts

Photos by Myrtle R. Walgreen

Trees walk. Two or three interglacial periods ago the hickory tree grew across Southern Europe, Central China and North America. As the glaciers came down (the last one about 10,000 years ago) and carved out the Great Lakes, they killed all the trees standing in their way. "Walking" trees such as Maples, Oaks and Pines that sprouted seeds ahead of the glaciers as they moved survived. Slow growing hickories that couldn't reproduce fast enough didn't fair so well and in China and Europe they were virtually wiped out. In North America, they lived. As the ice receded, about 18 kinds of hickory were left. Pecan trees grew as far south as the gulf coast. A group of tougher, slower-growing varieties inhabited the north in a belt across Illinois, Indiana, Ohio, and Pennsylvania to the east, in New England, and southward. Most distinctive of the species, the Shagbark Hickory with its funny, scaly bark was left at the northern edge of this line.

The settlers picked the tough, resilient wood for hard jobs. Axe handles, wagon axles, barrel staves, other tools. They burned a lot of hickory. The heat was high and long, a shagbark log would last the night. Green hickory sawdust had a flavor and smoke houses made hams, bacon and fish. There were other uses. Shagbark hickory nuts were delicious, in spite of the difficulty in getting at the meat. Oldtimers still tell of collecting bushels of the nuts in the Fall for a "nut-crack" party. The nuts have four times the protein as milk by weight, and more energy calories than any other tree-borne fruit. Songs, poems, books and stories tell tales about the hickory tree; education was "taught to the tune of a hickory stick". Little known, the sap had a maple-like flavor all its own and hickory syrup and hickory sugar were made.

The usefulness of hickory and its slow growing process, put the tree in trouble. As land was cleared, hickories were cut out and reproducing seeds were lost. The tree grew so slowly it wasn't worth the trouble. It takes over thirty years before a Shagbark can produce nuts and over forty or fifty before the tree is large enough to shade a picnic. So today the enemy is man, and the automobile. The hickory doesn't tolerate impure air very well in its youth, although it can survive if it is carefully tended. A mature Shagbark stands from 70 to 100 feet tall, with a trunk ranging from a foot to two feet in diameter. Trees this size are over a hundred years old and can live to well over 200.

It's hard to buy a Shagbark Hickory. Most nurseries don't handle them. Its great tap root feeds it and gives the tree its long life. It also makes it almost impossible to transplant. In a seedling 8" to 10" high the tap root can reach down over a yard, and can't be balled or potted without mortal damage.

The easiest way to save the Shagbark is to help it reproduce from seed. After Labor Day, and late into October, the nuts can be collected. The nuts should be dried and stored until spring planting time. Keep them in the refrigerator in a dry, sealed container. In March or April you can start the seedlings in a deep paper cup filled with mixed garden loam and sand. Don't expect all of the seeds to sprout. Be careful not to water too excessively. Once the nut sprouts, the tap root starts to reach down and can grow as much as thirty inches in the first summer. When your seedling has sprouted leaves and before the tap root reaches the bottom of the cup (normally about six weeks) you can transplant it. Be sure to pick a spot you like because that's where the tree will be from now on. It can't be moved. It's a good idea to plant two trees for cross pollination if you want nuts.

ACRES winter dates

Jan. 12

Friday Evening - 7:45 PM
Concordia Senior College, North Classroom Building
Room 201.

Walt Disney Tru-Life-Adventure, CHICO, THE MISUNDERSTOOD
COYOTE. Bring the children!

Feb. 9

Friday Evening - 8:00 PM
Sears Pavilion, Foster Park, off Bluffton Road.

Roy Bates, THE GEOLOGY OF THE GREAT LAKES. Mr. Bates
is the Allen County Historian and leader of the famous
Batesway tours.

Refreshments and a fire in the fireplace.

Mar. 9

Friday Evening - 8:00 PM
Concordia Senior College, North Classroom Building
Room 201.

Florence and John Klotz, A TRIP TO SOUTH AMERICAN NATURAL
AREAS. A travelog to Lima, Machu Picchu, Igussu Falls,
Manaus, Brazilia, Rio de Janeiro, Buenos Aires and Marida
Mexaco.

Feb. 24 HIKE

Saturday - Meet at 9:30 AM at the Golden Dome Peoples
Trust Bank at Northcrest, Bypass 30.

We will visit Dallas Lake YWCA area near Wolcottville.
We'll hike around Dallas Lake, visit a woodland and
Pond Lil.

Dress warmly for hiking. We can eat indoors.
BRING: Sack lunch and drink.

ACRES ANNUAL ELECTION COMPLETE - BOARD OF EIGHTEEN

Newly elected to serve three year terms on ACRES Board of Directors are: Allen J. Lomont, John W. Klotz, James M. Barrett, Pat Bolman and Ethyle Bloch. Mr. Carson Noecker and Larry Moore were chosen to fill two unexpired Board terms and three appointed Board members were welcomed to beginning terms at the Dec. meeting. Mr. Bruce T. Yoder is the appointee to the ACRES Board by the Indiana Department of Public Instruction; Mr. Robert C. Arnold is the appointee of the Indiana Park and Recreation Association; and Mr. Paul Carmony is the appointee of The Indiana Nature Conservancy. The full Board again elected Robert Weber to serve as President. The three Vice Presidents are John Klotz, Frank Kirschner and Hy Goldenberg and Secretary is Jane Dustin and Treasurer is Ethyle Bloch.

ACRES Student Members - Student Conservation Association will be accepting applications for their summer work program in the National Parks and Forests. There is a wide choice of High School wilderness groups and a number of park and forest assistant jobs for college undergrads and grads. Interested?

Write: The Student Conservation Association, Inc.

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DIRECTORS: Robert C. Weber, President; Frank Kirschner, Vice President; John W. Klotz, V. President; Hy Goldenberg, V. President; Jane Dustin, Secretary; Ethyle R. Bloch, Treasurer; William Bloch; Florence Klotz; Allen J. Lomont; Larry Moore; Edward Eberhardt; James M. Barrett III; Carson Noecker; Arthur Eberhardt; Pat Bolman; Paul Carmony; Bruce T. Yoder; Robert C. Arnold.

NATIONAL ADVISORY BOARD: Howard Michaud, Professor of Conservation, Purdue University; M. Graham Netting, Carnegie Museum; Richard H. Pough, Open Space Institute; Durward L. Allen, Professor of Wildlife Ecology, Purdue University; Lynton K. Caldwell, Professor of Government, Indiana University.

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 north-eastern 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, \$5.00; Regular, \$2.00; Sustaining, \$10.00; Patron, \$50.00 payable annually to ACRES, Inc., 1802 Chapman Road, Huntertown, Indiana 46748.