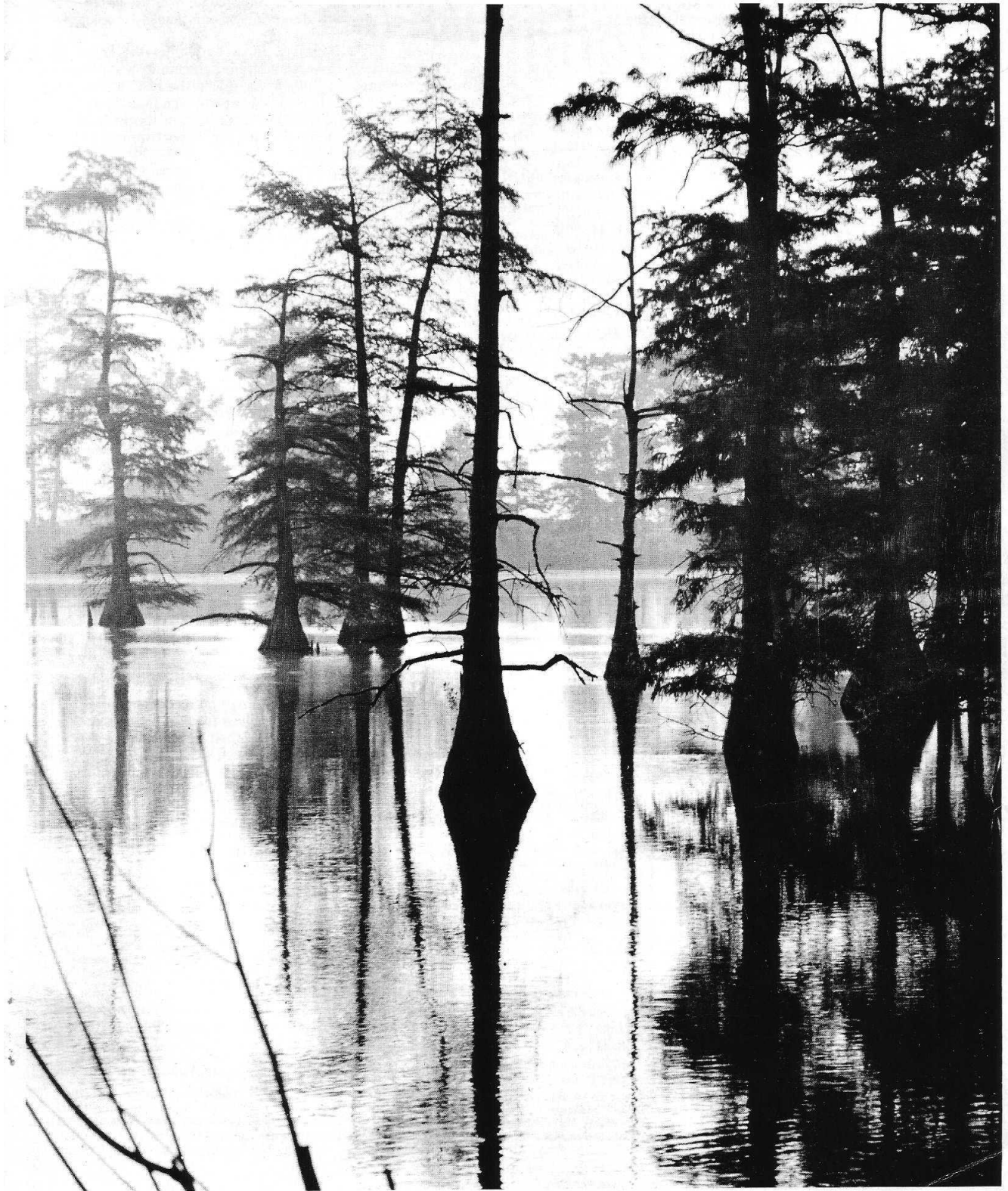


Ozark Society Bulletin



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Buffalo River Bill Reintroduced

The Buffalo National River Bill was reintroduced in the Senate on January 25 as Senate Bill No. 7 by Senators J. William Fulbright and John L. McClellan. We are elated over this, and they are deserving of our thanks for such early action.

We are greatly encouraged by word from Washington that Representative John Paul Hammerschmidt plans to introduce a companion bill in the House the last of February or early March. It is also a hopeful sign that Representative Mills has taken such an interest in the Buffalo River Bill. These men deserve all the support we can offer, and they need it NOW.

WE URGE EACH MEMBER to write his own Congressman and ask him to support early introduction and passage of the Buffalo National River Bill. Also write, or send copies of your letter, to Congressmen Hammerschmidt and Mills. Thank them for their support of the Bill.

We must maintain the strong endorsement for the Bill that the entire Arkansas delegation has granted in the past. Your Congressmen should hear your views, and be made aware of the public demand for preservation of the Buffalo River.

Passage of the Buffalo National River Bills becomes more critical with each passing month.

Scenic Rivers Bill

Northwest Arkansas Times Friday, Feb. 5, 1971

A Hurdle Jumped

The State Senate Committee on Conservation of Natural Resources held hearings this week (February 2) on a Scenic Rivers bill (SB 94), then cleared it for floor action with a favorable vote of 5-2. The committee, and the bill's sponsor, Sen. Bill Moore Jr., of El Dorado, are to be commended for prompt and considerate action.

The picture is less encouraging in the House. A sponsor, to the best of our knowledge, has yet to be found for the bill in the lower chamber, and the going can be expected to be somewhat rockier if, and when, that is accomplished. The bill, as mild and well-tempered as it is, isn't without its opponents.

At this week's Senate hearing the opposition was as loud as it was predictable. Those who oppose scenic rivers legislation are uniformly insensitive to aesthetics, and mostly preoccupied with commercial development (in the form of a dam, which is somehow thought to automatically attract industry) potentials of their own property.

Even when they dress just alike, it's easy to tell proponents and opponents apart. One asks: what'll it do for everyone, including our children and our children's children?

The others ask: what's in it for me?

Ernest Dumas in the Arkansas Gazette, Feb. 11, 1971

Senator William D. Moore, Jr. of El Dorado sponsor of a bill (SB 94) to create a scenic rivers system, withdrew it from consideration after the Senate removed from the bill two of the streams that were to be designated as scenic rivers. More amendments were pending.

Moore said he would bring the bill up again "at a more propitious time but it looked like a vain hope."

Governor Bumpers has made the bill a part of his legislative program and aides had gotten enough commitments to pass it. The commitments did not stand through the amendments.

Pen drawing by Kathrine Winckler

FRONT COVER:

HILL'S LAKE, AN ABANDONED CHANNEL OF THE ARKANSAS RIVER, ON HIGHWAY 70 NEAR NORTH LITTLE ROCK. AESTHETIC VALUES OF WATER AND CYPRESS TREES EXCEED COMMERCIAL VALUES. FROM THE COPYRIGHTED DISAPPEARING WETLANDS IN EASTERN ARKANSAS BY TRUSTEN H. HOLDER. PERMISSION TO PUBLISH GRANTED BY THE PHOTOGRAPHER, EDWIN L. ROSS AND THE ARKANSAS PLANNING COMMISSION.



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No. 3

Senate

S. 7—INTRODUCTION OF BILL TO PROVIDE FOR THE REESTABLISHMENT OF THE BUFFALO NATIONAL RIVER, STATE OF ARKANSAS

Mr. FULBRIGHT. Mr. President, on behalf of myself and my senior colleague from Arkansas (Mr. McCLELLAN) I introduce, for appropriate reference, a bill to establish the Buffalo River in Arkansas as the Buffalo National River.

Senators will recall that a bill for this purpose was introduced in the last session of Congress—S. 855—and was passed by this body on September 3, 1969. Regrettably, action was not taken in the House of Representatives prior to adjournment. Therefore, we are reintroducing the bill with the hope that the Senate will once again give it prompt and favorable consideration and that subsequently it will be acted upon by the House.

The Buffalo is nationally recognized for its scenic beauty and this bill would enable the preservation, in its free flowing, natural state, of an important segment of this river.

In its 1968 report on the proposed Buffalo National River, the National Park Service said:

The Buffalo River is born in a vast sea of trees high in the Ozarks of northwestern Arkansas. At first only a trickle, half hidden among leaves and rocks, the stream a quarter of a mile down slips over the first ledge, a new force on the land, slowly gaining in strength. For 142 miles it meanders across Ozark hill country toward a junction with the larger White River. Undiminished by man, the Buffalo today runs through a rich and varied landscape. Considered for size, for completeness, and for wild qualities, it is one of this country's last significant natural rivers.

The Park Service report continues:

The Buffalo deserves national attention not for any single quality but for an outstanding combination of qualities. The very base of the river's appeal lies in its clean, flowing waters, which support a notable sports fishery and provide an opportunity for pleasurable boating and swimming. Its scenery is interesting and often spectacular. It is unspoiled by development and free of pollution. It has a remarkable collection of features, illustrating its geology, botany, wildlife, archeology, and history. It is the only major stream left undamaged in the Arkansas Ozarks . . .

In recent years we have become increasingly aware of the need to preserve and protect unspoiled scenic areas in the country. I believe the Buffalo River certainly merits preservation and protec-

tion. It would be an important addition to our national park system and provide great benefit and enjoyment to the present and future generations.

Mr. President, I would like to emphasize that the establishment of the Buffalo as a national river will be done with the minimum possible disruption to the residents of the area.

The bill which we introduce today is in the exact form in which it was passed by the Senate, as amended in the Committee on Interior and Insular Affairs. Therefore, the bill provides that, with the exception of property that the Secretary of the Interior determines is essential for the establishment of the park, owners of improved noncommercial property or lands used solely for agricultural purposes on the date of acquisition could retain the right of use and occupancy until the death of the owner or his spouse, whichever occurs later, or not more than 25 years from the date of acquisition. It is my understanding that a very small number of dwellings would need to be removed in the early years of development.

The proposed national river includes about 132 river miles and a total of 95,730 acres in Newton, Searcy, Marion, and Baxter Counties.

The geological features of the river are outstanding and the flora is rich and diverse. Within the area are two features which are especially noteworthy. One is the 200-foot waterfall in Hemmed-in-Hollow, the highest free fall between the southern Appalachians and the Rockies. The other is the collection of gypsum formations in Beauty Cave, which are outstanding in their variety and the size of single specimens, some of which are not known to exist elsewhere.

Under the able chairmanship of the Senator from Nevada (Mr. BIBLE) a hearing on the proposed Buffalo National River was held on May 27, 1969, by the Subcommittee on Parks and Recreation of the Committee on Interior and Insular Affairs. On that occasion a large number of witnesses testified before the committee, the great majority of them in support of this legislation.

One of the many important points made at that hearing was that the Buffalo is within an easy day's drive of nearly 15 million people and is centrally located with respect to such major population centers as St. Louis, Memphis, Kansas City, Dallas, and Tulsa. An estimated 1.7 million persons would visit the river annually during its first years in the National Park System.

As stated in an editorial in the *Baxter Bulletin* in Mountain Home, Ark.:

The Buffalo . . . is a natural prize of national significance. It should be preserved as a national park-type area for the same reasons that the giant redwoods should not be mowed down to make boards and the Grand Canyon should not be dammed to carry out local economic designs. The national river would, in fact, aid the economy of the area by providing a new kind of outdoor preserve and recreational area.

The Southwest American in Fort Smith commented:

There's no question about the increasing demand for quiet recreational areas, as the population grows. And we believe the Buffalo stands right at the top in possibilities for such an area.

An editorial in the *Arkansas Democrat* on December 31, 1970, summed it up well:

The country is full of once-beautiful rivers that have been dammed, bulldozed and polluted. The Buffalo should be preserved.

As I mentioned earlier, the Buffalo is nationally recognized and I am pleased to note that I have received communications of support for this legislation not only from Arkansas and surrounding States but from many parts of the country.

The Buffalo has been the subject of articles and editorials in a number of leading publications across the Nation.

The *New York Times*, in an editorial supporting this legislation said:

The Buffalo should be spared the fate of dam construction that has destroyed so many Southern rivers. As a national river, it would offer both recreational variety to the Ozarks region and scenic and scientific variety to the nation.

A major article on the Buffalo by Robert F. Jones was published in *Sports Illustrated*, August 10, 1970, and the Buffalo was featured in an article on the Ozarks in *National Geographic*, November, 1970.

The *Sports Illustrated* article told of a float trip on the Buffalo made by artist Thomas Hart Benton and some friends. Mr. Benton is quoted as saying:

If every American could run the Buffalo just once, the way we did today, then I think our rivers would be beyond the reach of trouble.

In a strong editorial of support, the *Kansas City Star* said:

By general consensus, the Buffalo River . . . is one of the finest free-flowing streams remaining in North America. Not only does that basin possess exceptional beauty, but it lies within easy driving distance of 15 million Americans, which enhances its values as a recreational resource for the nation.

Today time is running out on the Buffalo, as population and industry slowly build up in Northern Arkansas. . . We believe the time for review and debate has come to an end and final action by Congress . . . is in

order. The Buffalo river is one of Nature's masterpieces that has been relatively untouched by man. It is a part of the nation's outdoor heritage and should be preserved for the enjoyment of future generations.

The St. Louis Post-Dispatch said:

The Buffalo is a natural prize. It is the best example of an Ozark free-flowing river of some size not already under some form of protection from exploiters, and in a state already well equipped with dammed lakes, this one mountain stream merits protection. It also deserves the attention of Congress because of its regional interest. There are few rivers like the Buffalo between the Appalachians and the Rockies.

Mr. President, the potential economic impact of the National River on the area is considerable. A 1968 University of Arkansas study makes these estimates for the 5 years deemed necessary to establish and bring a Buffalo National River Park into full operation:

First. Tourist spending of over \$92 million during the development period, eventually reaching an annual level approaching \$34 million.

Second. Private investments of at least \$5 million to building and improve nearby tourist accommodations for lodging, fishing, boating, bathing, and food services.

Third. The generation of 3,500 new jobs and an addition of some \$17 million to personal income in the area, an area in which income has been considerably below the State and national average.

The Department of Interior has estimated the cost of acquiring the private lands within the proposed national river at \$9.2 million. The total development cost was estimated at \$8.2 million, of which \$6.3 million is programed for the first 5 years after its establishment. The estimated annual cost of operation of the national river is \$685,800 after the first 5 years.

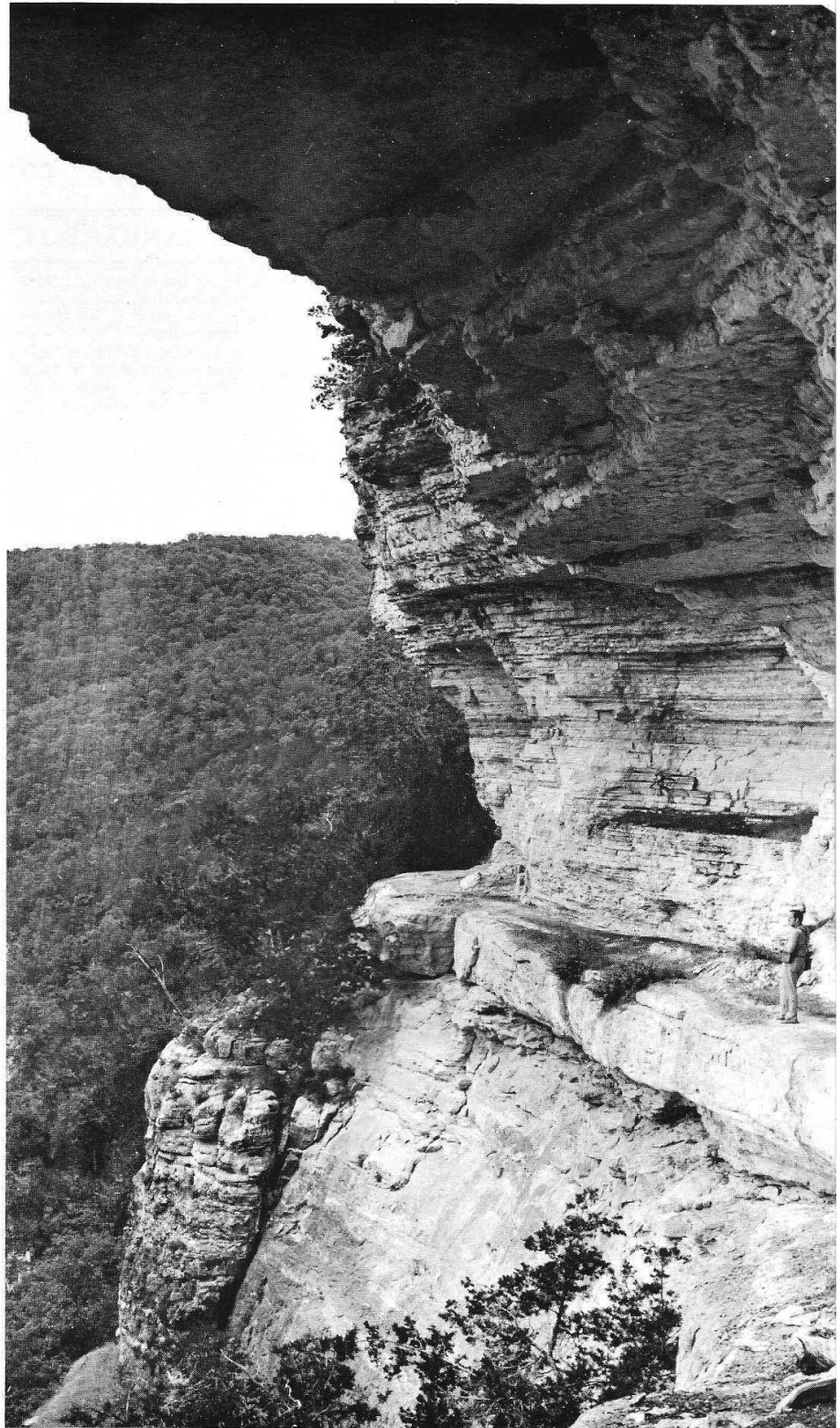
It is evident that the Buffalo River would not only be a significant addition to the national park system, but that the development of the park would considerably enhance the area's economy.

Mr. President, it has now been 10 years since I asked the National Park Service to look into the possibility of establishing a national recreation area along the Buffalo. It has been 8 years since the first Park Service report recommending the creation of the Buffalo National River. I think the case for making a national river of the Buffalo is clear and strong and the Senate has already concurred in this judgment in passing the bill in 1969. I hope that 1971 will be the year when the national river becomes a reality.

A recent editorial in the Arkansas Gazette, Little Rock, expressed it well:

Priority consideration . . . is rapidly becoming compelling as each day exposes the natural treasures of this unique mountain waterway to further despoliation. Already frequent reports are heard of extensive timber cutting within the proposed boundaries of the national river that could mar the pristine beauty of the Buffalo's banks for the next generation. Passage of the Buffalo National River in 1971 ought to be a prime project of conservationists from all over the country.

BUFFALO RIVER COUNTRY
PHOTO BY NEIL COMPTON



FOCUS ON THE DELTA

TRUSTEN H. HOLDER*

Consultant Arkansas Planning Commission

When driving through the Ozarks, or most any other mountainous or hilly part of our nation, and viewing terrain which is mostly wooded, it is difficult to realize what is happening to the natural environment in the Delta portions of Arkansas and other states along the lower Mississippi. Environmental deterioration, as we all know, is also occurring in the mountains. The crusade to preserve the free flowing status of some of our mountain streams, and the unspoiled natural beauty of many of the mountainous scenic areas merits the whole-hearted support of us all. But it is in the Delta, where a region-wide quality of the soil, the absence of a rocky and hilly topography, and a more rampant disregard for all except monetary values are helping to cause an environmental deterioration that could be presenting the greatest challenge to conservationists of our generation.

Consider what has already happened to the Eastern third of Arkansas—that part we commonly refer to as the Delta Region. When the white man first entered this ten million acre area it was a gigantic hardwood forest that was intermingled with streams, lakes, bayous and cypress brakes. It also contained about 400,000 acres of grassland or prairie. As one might suspect, practically all of the prairie with its climax growth of plant life which may have required centuries or possibly milleniums to become dominant has long since been plowed.

But what about that northeastern corner, that part of Arkansas which contained so many cypress brakes and cypress lined sloughs that it was considered to be impenetrable, and for many years was labeled on maps as the "Great Swamp". Well, the natural environment in that part of the Eastern Arkansas has probably deteriorated the worst of all. Interstate 55, from near West Memphis to the Missouri line above Blytheville, goes through the eastern edge of the Great Swamp. Drainage, land clearing and land leveling have obliterated cypress brakes and cypress lined sloughs so completely that there are not even any low spots where the vast majority of them used to be. Cypress trees are now visible at only eight or ten places, even on the distant skyline, along this 65 miles of Interstate 55.

Incidentally, this portion of Interstate 55 is also a part of the Great River Road, a travel route being proposed for development with parkway-like standards

from Canada to the Gulf. Trees of any kind within sight of this 65 mile segment of the Great River Road are so scarce that scenic easements need to be taken on the few rows of scrawny timber and even on the individual trees that do remain.

Since World War II, there has been a gradual awakening, on the part of sportsmen, businessmen and resource managers to the loss of wetlands and associated woodlands in Eastern Arkansas. In February 1969, the Arkansas Planning Commission initiated a study, in cooperation with the Bureau of Outdoor Recreation, to determine the rate and extent of these losses, to analyse the forces and trends affecting these losses, and to devise a plan of action for the preservation of some of the wetland and wooded remnants in the Delta portion of Arkansas.

The study has revealed that the destruction of wetlands and woodlands in the Delta Region of Arkansas has reached almost catastrophic proportions. Approximately 150,000 acres of Delta timberlands have been cleared during each of the last ten years. This rate of clearing cannot be maintained for many more years because considerably less than two million acres of woodlands remain in the entire ten million acre Delta Region in Eastern Arkansas. The annual rate is expected to decline, but it appears that ultimately, unless some definite and aggressive action is taken to the contrary, practically every privately owned wooded acre in Eastern Arkansas will be cleared. Virtually all the lone trees and rows of trees growing alongside roads and streams seem destined for elimination.

One of the most obvious losses is that which will be sustained by that portion of the wood products industry which is dependent upon Delta hardwood timber. That portion has enjoyed during the last ten years the receipt of logs from more than a million acres being cleared for cultivation. There were numerous exceptions, but in most cases the merchantable timber was harvested in conjunction with the land clearing operations. This influx of logs from the never-again-to-be-available source provided a temporary stimulus, but helped to speed the day when some, and maybe all, mills dependent upon Delta timber could close for lack of raw materials.

The hardwood forests that grow on rich alluvial soil are recognized by well informed conservationists as our nation's most valuable wildlife habitat. The production of hardwood timber also has a

far reaching beneficial effect upon the economy and the loss of bottomland hardwood timberlands in any part of our nation has at least some detrimental effects.

The detrimental effects that the loss of wetlands and woodlands may have upon the hydrology of the Delta could very well be of such magnitude that it may eventually lay waste and bankrupt the entire Region.

Disappearing Wetlands in Eastern Arkansas, the final report of the first phase of this study, was published in September, 1970. This publication contains the analysis of the forces and trends affecting wetland and woodland losses in the Delta and recommendations for specific actions that need to be taken to maintain an acceptable level of environmental qualities in Eastern Arkansas. A continuing effort is being made to receive favorable action on all recommendations, but since the Arkansas Legislature is now in session there is a special need to emphasize at this time those which require legislative action.

Three separate bills were initiated as a result of the Planning Commission's study and all three have been introduced in this legislative session.

Two of these bills pertain to Navigable Streams. One requires the State Land Commissioner to notify the Planning Commission whenever he receives an application for the purchase of an island in a navigable stream. The Planning Commission would then determine whether or not the island should be retained in State ownership by the Parks, Recreation and Travel Commission, the Game and Fish Commission or some other state agency. If not, the island would be sold to a private individual the same as now provided for by existing legislation. This bill would also make it illegal to cut timber or otherwise alter an island that belongs to the State, except that a state agency having control of an island could manage the production and harvest of timber.

The other bill that pertains to navigable streams provides for the protection of cypress and other water tolerant trees that grow below the normal high water mark on navigable streams. These trees belong to the State, and now that trees are so scarce in some parts of the Delta it is especially important that those that do remain should be preserved.

The third, and by far the most important, of these bills provides for the establishment of a program for the

(Continued on Page 6)

* Author of *Disappearing Wetlands in Eastern Arkansas*, Arkansas Planning Commission, Little Rock, 1970.

FOCUS ON THE DELTA —

preservation of natural areas. Although the special need that exists in Eastern Arkansas is what started the movement for this program, the program will apply and is needed for the benefit of all seventy-five counties. The program can best be described by quoting the one long sentence which is contained in Section 1 of the proposed bill.

"SECTION 1. It is hereby found and determined by the General Assembly that the continuing growth of population and the development of the economy of the State makes it necessary and desirable that areas of unusual natural significance in the State be set aside and preserved for the benefit of present and future generations; that some of the areas of unusual natural significance in the State are irreplaceable as laboratories for scientific research, as reservoirs of natural materials, as habitats for animal and plant life and biotic communities whose diversity enriches the meaning and enjoyment of human life, as living museums where people may observe natural biotic and environmental systems of the earth and the interdependence of all forms of life, and as reminders of the vital dependence of the health of the human community upon the health of the natural communities of which it is an inseparable part; that certain other areas such as scenic overlooks, unusual rock croppings, free-flowing springs, waterfalls, large or small stands of mature cypress and other trees of outstanding beauty, shady groves adjacent to streams and lakes, and certain other attractive and impressive areas are equally irreplaceable remnants of our natural heritage and

that they contribute to the quality of human life and the pursuit of happiness; and that the preservation of these and other natural areas is in the best interests of this and future generations of citizens in this State; and that it is the purpose and intent of this Act to provide for the preservation of such areas and to place the responsibility upon the Arkansas Planning Commission to establish and maintain a program for the preservation of these areas."

Let us examine, briefly, one type of natural area and obtain a better understanding of its need for preservation. There used to be literally thousands of shady groves adjacent to streams and lakes where families could have a picnic or have access to a place to swim or fish. The landscapes around most of these places have been altered to such an extent that it is difficult to visualize how they used to appear and to imagine how much pleasure they used to provide.

Most of the outstanding picnic and wading areas that remain in the state are outside the Delta, but a few remain in the Delta. No one can observe the children of one or more families splashing around in the water or looking for crayfish, tadpoles and minnows without agreeing that the facilities for these simple childhood pleasures should be perpetuated.

Just how would having areas of this type listed on an inventory help facilitate their preservation? Those listed on the inventory which are located on public owned property, such as on National Forest, on Corps of Engineers, or on Game and Fish Commission lands, in all probability would be protected from destruction by policy actions of the

agencies after the areas have been identified and the necessary information provided to the agencies. There is an equally excellent prospect that similar actions would be taken regarding those that are found to be located on lands belonging to large corporations. If the areas are carefully selected and the proposals are properly presented, favorable actions could be expected from those corporations which already have established programs for public relations and recognize the value of making provisions for public recreation on company owned lands.

Undoubtedly, at least some funds will be made available from state, federal, private foundations or other sources to acquire for public benefit areas of special importance that are vulnerable to destruction. Titles, or perpetual easements, to some areas of this type will be donated by some landowners. Undoubtedly, other individual landowners would be a little more reluctant to bulldoze down pretty groves of this type after their special qualities have been called to their attention.

All such areas need not be thrown open to public recreational use. Just keeping the areas for the use and enjoyment of the private landowners, or just keeping them for the benefit of song birds and for other environmental conservation purposes would be all that is needed in many cases. This, to say the least, would be much better, in most cases, than having a shady grove obliterated in order to make a pitifully small bit of additional land available for improved pasture, cropland, or for most other monetary purposes.

C-1 CANOE ON THE COSSATOT - RUNNING GAP IN LOWER LEDGE OF DUCKETT FORD FALLS
PHOTO FROM WELLBORN JACK, JR.



A GUIDE TO CANOEING THE COSSATOT

WELLBORN JACK, JR.

Location. Southwest Arkansas. Begins in the Cossatot Mountains of the Ouachita National Forest seven miles southeast of Mena and flows generally south to its confluence with Little River 19 miles southeast of DeQueen. Total length is 87 miles. Because of its Southern location, winter and early spring canoeing are popular.

History of use. In the early part of the century several resort communities were located on or near the Cossatot, notably Baker Springs and a campground at Three Shoot Shoal. The river was noted for its outstanding small-mouth bass fishing, the dependability of its flow, the purity of its waters, and its stark scenic beauty. For a variety of reasons, many obscure, these communities declined and fell into ruin so that by the 1950's the river had become literally "forgotten". In the late 1960's canoeists "rediscovered" the river. Proximity to large metropolitan areas in North Louisiana and East Texas has made the river increasingly popular with canoeists and recreationists in those areas. The advent of widespread use of the aluminum canoe (running the river in an old-fashioned canvas canoe would be unthinkable) and the damming of all similar sections of other Ouachita Mountain streams are additional factors in the recent rise of interest in the Cossatot.

Difficulty: Class I to possible VI, depending upon section floated and water level. Beginner to expert. Before floating, see "Description of Sections" and "Judging Water Level".

Gradients and mileages: General (70.1 miles)—7.8 feet-mile; Hwy 246 to Ed Banks Rd. (3.0 miles)—23.3 feet-mile; to Devil's Hollow Falls (4.3 miles)—33.3 feet-mile; to Hwy 4 (2.3 miles)—5.2 feet-mile; to Duckett Bridge (5.5 miles)—12.7 feet-mile; to Gillham Dam Site (6.0 miles)—8.0 feet-mile; to Hwy 380, Ladd Bridge (5.3 miles)—7.2 feet-mile; to Hwy 70-71 (10.2 miles)—5.2 feet-mile; to Hwy 24 (7.8 miles)—4.6 feet-mile; to Central East Road (8.2 miles)—3.0 feet-mile; to Little River (17.5 miles)—1.4 feet-mile.

Quadrangle Maps: Order by mail for 50 cents each from U. S. Geological Survey, Denver, Colorado 80225 or from Arkansas Geological Commission, State Capitol, Little Rock, Ark. "Umpire" and "Gillham Dam" for Shut-ins and Upper section; "Gillham Dam" and "Geneva" for Middle; "Geneva", "Lockesburg", and "Falls Chapel" for Lower. Entire river shown on "DeQueen 30 minute" edition of 1913; other quadrangles are quite recent editions.

County Road Maps: Sevier, Howard,

and Polk Counties. Order by mail for 50 cents each from Arkansas State Highway Commission, Little Rock, Arkansas. Useful for locating put-ins and take-outs. For gravel roads in headwaters, obtain free road map from Ouachita National Forest, P. O. Box 1270, Hot Springs, Arkansas.

Judging Water level: (1) For Upper and Shut-ins, measure air space at middle of Hwy 4 low water bridge on downstream side. Measure from bottom of roadway slab (or, more accurately, from top of fourth bridge support from east side) to top of water. 30" or more—Low; 29" to 27"—Medium; 26" to 15"—Medium High; 14" to bottom bridge—High; Over bridge—High-High. (2) For Middle and Lower, measure air space at Hwy 380, Ladd Bridge. Measure from top to east concrete bridge abutment to water. 5'9" or more—Low; 5'8" to 4'6"—Medium; 4'5" or less—High. (3) Water level is a function of rainfall which is seasonal, with heaviest and most dependable rains falling in the winter and spring. As a general rule, the Upper Cossatot can be depended upon for a good run between December 15 and June 15. After June 15, the river can be counted upon to hold up for a week to ten days following a good rain, otherwise considerable but not impossible dragging can be expected.

General Description. The various sections of the Cossatot differ so much from one another that a single generalized description of the whole river is not possible. In the upper half of its course, the river descends rapidly across the ridges of the Ouachita Mountains in a narrow gorge or canyon and flows over bedrock in a series of small falls, lengthy rapids, and rock-bottom pools. Near its midpoint, 3.5 miles below the Gillham Dam site, the river enters a 12 mile long transition zone along the course of which it makes a gradual but complete transition from a mountain stream to a lowland stream. For the remaining 33.5 miles of its length, the river follows a peaceful meandering course across the alluvial flatlands of the Gulf Coastal Plain. Gradients vary from 40 feet-mile for the Shut-Ins section to less than 2 feet-mile for the Lower section. The key to enjoyable floating of the Cossatot is selecting a river section suited to the prospective floater's purpose, equipment, and experience, considering carefully the water level of the river on the day of the float. Each section in order from headwaters down is treated briefly below, primarily from the canoeist's point of view.

Headwaters. Consists of the uppermost 17 miles of the 87 mile length of

the river, from watershed line near Mena to Highway 246 Bridge. Canoeing by any means not generally considered possible; limiting factors are precipitous gradient and small size of watershed and river channel. Formed part of the Ouachita National Park Bill, pocket vetoed by Calvin Coolidge in 1928. Presently forms part of the Ouachita National Forest. Includes the 10,000 acre Caney Back Country administrative wilderness area. Steep peaks and ridges average 2000-2300 feet and are well forested insuring good quality runoff. Excellent hiking, climbing, and backpacking. Wilderness to near-wilderness. This unfloatable section of the river has been recommended by the Department of Interior for stream preservation to insure float fishing and white river canoeing. The lower portion of the headwaters would be inundated by Hartley Reservoir, proposed by the Corps of Engineers for pumped storage, peaking power generation, utilizing Gillham Reservoir as an afterbay to which it would be connected by a pipe line through the Shut-Ins.

Shut-Ins. Consists of next 7.3 miles of river, from Highway 246 Bridge to Devils Hollow Falls, which are located 2.3 miles upstream from Highway 4 Bridge. Not canoeable in conventional canoe; limiting factor is precipitous gradient, averaging 29.2 feet-mile. Runnable only at rarely favorable water levels (Medium High) by a team of experienced to expert white water canoeists or slalom kayakers in specialized hard-decked fiberglass white water craft such as C-1, C-2, or K-1. Helmet essential. Class IV and V at Medium High to VI at High. At High and High-High, real risk of human life. At Low Water, can safely be dragged lined, portaged and pulled in conventional canoe by hardy fishermen and recreationist. Scenery is wild, stark, rugged, and spectacular; totally unlike anything else in the Central United States. The "Cossatot Falls" are located in this section at the end of a two mile segment averaging 40 feet-mile. Entire Shut-Ins section has been recommended by the Department of Interior for preservation as a Unique Natural Area.

Upper Cossatot. Consists of next 17.3 miles of river, from Devils Hollow Falls (2.3 miles upstream from Highway 4 Bridge) to Clinton Ford (3.5 miles below Gillham Dam site). This is the Floatable Mountain Stream section of the river which is at once the conventional canoeist's delight and despair, for all but 3.8 miles of it would be inundated by Gillham Reservoir. All similar sections of other Ouachita Mountain streams lie

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under the waters of other reservoirs. No finer white water stream segment remains for the conventional canoeist in Arkansas.

Like the Shut-Ins, it is mostly hemmed-in by steep hills, cliffs, and rocky crags on either side. No structures are visible from its banks other than the access road bridges and the Gillham Dam outlet works. River bottom is rock. Deer, bear, wild turkey, otter, beaver, and Bald Eagle have all recently been observed by canoeists. Excellent fishing for small mouth bass.

From the canoeist's and recreationist's point of view, this section of this Ouachita Mountain stream differs radically from all Ozark Mountain streams with the possible exception of the Granite Gorge section of the St. Francis River in Southeast Missouri, from which it nonetheless differs in displaying sharper, more pointed rock and more frequent ledges and falls. Continuous irregular rapids of as much as one mile in length are found along some of the north to south stretches which contain most of the gradient. East-west stretches have considerably less gradient and frequently are long lake-like pools. For this reason, the 9.1 feet-mile average gradient of the upper section is somewhat deceptive. Gradient of some north-south stretches exceeds 20.0 feet-mile.

Gravel and gravel shoals are conspicuous by their absence on this section. For the most part, the river channel is a wide and irregular swarth across bed-rock. The protruding rocks which form the rapids, ledges, and falls are not boulders which have been conveniently rolled out of the channel of the river by its force, but rather are more resistant chunks of bedrock which randomly rise to various heights from just under to many feet above the water level. For this reason, some segments of this section at appropriate water levels present very much the aspect of a slalom or obstacle course and are a consummate challenge to the conventional canoeist. The irregular bottom of the stream is an asset to the conventional canoeist without deck inasmuch as it frequently breaks strong currents up into a maze of cross currents at high water thereby preventing the formation of what would otherwise be unrunnable haystacks. Cross currents and fast eddies frequently, however, require strong bracing.

The degree of difficulty of this section is directly related to the water level and speed of the current. At low water, it is suitable for floating by inexperienced canoeists who are willing to walk and drag their way through rock gardens and over ledges that would be rapids at higher levels. At medium water, all of the rapids and falls are runnable, but the

river remains safe for novice canoeists who are floating with experienced canoeists and are willing to accept an upset or two. At medium high the segment of this section above the dam site becomes class III with some class IV and should not be attempted by any novice canoeist regardless of how closely chaperoned by an experienced canoeist; the short segment below this dam site remains appropriate for inexperienced canoeists. At high the segment above the dam site is Class III with considerable very definite Class IV requiring a deck, but this segment can be floated by experienced canoeists without decks by the expedient of lining and careful use of the eddies along the bank and several short portages; the segment below the dam site is a hairy ride for the novice canoeist in the company of an experienced canoeist. At high-high the upper Cossatot is Class IV with some Class V and should be attempted only by very experienced canoeists equipped with decks and having complete mastery of eddy turns and extremely fast eddies.

Middle Cossatot consists of next twelve miles of river, from Clinton Ford (1.8 miles above Ladd Bridge), to Highway 70-71 Bridge. At Clinton Ford the hills abruptly begin to recede from the river's edge as it begins its gradual transition in the next twelve miles from a mountain stream to lowland stream. Pools become longer, gradient lessens, and gravel shoals replace the rocky rapids of the upper section. Several pastures and camp houses break the spell of wilderness. This is the best segment at low water and is suitable for novice canoeist at any level except high-high. Difficulty is Class I and II, although some shoals can produce impressive hay-stacks at high water. At high water, skill in back-ferry and setting on turns is helpful, but not essential.

Lower Cossatot consists of the remaining 33.5 miles of river, from Highway 70-71 Bridge to confluence with Little River. No hills, rock, small mouth bass, or rapids, although the first 7.8 miles below the Highway 70-71 Bridge have some good gravel shoals. Some clay banks have been badly eroded where pasture land has been cleared to water's edge; otherwise, a beautiful and peaceful lowland stream. Quite a number of graceful tree-lined arches in riffle areas. In many places, channel is much narrower than in Upper and Middle Cossatot. Downed trees and snags in the channel cause several difficult pull-overs at low water and create definite hazards at medium to high water. The last seventeen miles of this section lie within the flood pool of Millwood Reservoir and may or may not have a current, depending upon the level of Millwood.

River Log. Mileage in the following log is stated as canoeists state it and is not to be confused with the mileage used by the Corps of Engineers. Canoeist's mileage begins at the upper-most possible put-in point and runs down stream to the mouth of the river. Corps of Engineer mileage runs the other way around and up-stream to the water-shed line. Beginning mileage for this log is the Highway 246 bridge, located 17 miles below the source of the river.

0.0—ACCESS. Highway 246 high water bridge. Beginning of Shut-ins. Next 7.3 miles descends at the average rate of 29.2 feet per mile, and **no attempt should be made to run this section in a conventional undecked canoe**, regardless of how attractive the river may appear from the put-in. At low water, the Shut-ins can and have been dragged, portaged, and lined by very hardy recreationists. Very experienced to expert slalom canoeists in specialized white-water boats can run with caution and frequent inspection from the banks at medium-high water. **Extremely hazardous.**

3.0—ACCESS. Ed Banks Road low water bridge. Road maintained by Dierks Division of Weyerhaeuser.

3.8—Next two miles descend at average gradient of 40 feet per mile. **Extremely hazardous.** Class V to Class VI at medium high water to definite VI at high water.

5.4—Begin "Cossatot Falls". A 0.3 mile long series of five foot to eight foot drop ledges with an estimated gradient of 80 feet per mile.

7.3—Devils Hollow Falls. End Shut-ins and begin Upper Cossatot. River runs due east next two and one-half miles in a series of long pools with very little gradient.

7.6—Enter what would become the Flood Pool of the completed Gillham Reservoir.

9.6—ACCESS. Highway 4 Bridges. Measure water level here. Camping possible at and just downstream from low water bridge. Land here to Gillham Dam site owned by U. S. Government.

9.8—Begin "First Rapids", 0.9 miles in length.

10.3—Excellent lookout from rock over-hang at top of cliff on left.

10.7—Excellent lookout from rock over-hang at top of cliff on right.

11.1—Harris Creek enters on left. Mouth forms a rock-guarded fiord. Possible to paddle upstream for 0.2 miles. Flow of Harris Creek frequently will appreciably increase the total flow of the river.

11.2 — Begin "Second Rapids", 1.1 miles in length.

11.8—"Tiny Falls", a three foot ledge. Run in middle. At medium water use slight diagonal to left.

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12.1—Emergency egress on right via jeep trail.

12.3—White Oak creek enters on left. Begin 0.6 mile pool.

12.9—Begin "Third Rapids", 0.3 miles in length.

13.5—Enter what would become the Conservation Pool of the completed Gillham Reservoir. Take left shoot of island here.

14.9—Duckett Ford Falls. Two off-set ledges each approximately two and one-half feet high separated by approximately thirty feet. Run on extreme left with a strong left ferry to make gap in lower ledge. Inspect from trail on left bank before running. At medium-high and high, consider possibility of portage or lining on right bank.

15.1—ACCESS. Duckett low water bridge. Known locally as "the low water bridge". Former site of old Rankin Ford. Take-out on right bank. Exercise caution at medium-high water or better to avoid being swept under bridge. No desirable camping spots here, but possible in a pinch.

16.4—Fiord-like mouth of Opossum Creek on right and excellent gravel bar for large group camping on left.

16.6—Begin labyrinthine rock garden or rapid next 0.4 miles. Run on right to be lined up for small water fall at end.

16.9—Enter what would become the Ten Year Frequency Draw Down Pool of completed Gillham Reservoir.

18.3—Begin "Horseshoe Bend". Excellent lookout on left from cliff at place river begins to run due North.

19.3—"Warren Rock". High rock lookout on right. Entire channel of river blocked by natural rock dam. Run high velocity jet through gap in middle. Approximately three feet high. Large "stopper" wave can be avoided by diagonal course to left.

19.7—Coon Creek Enters on right.

19.9—"Coon Creek Falls". A three and one-half foot stepped ledge. Run just to left of center.

20.7—Begin "Three Shoot Shoal" Right Shoot dead-ends at low and medium water.

21.0—Gillham Dam Site. Cylindrical concrete tower visible through trees on right is outlet works entrance.

21.2—ACCESS. End of Government property. Ten foot diameter hole in hill on right is outlet works exit. Camping possible but not scenic. To reach access from Gillham Dam Site construction overlook, take gravel road to right 100 yards before reaching overlook.

23.0—Fiord-like mouth of Carter Creek on right. Excellent lookout from cliff on right just above mouth of creek.

24.6—Clinton Ford. End of Upper Cossatot. Enter Middle Cossatot and begin transition to lowland stream. Gravel

shoals become increasingly frequent below this point.

26.4—ACCESS. "Ladd Bridge", Highway 380. Access on left just below bridge open to public.

28.6—Some mild rapids next 2.0 miles.

30.5—Last rock cliff on left bank of river.

31.1—"Buzzard Roost Rock" on right is last large rock out-crop on river. High gravel bar on left bank excellent for camping.

32.1—Camp houses on left bank.

32.8—McKinney Ford. Possible put-in, but inquire locally before using.

35.9—Last hill on right bank.

36.6—ACCESS. Highway 70-71 high water bridge. Do not use traditional access on right bank. Land owner has posted this property. If you must take out here use highway right-of-way along side of bridge. This bridge marks the very definite end of the Middle Cossatot and the beginning of the Lower Cossatot.

From here down there are no hills and no rapids. Some pleasant gravel shoals and tree-lined arches next 7.8 miles.

39.0—Possible access from Geneva Gravel Road paralleling river for a short distance at this point.

40.7—Railroad Bridge.

43.1—Powerline.

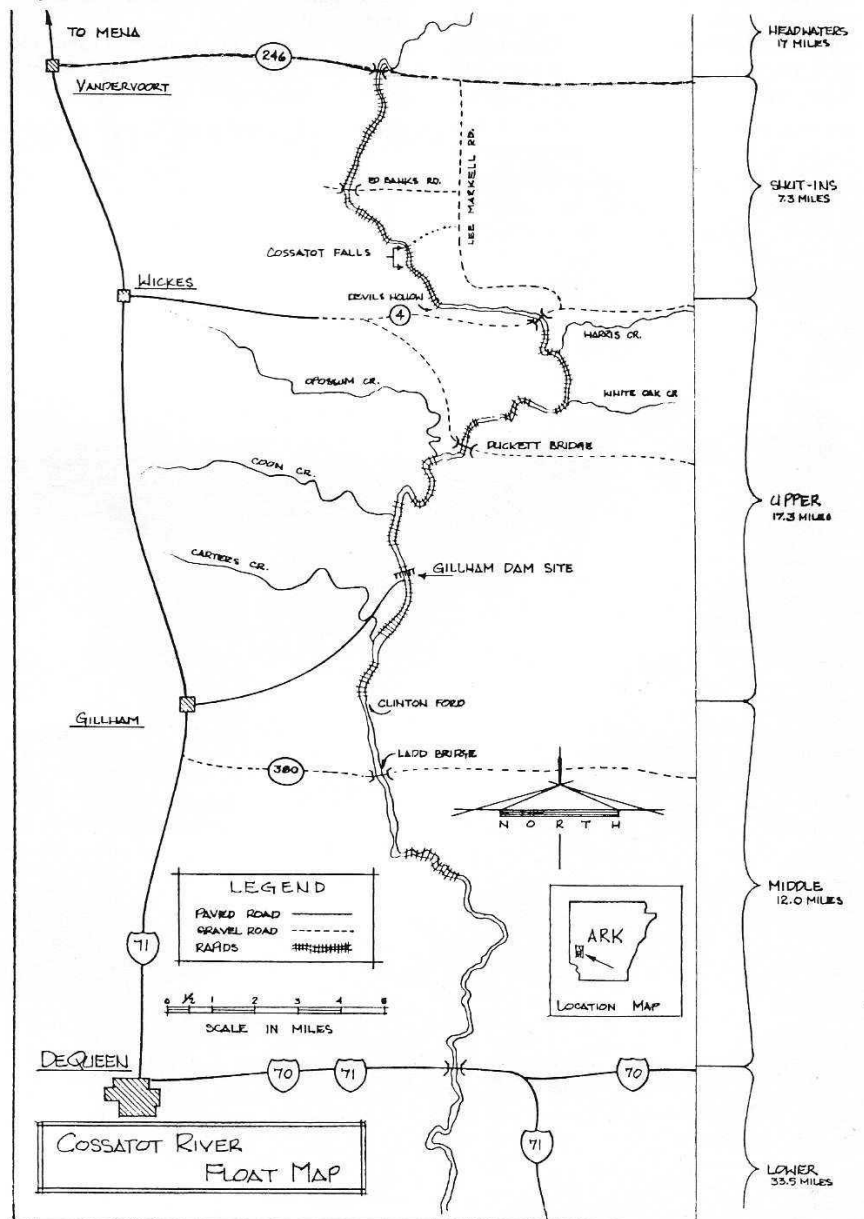
44.4—ACCESS. Highway 24 high bridge. Use highway right-of-way.

52.6—ACCESS. New Central East Road High Bridge. Use highway right-of-way.

55.8—Pilings of old Central East Road bridge. Road also referred to locally as "Paraclifta Monument Road".

59.0—Pipeline right-of-way.

70.1—Confluence with Little River. Take out is at Highway 71 bridge 0.9 miles downstream on Little River.



OZARK SOCIETY'S FIRST ANNUAL NEW YEAR'S CANOE TRIP

Margaret Hedges

The first annual Ozark Society New Year's float on the Buffalo River was a tremendous success with twelve canoes participating on Friday, January 1, 1971 and nine canoes on Saturday, January 2nd. Some of the more eager canoeists began arriving by 1 p.m. on Thursday and by nightfall the gravel bar at Gilbert was covered with tents, people and cars, bubbling with chatter and glowing with an enormous campfire. Feasting on goodies began early and continued until almost midnight. Introductions around the campfire circle revealed the distance award went to Marie Winter from Hammond, Ind. (near Chicago). Arkansas won top honors for producing the most winter canoeists with Oklahoma, Louisiana and Missouri well represented. The highlight of the evening was the beauty of the sprawling gravel bar shrouded in heavy fog, illuminated by a partial moon and dotted here and there with various forms of artificial

light. A most impressive sight!

Shuttling cars both to Maumee and Hiway 14 bridge began ahead of schedule and all canoes were water borne by 10:30 a.m. New Year's morning. A brilliant sun soon brought the temperature up (low was officially 26) and everyone was sure the first day of spring had arrived. The Buffalo River was at its winter best with clear, sparkly water at a "just right" level (3.1 by Gilbert gauge). The greatest thrill of the two day trip came at noon on the gravel bar across from Goat Bluff when someone sighted an adult bald eagle soaring above the bluff. For many this was a first sighting. It was truly an awe inspiring experience to observe this wild creature, in full adult plumage against a background of deep blue sky and bright winter sun. 1971 was off to a memorable start for all of us!

Camp at Maumee Landing gravel bar on Friday night was gay and bright, thanks to the special wood hauling serv-

ice of those whose cars were shuttled to Maumee. Again the moon furnished our light and the absence of wind made this winter trip almost too easy.

Clouds moved in for the Saturday portion of the trip and occasional light rain kept us paddling hard. Temperatures in the 30's all morning made us appreciate what a fine day we had had on the river Friday. One swamping just above Spring Creek was taken in stride with hot coffee and a warm fire driving out the chill of the 45 degree water. Lunch was chilly with the clouds persistent and the wind making itself felt, but our spirits were high and the fellowship good as we shared our "table" with one another.

The 23 mile trip ended at one o'clock Saturday at the Hiway 14 bridge with cold batteries, jump cables and loose gravel. In a sense it was a trip without "spirits"—but to those of us who look back on it fondly—it was the spirit that made the trip!

CAMP ON MAUMEE BAR, NEW YEARS DAY



AN ECOLOGICAL PERSPECTIVE FOR ARKANSAS

GEORGE P. SMITH*

(Abridgement of an article to be published in the January-February issue of the "Arkansas Lawyer")

From its territorial declaration in 1819, until its subsequent statehood in 1836 and down to the present day (time), Arkansas has enjoyed a good balanced, healthy environment. As it seeks to develop its industrial capabilities, however, great care must be exerted to ensure a proper balance between economic development and the preservation and conservation of the vast abundance of natural resources within the state. New, tighter legislative controls must be structured if an ecological equilibrium is to be maintained.

The pollution of a stream of water—a lake, a river, even a pond—is a grave offense against the public health of all citizens within the state. At present, the maximum penalty for each and every offense of water pollution is a classification of the act of pollution as a misdemeanor and the subsequent levy of fine of \$200.00.

In order to bring itself more in line with stream preservation practices in other states, and particularly with the 1899 Federal Refuse Act, which sets penalties for violating the Act of not more than \$2,500.00 nor less than \$500.00 for each day of violation, or imprisonment for not less than 30 days nor more than 1 year, or both a fine and imprisonment, Arkansas must introduce a similar statutory scale. Such an upgrading of penalties by the Legislature would underscore its commitment to provide for the citizens of the state, a clean, healthy and an aesthetically pleasing environment.

A current survey of water pollution revealed that 29 per cent of all stream miles in the Southern plain states were polluted. Two percent of the miles in the White River in Arkansas were found to be polluted; 2 per cent of the Middle Mississippi River from Cairo, Illinois, to Helena, Arkansas, to Natchez were polluted. The Arkansas River was polluted 10 per cent while the Lower Missouri River and the Kansas River were found to be 90 per cent polluted. No percentage of pollution was recorded for the Ouachita River in Louisiana and Arkansas.

In reporting the fact that mercury was found in significant amount in the wat-

ers of at least 17 states, the *Arkansas Gazette* recorded the fact that similar mercury deposits were being found in the Arkansas River and continued by observing that raw sewage was also being discharged into the River at the confluence of Fourche Creek. The report continued by noting that the city of Little Rock had dumped treated sewage into Fourche for some time and that some residential areas outside the city limits dumped untreated or raw sewage into it.

It is well to remember that development of natural resources is basically wealth-generating. However, in some cases, resource development is an extractive process involving an exhaustible supply. Water is, however, renewable and, therefore, the benefits of the development are virtually perpetual if the supply is properly conserved, developed, and used. Prudent conservation practices are compatible with and, indeed, essential to water development.

For those industries who bear the Herculean task of correcting their individual processes in order to preserve the ecology, state tax incentives (i. e., tax credits, property tax exemptions, sales and use tax exemptions) to encourage a strong fight against pollution must be granted.

The National Congress on Optimum Population and Environment recently expressed its belief that manufacturers' financial responsibility for pollution control be absorbed in the cost of the products produced. This is certainly a valid proposal since the tenor of public demand for greater manufacturing perfection and development in product marketability alone, places a heavy responsibility on industry to meet this demand if a business profit is to be realized and the public is to be satisfied.

Working in close co-operation with municipalities within the state, the Arkansas State Pollution Control Commission should seek to develop—in all such communities where practical—local control boards which would administer local air and water pollution programs.

The establishment of a State Department of Ecology, along the lines of a similar department created in New York, should receive serious consideration by the Legislature. Such a Department is needed in order to co-ordinate the various activities of some 13 or more commissions engaged in ecological matters.

Arkansas should follow the bold pathway charted by the State of Michigan in passing an Environmental Protection Law for its citizens. Under such a law—already being considered by Colorado, New York, Massachusetts, Pennsyl-

vania, Tennessee and the United States Congress—any private citizen may sue against a public nuisance on behalf of the general public, whether or not the nuisance affects him personally. Under such a law, the courts are no longer required to defer to governmental actions. Thus, all citizens are given a new legal right to raise environmental issues. Any individual can challenge lax state agencies as well as polluting industries. Finally, the burden of proof is on the defendant to show that the alleged pollution is unavoidable.

Unquestionably, the most pressing and significant problem presented to the continued development of a workable ecological perspective for Arkansas is the need for the preservation of the Buffalo River as a National River and cessation of construction of the Gillham Dam Project on the Cossatot River.

Even if development funds are lacking for the project, authorization of the Buffalo as a National River must proceed with dispatch.

The Buffalo is an invaluable asset in the national conservation picture as well. It should be preserved as a national park-type area for basically the same reasons that the giant California redwoods should not be cut in order to make lumber and the Grand Canyon should not be dammed so that local economic designs may be complemented. As a National River, the Buffalo would greatly aid the economy of the area by providing a new kind of outdoor preserve and recreational area. Of course, the ultimate beneficiary of the Buffalo development is the citizens of Arkansas. On a larger dimension, however, the whole of society benefits by the preservation of a national ecological equilibrium.

The dwindling national treasury of free flowing Ouachita Mountain streams is nearly bankrupt. With the completion of the Gillham Dam project and its two sister projects—the DeQueen and Dierks Dams on the nearby but considerably small Rolling Fork and Saline Rivers anticipated in June 1973—the demise of the free flowing stream will be recorded with deep regret by conservationists.

Conclusions

In order for Arkansas to remain in the vanguard of the movement for ecological preservation, it must re-assess, and thereby re-shape, certain present legal attitudes. The right to a clean, healthy and aesthetically pleasing environment should be a fundamental right guaranteed to all.

George P. Smith, Associate Professor, University of Arkansas Law School, Fayetteville, B. S. (in Business-Economics) 1961, J. D. 1964 Indiana University. Previously taught at the State University of New York and the University of Michigan Law Schools and served in the U. S. State Department. A member of Governor Rockefeller's Arkansas Waterway Study Committee, he attended the International Conference on Peaceful Uses of the Oceans on the Island of Malta this past summer. Member of the Indiana and District of Columbia Bars. He teaches Admiralty and Natural Resources at the Law School.

BOTANICAL NOTES

Maxine Clark

For many people Spring arrives when the bud scales of pussy willows burst exposing the downy catkin. Impatient individuals, who can't wait for the normal occurrence of events, often cut branches early, put them in warm water, split the bud scale with a needle, and delight in watching the catkin expand.

A catkin, so named because it resembles a cat's tail, is actually a spike bearing flowers which have no petals. Each flower along the spike of pussy willow is protected by a triangular bract covered with long silky hairs; this gives the effect of a halo surrounding each catkin. The cultivated pussy willow, *Salix caprea*, is a native of Europe and Asia and seldom escapes to the wild. In Arkansas there is a low growing native willow, *S. humilis*, known as the small pussy willow and sometimes called the prairie willow. We shall never forget photographing the alpine willow growing well above the timber line in Colorado. The gnarled, miniature trees, only a few inches high were covered with full sized catkins in July.

All willows are unisexual (dioecious, from the Greek, meaning of two houses) the staminate or male flowers borne on one tree, the pistillate or female flowers on a separate tree. The willow family, Salicaceae, includes two genera, *Salix* and *Populus*. The latter includes species of poplar, cottonwood and aspen which share the reproductive characteristics of the willow, but instead of a single bud scale for each bud, there are several, well protected by a resinous laquer-like substance. The stout branches, of the common cottonwood, *Populus deltoides*, with large pointed winter buds are beautiful silhouetted against the blue sky. The wood of both species is soft, and although the bark is bitter, they are the trees preferred for gnawing by beaver. Sweet gum seems to be third, and size of the tree does not seem to be a deterrent. Mr. Fred Durst of Rush has lost some fine large cottonwoods to beaver. In Colorado, we noticed that willow branches, used in construction of dams by beaver, sprouted but aspen did not. Willows and cottonwoods protect stream banks against erosion. Pulp of cottonwood is widely used for paper making, and is now being planted as a crop tree for this purpose. Unfortunately, since it grows so fast, it is replacing some of the lowland hardwoods which provide food for wildlife. We all need to be less extravagant in our use of paper goods.

Members of the walnut, beech, and hazel families bear stamens and pistils in separate flowers on the same tree or shrub, and are said to be monoecious



(meaning of one house). Male flowers are borne on catkins, female flowers are clustered or few on a spike. The walnut family has two genera, *Juglans*, walnut, and *Carya*, which includes hickory and pecan. Black walnut is *Juglans nigra*, and white walnut or butternut is *Juglans cinerea*. If you have never eaten a butternut kernel, you have missed a treat. We know of one tree in Benton County and no doubt at one time it was more common in this area. It occurs along Crowley's Ridge in eastern Arkansas and we have seen it along the Eleven Point River. Twigs of walnut and butternut may be split lengthwise, and will reveal a "chambered pith"; cavities are separated by horizontal plates giving a ladder-like appearance. Arkansas hardwood forests are rich in species of hickory.

One of the most enjoyable seasons of the year comes when the "tassels" of oaks appear with the tiny red and delicate green leaves. These male catkins bear an extravagant supply of pollen to fertilize the pistillate flowers spaced singly along the small branches. Those of us living in the woods delay our spring housecleaning until the showers of yellow dust cease. *Quercus* (called by some "queer cuss" because of difficulty in correctly identifying some species and their hybrids) belongs to the beech family, Fagaceae.

Beech, *Fagus grandifolia*, var. *caroliniana*, with its smooth gray trunk and long spindle shaped buds, is to me the most beautiful tree in Arkansas. It grows on protected slopes of deep ravines, and in the areas where it is found, one may expect to find Appalachian herbaceous plants not found elsewhere

in Arkansas. The flowers appear with the leaves, the staminate in rounded catkins, the pistillate usually in pairs on twigs. The resulting beechnuts are two triangular nuts snugly enclosed in a four lobed cup.

Ozark chinquapin, *Castanea ozarkensis*, also belongs to the beech family. Although occasional large healthy trees may be seen, most have succumbed to the chestnut blight. We commonly see dead trees lying on the forest floor with a few weak sprouts coming from the base.

You don't have to wait until spring to see catkins as staminate catkins of alder and hazelnut start elongating in the fall. Alder, *Alnus serrulata*, makes a pretty sight with its reddish-brown catkins arching (the stems makes a right-angle turn) over the slate blue water of our mountain streams. Tiny pistillate "cones" of the previous year remain on the bushes, but new ones are forming. These tiny cones are used in decorations, especially Christmas corsages. Hazelnut bushes, (*Corylus americana*) grow along lanes and wooded slopes, and may be located in the fall by their male catkins. Last March it was our good fortune to photograph a tiny cluster of female flowers. About six flowers in a tight cluster, not over one-fourth inch high, were each surmounted by two brilliant cerise stigmas, giving the impression of one flower with red petals. There was a hard freeze after the blooming date, but last fall the bush was heavily laden with clusters of hazelnuts closely held in their fringed bracts. They are a small version of the

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Richard D. Murray Honored

The NOARK Girl Scout Council, Inc. of Arkansas recently honored Mr. Richard D. Murray, a retired Civil Engineer of Fayetteville, Arkansas, and President of our Highlands Chapter, for his dedication and services in laying out the Eli Leflar Nature Trail on the council's new camp site. Mr. Murray spent many days in studying the maps of the region and then hiking over the 1,000 acre camp, to find the springs, lay out, and mark a suitable trail which would touch the many spots of scenic beauty the girls will enjoy seeing. On one of his days of exploring he found a lovely falls which will provide the girls a cool resting place in the summer while on a long hike to the War Eagle Creek. The area abounds with wild flowers in the spring and is certain to be a favorite destination for the many young campers who will be enjoying these woodlands for many years.

In recognition of his service to the Council, these falls were named the Dick Murray Falls and were so dedicated during the Annual Fall Council Meeting which was held at the NOARK Camp last October 25th. It is through the dedicated efforts of many that the Girl Scout Council is able to develop a new camp site.

Mr. Murray raised three girls of his own and has always been active in organizations that are interested in young women. He has been a troop consultant for planning hikes and camping experiences for the Girl Scouts of Fayetteville.

U of A Chapter to Catalog Fauna and Flora Of Cossatot Area

If the Environmental Defense Fund wins its suit to stop construction of the Gillham Dam on the Cossatot, the river will have been saved from the Corps, for now. This is not to say that the river is from this time forward protected. On the contrary, with the controversy comes publicity, and with publicity, interest followed by development—overdevelopment, probably.

If the Cossatot is to be protected as well as saved, its drainage must be protected by some sort of common management—a park perhaps. With this end in mind, and the need for documented evidence for justification of such a park, the U of A Chapter of the Ozarks Society is undertaking an inventory of the fauna and flora of the river and the lands in its immediate drainage, its geology and other aspects of import.

We feel that very few free flowing streams anywhere have the diversity of these characters that the Cossatot has. Diversity, at this point, is a most valuable asset.

Cossatot Country Pilgrimage May 1, And 2, 1971

Rarely is the opportunity given to canoeists, hikers, birders, nature lovers, and conservationists of every interest to gather together in fun and fellowship at a given time and place where their united presence can be made to count in such a big way for conservation as at the Cossatot Country Pilgrimage, May 1 and 2, 1971.

Featured activities of the Pilgrimage will include everything from a variety of canoe floats, to day hikes, to birding, to interpretive nature walks, to car tours. Competently guided floats and white water runs will be provided for canoeists of all bents: everything from day cruising and canoe camping, to separate white water runs for decked and undecked canoes, to really wild runs for very experienced slalom canoeists and kayakers.

A massive demonstration of interest in the Cossatot Country could well make the difference between the loss and the preservation of this unique stream and its country. If the Corps of Engineers proceeds with its plans for Gillham Reservoir and with its proposed Hartley Reservoir (upstream from Gillham), the river will be lost.

An alternative to Corps plans for destruction of the Cossatot Country exists. The Department of the Interior has recommended preservation of the upper 60 miles of the river (the upper two-thirds of the river, including the sites of Gillham and Hartley) for float fishing and white water canoeing and as a unique natural area to "provide future generations with at least a glimpse of virgin wilderness habitat."

The Pilgrimage is being sponsored by the Ozark Society and co-sponsored or supported by a host of other regional and national conservation groups including the American Canoe Association, the United States Canoe Association, the Arkansas Audubon Society, and various chapters of the Sierra Club.

Complete details about the Pilgrimage can be obtained by writing or phoning the General Chairman, Russell Harper, P. O. Box 22, Gillham, Arkansas 71841, phone (501) 386-2501.

COME WITH CANOE AND BE COUNTED FOR CONSERVATION.

The Sierra Club has announced a repeat of its last year's canoe trip on the Buffalo River. This is scheduled for June 6-12 with Harold Hedges of Ponca, Arkansas 72670 as leader. This trip is limited to Sierra Club members and there is a charge to cover expenses.

Forest Service Areas Of Special Interest

Members of the Ozark Society have been fortunate in being invited to hike into Areas of Special Interest selected by members of the Ozark-St. Francis National Forests. This designation is used temporarily until the areas have been officially set aside with certain purposes in mind. At that time a new title will be given each area, which will be protected from commercial exploitation.

The Forest Service has asked us for comments and advice, for which we are very appreciative. We have been accompanied by the District Rangers and Forest personnel from Russellville into the various areas. George Hamilton of the Sylamore District went into the Sandstone Creek and Clifty Canyon areas, Bill Walker of the Ozark District into Devil's Canyon of western Franklin County, and Jack Kelly of the Jasper District into Dismal Hollow near Nail in Newton County. Several Forest Service men including Bob Strosnider, Leo Thiels, and Jim Hughes accompanied us into Beech Hurricane at the headwaters of Little Mulberry Creek in Madison County. Some of these areas will be the subject of articles at a future date when more information is assembled. Pictures will be printed of outstanding features in these areas.

HIGHLANDS CHAPTER ORGANIZED

A group of Ozark Society members, heretofore known as Northwest Arkansas Chapter, but functioning without elected officers, met in Fayetteville on December 2, 1970 and elected Richard D. (Dick) Murray, Chairman, and Mrs. Arthur (Lois) Fry, Secretary-Treasurer. The group changed the name of the Chapter to HIGHLANDS; adopted a membership fee of \$2. annually; designated the second Wednesday of even-numbered calendar months for regular meetings; approved issuance of a newsletter preceding each meeting; and named committees to devise by-laws, plan outdoor activities, and to investigate participation of the chapter in civic activities. Additional information may be obtained by communicating with either of the officers.

Dick Murray is aiding the Ozark National Forest Service in laying out a hiking trail from Cherry Bend to the Mulberry River. Another trail is planned from Cherry Bend to White Rock. Completion of the trails will be part of the Forest Service's Green Thumb Program if expected funds are made available.

Pratt Rammel, Jr., founder and head of the Arkansas Ecology Center, was named Conservationist of the Year by the Arkansas Wildlife Federation.

ACTIVITY SCHEDULE

Those wishing to participate in any activity are requested to contact the leader at least one week in advance. It is often necessary to make changes in plans. Telephone or send a self addressed envelope to leader, chapter chairman, or secretary for final details and instructions.

ACTIVITIES LISTED BEFORE THE PUBLICATION DATE OF THE BULLETIN ARE FOR THE RECORD

Feb. 7—BAYOU: Hike, Poverty Point Indian Mounds, Epps, La. Contact leader Mike Beckman or Eleanor Gibbs, ph. (318)-868-9570.

Feb. 13—HIGHLANDS: Hike, Lost Valley State Park. Meet at Park off Hiway 43 between Boxley and Ponca, 9 a.m. Leader Glenn Parker, Dutton, Ark. 72726, ph. (501)-677-2473.

Feb. 13—INDIAN NATIONS: Hike, followed by chili supper, Osage Hills State Park. Leader Mel Smith, 305 N. E. Morningside, Bartlesville, Okla. 74003, ph. (918)-333-1072.

Feb. 13-14—BAYOU: Canoe Clinic, Part I, Broadmoor Bayou and Wallace Lake. Contact Bill Stevenson, ph. (318)-686-2658. Leader: Wellborn Jack, Jr.

Feb. 20-21—DELTA: Caddo River float. Meet at Glenwood, Jct. Hiways 70 and 8. Leader Chalmers Davis, Altheimer, Ark. 72004, ph. (501)-766-8301.

Feb. 27-28—BAYOU: Canoe Clinic, Part II, Sabine or Twelve Mile Bayou. Contact George Armstrong, ph. (318)-865-8302.

Feb. 27-28—PULASKI: Hike on Sat. to Richland Creek and Devil's Fork Falls. Option to return same day or camp overnight (backpack). Meet at 8:30 a.m. Sat. at Falling Water Camp at Richland Creek crossing. Leader John Heuston, 5424 Chauvin Dr., No. Little Rock, Ark. 72118, ph. (501)-758-0814.

March 6 and 7—BAYOU: Family camping, hiking and rock climbing classes at Winding Stair, Albert Pike Campground. Contact Ella Edwards, ph. (318)-868-1131.

March 13—HIGHLANDS: Hike Moore Creek, tributary to Buffalo. Meet at Boxley Community Bldg. at 9 a.m. Leader Harold Hedges, Ponca, Ark. 72670, ph. (501)-428-5445. This hike is rugged and requires stamina. Heavy boots a "must". Bring lunch and water in a shoulder bag or backpack.

March 13-14—DELTA: Saline River float. Meet at Leader Dave Robertson's house, 3100 Jonquil St., Pine Bluff, Ark. 71601, ph. (501)-536-0641.

March 13-14—BAYOU: Canoe Clinic: Part III: Canoe slalom and camping at River Bluff on the Ouachita; Leader Lloyd Naylor, res. (318)-868-7061, off. (318)-423-8183.

March 20-21—BAYOU: Scout Cossatot in preparation for pilgrimage. All canoeing hands needed. Contact: Owen Gibbs, ph. (318)-868-9570.

March 27-28—OZARK SOCIETY ANNUAL MEETING AT PETIT JEAN STATE PARK. Details elsewhere in Bulletin. Camp grounds open. PULASKI chapter will be host.

April 3—BAYOU: Family Day Hike in the Dogwood Trail area near Plain Dealing; Leader Russ Bruner, ph. (318)-868-1379.

April 3-4—DELTA: Archey's Fork canoe trip. Meet at Hiway 65 bridge at Clinton. Contact leader Tom Parsons, Arkansas Democrat, Little Rock (501)-374-0321 or Chalmers Davis, Altheimer 72004, ph. (501)-766-8301.

April 9-10-11—HIGHLANDS & DELTA: White water canoe clinic (EXPERIENCED CANOEIST ONLY) on Mulberry River above Turner Bend. Meet at Champ Turner's (Turner Bend) campground at Hiway 23 crossing of the Mulberry. Leaders—Harold Hedges, Ponca, Ark. 72670, Steve Wilson, Zoology Dept., University of Arkansas 72701, ph. (501)-521-5184, David Kitts, 518 Macy St., Norman, Okla. 73069, ph. (405)-321-8831. Delta chapter contact is Chalmers Davis, Altheimer, Ark., BAYOU chapter contact is Dr. Tom Gilchrist, ph. (318)-861-2155.

April 9-10-11—INDIAN NATIONS: Buffalo River, canoeing and hiking campout. Base camp at Lost Valley State Park and Ozark Campground, Pruitt. Contact Mel Smith, Bartlesville, Okla. or Paul Kendall, 4813 East 26th, Tulsa, Okla. 74114, ph. (918)-939-1839.

April 17-18—DELTA: Buffalo River Canoe Trip on Sat. Ponca to Scout Camp. Hike Indian Creek on Sunday. Leaders Dave Robertson, ph. (501)-536-0641 or Chalmers Davis, Altheimer 72004, ph. (501)-766-8301.

April 18—BAYOU: Family Day hike and nature walk at Upper Caney Lake near Minden; Leader Barney Gibbs (318)-868-9570.

April 24-25—OZARK SOCIETY ALL CHAPTERS: Buffalo River canoe trip, Ponca to Pruitt, overnight on the river. Experienced canoeists only. Assemble 8:30 a.m. Sat. at Ponca low water bridge, load canoes, prepare to shuttle cars. Come with gear waterproofed. Leader Harold Hedges, Ponca, Ark. 72670, ph. (501)-428-5445.

May 1—HIGHLANDS: Family outing to Cherry Bend, Gray's Spring, and White Rock Mountain. Meet at Cherry Bend, 10 a.m. on Hwy 23 between Brashears and Cass. Bring lunch and water. Leader F. M. Meade, 934 Gregg, Fayetteville, Ark. 72701, ph. (501)-442-6456.

May 1-2—INDIAN NATIONS: Lee Creek canoe trip. For details contact trip leaders Mel Smith or Paul Kendall.

May 1-2—DELTA: Little Missouri float. Meet at Glenwood, junction of Hwys. 8 and 10. Leader Dave Robertson, 3100 Jonquil, Pine Bluff 71601, ph. (501)-536-0641.

May 1-2—BAYOU: Cossatot Country Pilgrimage. Ozark Society Function. Contact: Owen Gibbs (318)-868-9570. See elsewhere in Bulletin.

May 2—OZARK SOCIETY ANNUAL SPRING BUS TOUR: Blanchard Springs Cavern, Meet 7:30 a.m. Springdale; 8 a.m. Fayetteville. Must have reservation. Leader: Mrs. James R. (Jean) Mitchell, 1702 W. Emma, Springdale 72764 ph. 751-9594.

May 15-16—PULASKI: Canoe trip on Big Piney Creek, from Treat or Phillips Ford to Double Bridges. Camp overnight on river above Long Pool One day trip possible. Meet Sat. 8:30 a.m. at Long Pool Campground, Leader John Heuston, 5424 Chauvin Dr., N. Little Rock 72118, ph. (501)-758-0814.

May 15-16—PULASKI: Canoe trip on Big Piney Creek, from Big Piney). Leader Chalmers Davis, Altheimer, Ark. 72004 ph. (501)-766-8301.

May 15-16—INDIAN NATIONS: Barren Fork float. Camp at Fred Wilson's Eagle Bluff Camp on Illinois River. Trip Leader Mel Smith.

May 22—HIGHLANDS: Canoe float on War Eagle Creek, Hwy. 68 bridge east of Huntsville to Forum Ford, West of Forum. Meet at Hwy 68 bridge, 9 a.m. Leader Jim Akin, Rt. 1, Hwy. 45 East, Fayetteville, Ark. 72701, ph. (501)-443-5526.

May 22-23—DELTA: Hike Devil's Fork and Alum Cove Areas. Contact leader Tom Parsons, Arkansas Democrat, Little Rock, Ark., ph. (501)-374-0321, or Kathy Gosnell, Pine Bluff Commercial, Pine Bluff, Ark. 71601.

May 22-23—BAYOU: Exploratory Float Trip Saline Bayou, in the Kisatchie National Forest; Leader Wm. H. Stevenson, ph. (318)-686-2658.

May 29-30-31—INDIAN NATIONS: Glover River float. Base camp at Dierck Scout Camp on Glover River Bob Ferris, 2811 East 22nd, Tulsa, Okla. 74114, ph. (918)-747-4836.

EIGHTH ANNUAL MEETING HELD

The Eighth Annual Meeting of the Ozark Society was held on November 21st and 22nd in Fayetteville, Arkansas, on the campus of the University of Arkansas in the Graduate Education Auditorium. The meeting was well attended with 119 registering during the sessions. Dr. Neil Compton, president, presided and included in his welcoming address some highlights from the Society's history and achievements.

During the sessions two films were viewed. First was one entitled "The Appalachian Trail". Next Mr. Leonard Heman's film was shown, "Canoeing Ozark Streams". Both were very interesting to the group.

The talks during the day were quite varied—from a panel discussion on stream preservation legislation in Oklahoma, Louisiana, and Arkansas, led by Messrs. David Strickland, Gladney Davidson, and Harold Alexander to an enticing description of a new back country area on the Mulberry River called "Devil's Canyon" which was very well done by Mr. William D. Walker, District Ranger with the Ozark National Forest. Also enjoyed was a most informative talk by Mrs. Phil Gipson, Graduate Assistant at the University of Arkansas, who presented a paper, "Arkansas Wolves: Past, Present and Future". He ended by calling for a refuge to be established to protect the Red Wolf of Arkansas.

Featured speaker at the meeting was Mr. Roy K. Wood, Regional Director of the B. O. R. who chose for his subject, "There Must Be A Better Way". He called for a search for what man must have to live a better life. He felt that by developing a positive program and capitalizing on the attitudes of the day which emphasize concern with the environment we can through communication and coordination of the inter-disciplinary problems "find a better way".

Last speaker of the day was Mr. Harold E. Alexander, Specialist, Resources Program, Arkansas Planning Commission, who addressed the members on

"Major Environmental Issues and the Role of the Citizens Organizations". He concluded by calling for a citizenry that is concerned about the quality of life for people and pointed out the need for citizens and organizations to support their governmental agencies' programs.

The group gathered for the banquet later that evening. The program included a talk by Mr. Clayton Little, who eloquently expressed appreciation on behalf of the entire Society to Mrs. Laird Archer for her past years of dedicated service as Secretary—from the time of founding until last spring when she retired. He presented her with flowers and a copy of **Audubon's Birds of America** which had been inscribed by president Compton.

Jimmy Driftwood and his wife were special guests for the evening. He entertained the group by telling many of his Ozark yarns and singing his fine folk songs. Highlight of the evening was his rendition of a song about the Buffalo River. It was a most delightful evening for everyone.

The business meeting was held Sunday morning. The following items were covered:

The Northwest Arkansas Chapter will be organized on Wednesday, December 2.

It is important that our Editor be a member of the Board of Directors. A motion was made to inform the membership by publication of the notes of this meeting that this change is proposed and will be voted on at the Spring Meeting.

The Spring Meeting will be held March 27-28 at Petit Jean State Park. Co-chairmen will be Mr. Everett Bowman and Mr. John Heuston with Mr. Pratt Remmel and Dr. Compton assisting them with program planning.

Mr. George Kinter presented the Treasurer's report.

Mr. Heuston expressed the members' complete confidence in the officers and moved that the present slate of officers be accepted for the coming year. Motion carried.

The group held a general discussion concerning the status of the bills to establish the Buffalo National River and

Annual Spring Meeting

The Ozark Society's Spring Meeting will be held at Mather Lodge, Petit Jean State Park on beautiful Petit Jean Mountain Saturday and Sunday, March 27 and 28, Pulaski Chapter in charge. The morning session on Saturday starts at 8:30.

An interesting program has been arranged by the committee. The featured speaker, Governor Dale Bumpers is to address the afternoon session at 1:15. The banquet is scheduled for 7 p.m. The complete program will be announced later in the newspapers and through the Chapter Chairmen.

Plan to attend this important meeting. Reservations for rooms in the lodge may be made by writing Mather Lodge, Petit Jean State Park, Morrilton, Arkansas 72110 or phone (501)-727-5431.

BOTANICAL NOTES —

filberts you buy at the market.

Another member of the hazel family, Corylaceae, is *Ostrya virginiana*, commonly called hop-hornbeam or ironwood. *Carpinus caroliniana*, known as American hornbeam or blue beech, resembles beech; but the name most descriptive is muscletree. Styermark states, "The blue-gray fluted stems have a sculptured appearance, resembling twisted muscles."

River birch, *Betula nigra*, is a stream-side tree of great beauty, and provides shade and stability to river banks. The papery bark is greenish-brown, pinkish and terra-cotta.

The Society for Environmental Stabilization, a new conservation organization, has been organized in Fayetteville.

Jo Ann (Mrs. John C.) Teas is Chairman, 814 West Maple, P. O. Box 252, Fayetteville, Ark. 72701, ph. 501-521-6343.

hopes that all members of the Society will write or contact their congressmen this spring urging that action be taken on this vital legislation!

Lois Imhoff, Secretary

THE OZARK SOCIETY

P.O. Box 38

Fayetteville, Ark. 72701

1971 Dues Are Now Payable

Dues are for the calendar year. They are: regular (and family), \$5; contributing, \$10; sustaining, \$25; life, \$100; student, \$1.

Please check: new member _____; renewal _____.

Date _____

Last Name _____ First names of husband and wife _____

Address _____ City _____ State _____ Zip _____

Telephone _____ If Student - name of School _____
(Include Area Code)



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