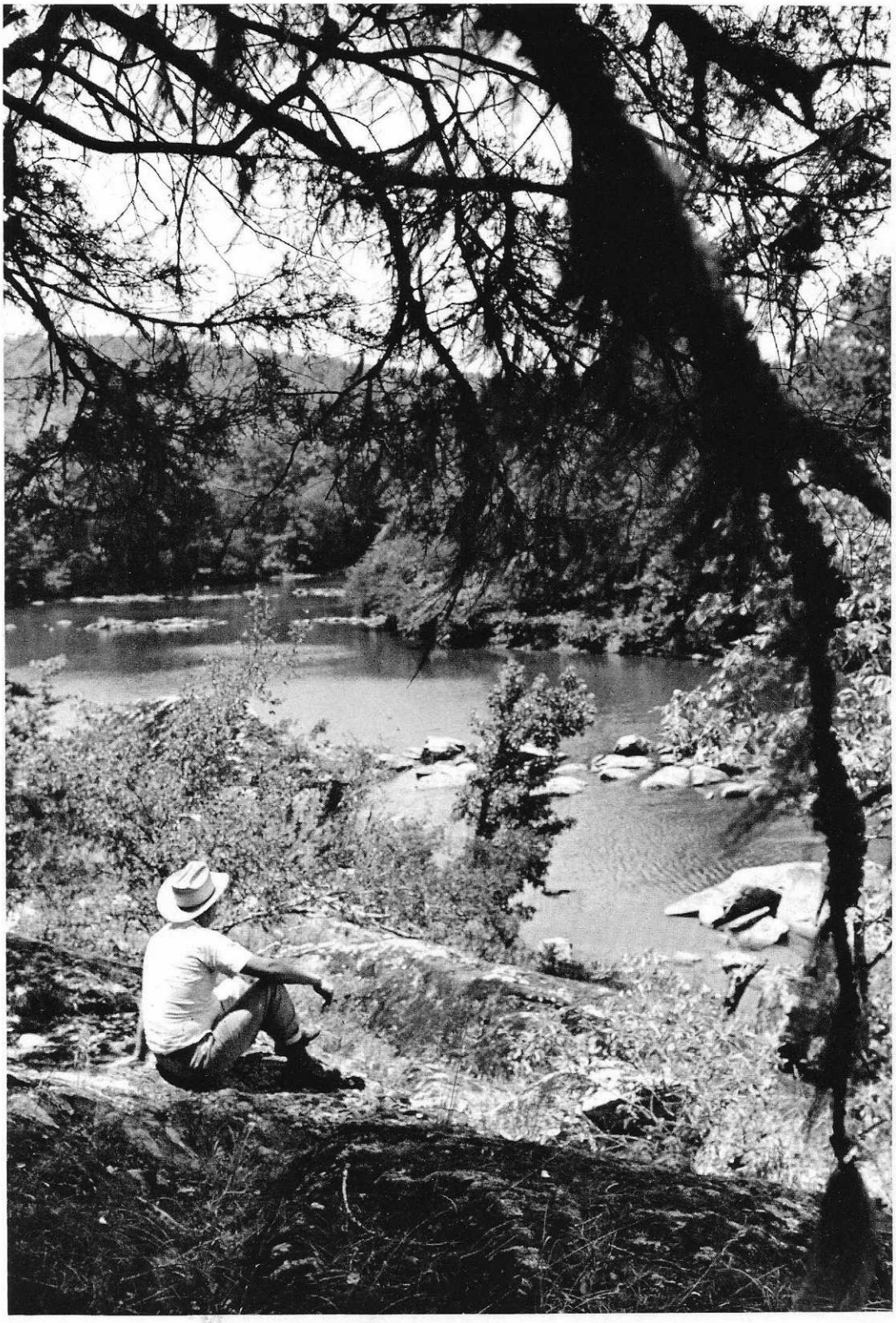
Ozark Society

Bulletin



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Front Cover:

On the Glover, around the bend from Meat Hollow Falls
Photo: Scenic Rivers Association of Oklahoma

DOGWOOD

At the time of the year when the young
hickory leaves unfold in hooded pennons
above their recurved, brown sheathings,
and the inch-long leaves of the white oak
are the color of ripe peach seeds,
the dogwood makes herself beautiful.
Slim with copsy grace, her slender shoulders
are veiled with scarf upon scarf of white blossoms,
cool and fragrantless.

The dogwood loses her bloom,
and midsummer brings her no fulfillment of spring
promise.
Yet with autumn, beauty returns to her-
Not the lemon-yellow spendor of the vivid hickories,
nor the bronze majesty of the white oaks.
Her few, faintly fluttering leaves
are fragile patterns of carmine-veined brocade,
and in her pointed fingers
she holds a broken chain of orange beads.
What April hopes lie hidden in these scarlet husks!

Lily Peter, Poet laureate of Arkansas

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The Cossatot Crisis—A Status Report

BY: WELLBORN JACK, JR.

Despite our tremendous and unprecedented court victory last year, the situation on the Cossatot remains no less critical than it was back in November of 1969 when the history of concerted citizen effort to save Arkansas' last significant free-flowing Ouachita Mountain stream began with the passage of a resolution at the Ozark Society meeting. Litigation has given the Cossatot an eleventh hour reprieve. There will one day, sooner or later, be an end to litigation. The ultimate decision—to preserve or destroy the Cossatot—will be made in the political arena, not the court room. The law, as presently written and interpreted, can insure only that that decision is a fully informed decision made, as Judge Eisele has so aply put it, with "Eyes wide open."

Corps Moves To Dissolve Injunction

This past January the Corps filed in the United States District Court in Little Rock a motion to dissolve the injunction which had been issued by Final Order of that court in February of the preceding year. That injunction prohibited the Corps and its agents from proceeding further with the Gillham Dam Project "unless and until they comply with the provisions of the National Environmental Policy Act of 1969."

The Corps claims that it has now complied with the requirements of the National Environmental Act of 1969, commonly referred to as the NEPA. It cites as evidence of its compliance its having filed, concurrent with the filing of its motion to dissolve the injunction, a twelve pound Environmental Impact Statement.

It is apparently the Corps' position that whatever this voluminous document may lack in quality it makes up for in quantity. The great bulk of the information contained in the document relevant to the adverse effects of Gillham Dam and the advantages of preserving the Cossatot as a part of the National Wild and Scenic Rivers System is hidden deep in fine print (four letter-sized pages reproduced per page) of the unnumbered and unindexed pages of the many appendices to the document.

Reasons For Our Opposition To Corps' Motion

Richard S. Arnold, our counsel, has filed on our behalf a masterful brief opposing the Corps' motion to dissolve the injunction. It is our position as stated in that brief, (1) that the Corps' new Final EIS is not (a) impartial and objective, (b) does not make a full disclosure and does contain clear errors of fact, (c) does not adequately discuss alternatives, and (d) gives contradictory explanations of the justification for the project; and (2) that the NEPA requires far more than the mere filing of an EIS, even an adequate one.

The New Environmental Impact Statement: A Costly Sham

In an affidavit filed with our brief, Dr. Frank C. Craighead, Jr., perhaps the world's foremost authority on wild and scenic rivers, summarizes the deficiencies of the EIS as follows:

"The Final Environmental Statement for the Gillham Lake Project on the Cossatot River is not an objective or impartial study, but a justification of a decision already made—the decision to impound the Cossatot River and destroy a unique scenic and now rare free-flowing Arkansas River for supposed social and economic 'benefits'.

"It is clearly evident that data supporting the project has been arbitrarily selected and cited and that information detrimental to the project completion has been either minimized or omitted."

"The Statement ignores the tremendous changes in public attitude and policy toward the environment, toward national and regional priorities, and toward the individual's and society's goals for a quality life for all which have occurred since 1958 when this project was authorized."

"What is essential if a statement of this kind is to be meaningful and objective is a study and assessment by outside, disinterested parties. Without this, the costly and time consuming preparation of an environmental statement is nothing but a sham."

Corps Assigns No Value To Cossatot

The EIS assigns no value to the Cossatot and gives short shift—in fact fails to even mention the river rating system developed and published over the years by Dr. Craighead and his brother John, whereby the value of a stream can be assessed in comparison with other streams.

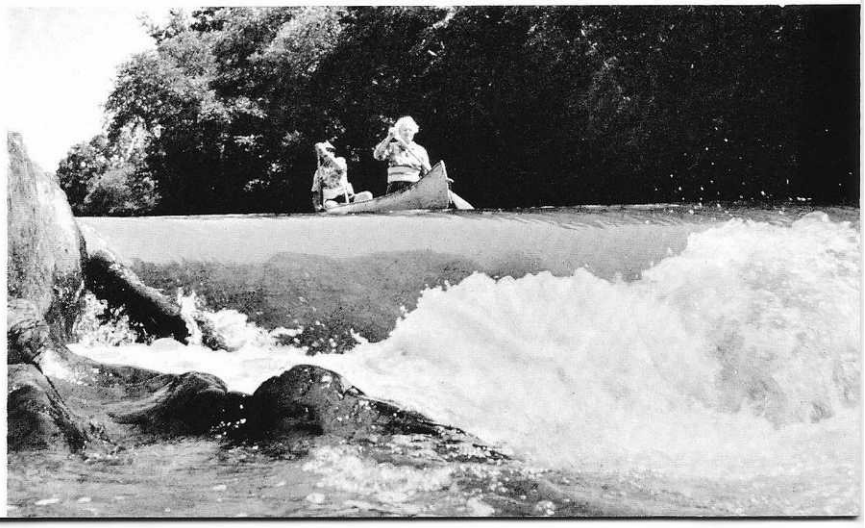
Prior to the trial of the Cossatot case in February of 1971, Dr. Craighead had visited the Cossatot and evaluated it in accordance with this system. Regarding the treatment in the EIS of his evaluation of the Cossatot ,Dr. Craighead in his affidavit makes the following observations:

"I testified about this assessment and evaluation at the trial. The Cossatot was evaluated for its fishing and boating resources in relation to other streams throughout the nation, and it was rated excellent in fishing and near excellent in boating. This fact should be emphasized. The statement does not mention it.

"If a stream nationally rates this high, and in an area where few such streams are left, the alternative of preserving it in it's free-flowing state should certainly be given fair study and full consideration. I do not feel that this has been done in this report. The discussion of preserving the Cossatot as a free-flowing river is completely inadequate."

Nor does the EIS mention or allude to the "Forced number" concept of evaluation testified to at the trial by Dr. Paul Roberts, distinguished economist. With this concept, a minimum present value for a

On the Brink, first ledge, Duckett Falls, six miles above Gillham Dam Site Photo: Wellborn Jack, Jr.



previously unqualified amenity can be approximated by calculating the additional cost required to reduce the benefit cost ratio below parity.

Bias And Prejudice: The Pinkey Affair

Our brief also cites the irrefutable inference of bias and prejudice in preparation of the EIS which must be drawn from the conduct of Colonel Vernon W. Pinkey, who was District Engineer of the Tulsa District when the process of compiling this EIS was begun and, to a large extent, under whose direction the EIS was completed. This point is summarized by our counsel, Richard S. Arnold, in the brief filed on our behalf as follows:

"Yet, Colonel Pinkey clearly stated, before efforts to compile a new statement had even begun, that the Gillham Dam would definitely be built. On Friday, March 26, 1971, Colonel Pinkey appeared at a meeting of the Chamber of Commerce of DeQueen, Arkansas, and assured his listeners that the three authorized projects in the DeQueen area, the Gillham, Dierks, and DeQueen Dams, would definitely be constructed.. He said, among other things: "There is no doubt about them being completed"; and "I assure you these three dams are going to be built." A clipping from the **DeQueen Daily** Citizen of Monday, March 29, 1971, pages 1, 2, and 6, is attached to this memorandum. The gist of the article is summarized by the headline: "Colonel Assures—Gillham Dam Definitely Will Be Constructed."

The Most Serious Deficiency: No Full-Scale Scenic River Study

The NEPA requires far more than the mere filing of an EIS. A section of the NEPA, separate and distinct from that requiring the filing of an EIS, requires that the Corps **"Study, develop, and describe** appropriate alternatives to recommended courses of action in any proposal which involves alternative uses of available resources" (emphasis added).

The failure of the Corps to comply with this equally important section of the NEPA is set forth in the following language by Richard S. Arnold in the brief filed by him on our behalf:

"The most serious deficiencies, however, are evident in the Corp's purported discussion and development of the alternative of preserving the Cossatot as a scenic river under the National Wild & Scenic Rivers Act. The EIS concedes that 'the Cossatot River. . .appears to have merit for consideration as a scenic river' and that 'the river is indeed replete with scenic amenities.' These concessions are in accordance with the testimony of Dr. Frank Craighead at the trial on the merits. Yet, the discussion of this possible alternative is superficial, argumentative, and misleading.

"To begin with, although the EIS lays considerable and repeated stress upon resolutions adopted by both Houses of the Arkansas General Assembly, it nowhere admits the fact that the Executive Branch of state government, acting through Troyt B. York, Director of the Department of Planning and a member of the Governor's Cabinet, has recommended the Cossatot for consideration by the Bureau of Outdoor Recreation of the Department of the Interior as a national scenic river. The statement appearing at page 5-24, that 'the State of Arkansas has not designated, recommended, or asked for any action on the Cossatot pursuant to the Wild & Scenic Rivers Act,' is simply untrue. The Arkansas Department of Planning did nominate the Cossatot for consideration for scenic river status. A copy of Mr. York's letter containing this nomination is attached to this memorandum as an exhibit. It does not appear in the EIS. Following receipt of this nomination the Bureau of Outdoor Recreation, Southeast Regional Office, of which Roy K. Wood, who testified at the trial on the merits, is Regional Director, compiled a report styled 'Preliminary Information Concerning a Scenic River Alternative to the Gillham Dam and Reservoir, Arkansas. ' A copy of this report is **tucked away at the end** of the Appendix to the EIS titled 'Transcropt of Public Meeting on Environmental Impact Statement—Gillham Lake, Arkansas—Held in High School Auditorium—DeQueen, Arkansas.' The report concludes that development of the Cossatot as a scenic river under the National Wild & Scenic Rivers Act could produce economic benefits far in excess of those claimed for the dam and lake. It also points out that construction of the dam would inevitably involve foregoing scenic-river recreational benefits.

"In reply to this report, the EIS makes a number of arguments. See pages 5-19 through 26, 8-83 through 87. For one thing, we are told that the BOR's report is only 'preliminary information' that 'would not qualify as a Wild and Scenic River Report, 'p. 5-26. This is precisely the point that plaintiffs would make. At the time of the trial on the merits, there had never been, and there has not been now, a full examination of the alternative of making the Cossatot a scenic river under the federal law. The BOR's preliminary report is simply a recommendation by the Regional Office to the Washington office of that Bureau that such a scenic-river study be undertaken. Neither BOR, the Corps, nor any other ageny has actually made a full-scale scenic-river study. Yet, it is conceded by all that the river would qualify for scenic-river status. **Until a full-scale scenic-river study has been completed, how can it be said that the Corps of Engineers has not only studied and described, but also 'developed,' alternatives to the proposed action, as those words are used in Section 102 (2) (D) of NEPA?"**

76 Landowners: $345-Acre Subsidy

The principal benefit claimed by the Corps for the Gillham Dam has now been shifted from uneeded flood control on the distant Red River to flood control on a maximum of 18,900 acres of woodland and pasture lying within the uninhabited 100-200 year flood plain of the lower Cossatot. This is a relatively small acreage by Corps standards; its nearby Millwood Reservoir inundates five times (95,200) that acreage.

Construction of Gillham Dam would allow the owners of this land along the lower Cossatot to make a more remunerative use of their land. The names and numbers of these landowners is relevant to the making of an "eyes wide open" decision about the Gillham Dam. This information is conspicious by its absence from the EIS. The Corps has in its sworn answer to our Interrogatory No. 11 stated that it has "no information as to tract ownership below the proposed dam site." The information is available for free in the Sevier County Courthouse and for a nominal charge from Wilson Engineering of Texarkana, Arkansas.

A grand total of 76 individuals, families and corporations own the land in question. Of greater relevance, 72.2 per cent of this land is owned by only 14 individuals and families and 2 corporations, one of which owns more than 25 per cent of the entire flood plain. Known out-of-state interest own 39 per cent of the floor plain.

Remaining 27.8 per cent owned by 60 individuals & families in average tracts of 80 acres.

The explanation for the Corps professed ignorance of this readily available information becomes obvious when the decision to build or not build Gillham Dam is once again viewed as a political question.

There Are More Of Us Than There Are Of Them

On this count alone, to the extent that the American political process can be reduced to brute numbers, we

(Continued on Page 15)

Wild Canids Of Arkansas: Past, Present And Future

PHIL GIPSON

Phil Gipson completed the requirements for a Ph. D. at the University of Arkansas in December 1971. That title of his dissertation is **The Taxonomy, Reporductive Biology, Food Habits and Range of Wild Canis (Canidae) in Arkansas.** Phil is active in the Arkansas Environmental Research Society and the University of Arkansas Chapter of the Ozark Society.

Probably a Red Wolf, captured in Arkansas in early 1960's Photo: Courtesy G.M. Purvis, Arkansas Game and Fish Commission (From an Ektachrome)

Within the past 10,000 years what is now Arkansas has been inhabited by coyotes **(Canis latrans)**, dogs **(C. familiaris)**, and several species of wolves including the extinct dire wolf **(C. dirus)**, gray wolf **(C. lupus)** and red wolf **(C. lupus)** and red wolf **(C. rufus)**. This is evidenced by fossil remains, historical accounts and museum specimens. The term canid as used in this article is limited to wolves, coyotes and dogs.

The red wolf was the dominant canid in Arkansas until recent years; unfortunately little scientific information regarding the life history of this wolf was obtained under natural conditions. Now, after more than a century of persecution and environmental disruption our native wolves have become nearly extinct. Red wolves generally weigh 45 to 65 pounds, have long slender legs, and usually have salt and pepper gray pelage indistinguishable from that of the coyote or gray wolf, although some individuals are black. As these characters suggest, red wolves often appear to be intermediate between coyotes and gray wolves. This has caused scientists to ask the question: Is the red wolf a distinct species or is it only a subspecies of the coyote or gray wolf? A distinct species is a physically similar group of animals that breeds only within itself under natural conditions while a subspecies is a local variant inhabiting a part of the range of the species with characteristics that blend into those of other related subspecies where their ranges meet. A number of recent studies utilizing computer analysis of skull measurements, brain morphology, blood protein examination and howling responses have concluded that the red wolf is a distinct species.

When settlers began to move into Arkansas red wolves were common throughout the state. George Featherstonhaugh in a description of a trip through the state in the 1840's commented on the vocalizations of "countless gangs (of wolves(,. . .an incredible noise, especially towards morning, some barking in one tone, some screaming and howling in another, as if each had his tail in a pair of pincers." As settlements expanded red wolves disappeared from the surrounding areas but in the early 1900's wolves were still present in most counties. By 1940 the animals were becoming scarce and were limited primarily to the Ozarks, Ouachitas and southern counties. In the early 1950's red wolves still occurred in southern Arkansas and a few wolves continued to survive in remote portions of the Ozarks.

During the early 1960's scientists became concerned that the red wolf was in danger of extinction. This resulted in field studies to determine if and where the species occurred. One such study was conducted by two Canadian zoologists, Douglas Pimlott and Paul Joslin who searched for wolves in Arkansas during 1964 and 1965. No canids definitely identified as red wolves were located, but Dr. Pimlott heard a pack of animals howling in the Ozark National Forest he considered "probably wolves" and indicated that Bradley county in the south central part of the state warranted additional investigation. Following their preliminary survey a statewide study of wolves, coyotes and wild dogs was initiated by the author as a part of his Ph. D. program at the Zoology Department, University of Arkansas. The study was funded by the Arkansas Game and Fish Commission. Results of our study showed that only a few isolated red wolves remained in southern Arkansas and some red wolf influence was indicated in the Ozarks.

Red wolves in Arkansas were forest dwellers, and as new areas wre cleared they retreated to inaccessible mountain and swampy areas. Coyotes, however, extending their range into the state from Texas, Oklahoma and Missouri adapted readily to open fields and second growth woodlots. By 1921 coyotes were fairly common in Washington County and were found as far east in the Ozarks as Fallsville in Newton County. In the early 1950's coyotes spread over western and northern areas and by 1964 they were probably present in all counties. As coyotes extended their range they at times mated with red wolves and dogs.

Free-ranging dogs have been common since settlements were established, at times becoming wild and establishing themselves as part of the fauna. In recent years the free-ranging and wild dog population has increased. Such dogs are known to breed with wolves as well as coyotes. Dog-red wolf hybrids were considered to be fairly common in Arkansas in the 1950's and by 1960 a number of dog-coyote hybrids had been reported.

The probable changes that have occurred in the canid populations of Arkansas are shown in Figure 1. This figure is based on observations made by predator control agents and game biologists in the field, scientific reports and numerous discussions with older natives of rural areas throughout the state.

Presently the wild canid population is about 74 per cent coyote, 11 per cent coyote x red wolf intermediate, 10 per cent coyote x dog intermediate, 4 per cent wild dog and 1 per cent red wolf. As indicated above, coyotes are found in all counties, but are most concentrated in the western poultry producing areas. Wild dogs and coyote x dog intermediates are randomly distributed over the state

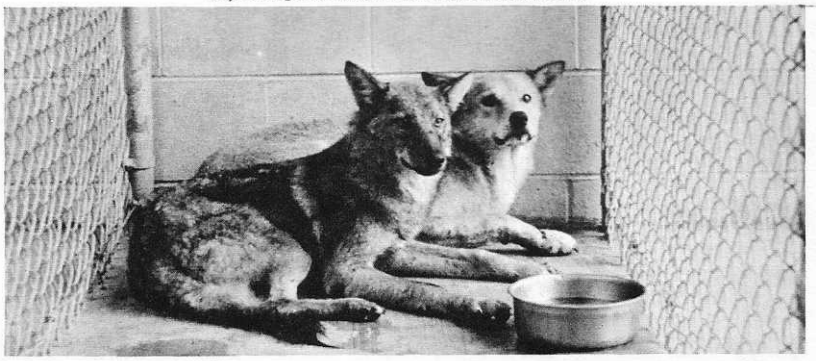
occurring wherever conditions have permitted dogs to survive in the wild or where chance matings of dogs and coyotes have occurred. There is presently a strong genetic influence from the red wolf on at least two areas of the Gulf Coastal Plain in southern Arkansas. The strongest influence is south and west of the city of Hope, especially toward the Red, Little, Saline and Cossatot Rivers. The second zone of red wolf influence in this region extends from the Ouachita River bottoms eastward across Calhoun, Bradley and Drew Counties. One additional area along the Buffalo River in Newton County appears to have a wolf influence. Even in these areas, most canids examined were coyote x red wolf hybrids or coyotes, but a few true wolves may still be present.

In the future the coyote segment of the population is likely to increase because a more suitable coyote habitat is created as more land is cleared for crops and pasture. There are at least two other reasons for predicting an increase in the coyote population: 1) an abundant food supply in the form of dead chickens discarded by poultry producers and 2) sportsmen bringing additional coyotes into parts of the state to be run by hounds. The large number of free-ranging dogs and discarded pets indicates that we will have a fairly stable number of feral dogs and that coyote x dog matings will continue to occur resulting in a significant number of hybrids. The red wolf element is almost certain to decline since no new wolves are being introduced into the gene pool and as suitable isolated habitat is destroyed by clearing, drainage projects, impoundments, or other disruptions. Since there is probably no breeding group of wolves isolated from other canids in Arkansas, any remaining wolves will probably eventually mate with hybrids, coyotes or dogs if they mate at all.

The red wolf segment of the present population might be reinforced by stocking wolves. There is a cooperative effort among zoos in the United States to establish a captive breeding population which could supply specimens for restocking in suitable areas. Perhaps wolves from this source could be released in selected areas of Arkansas.

In conclusion, a recommendation—as you camp along a river or in other remote areas, try howling or play a siren. You will often be rewarded by a yipping serenade from curious coyotes and it is possible that you might hear the deep howl of one of our last wolves.

Coyote dog intermediate from north of Morrilton



A wild dog and coyote captured together along an abandoned road in the Ozarks.
Photo: From an Ektachrome

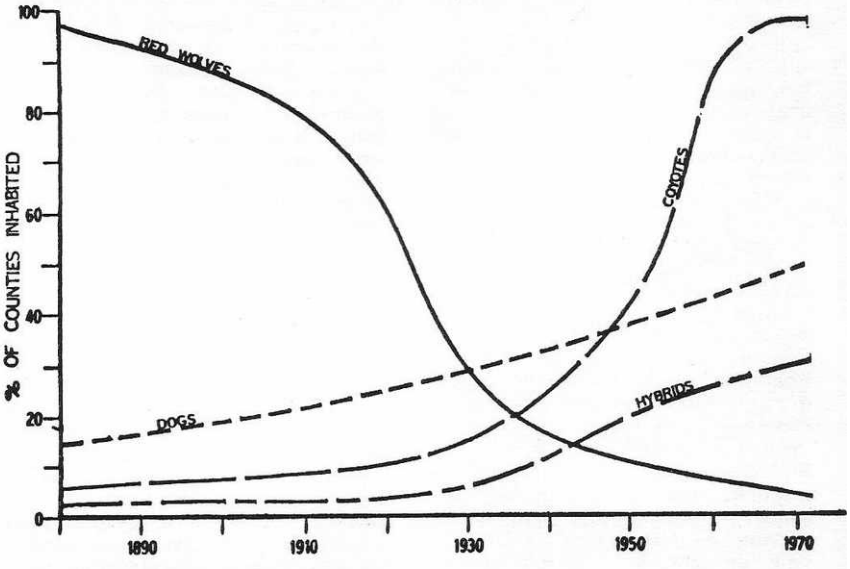


Figure 1. Probable population trends of canids in Arkansas since 1880.

Floating Oklahoma's Glover

JIM JONES

Jim Jones teaches geography and coaches football and basketball at the junior high school in Broken Bow, down near the southeastern corner of Oklahoma. There, the southernmost hills of the Ouachitas fade away into the lowlands of Little River.

For a sideline and hobby, Jim is a fishing guide on two of Little River's tributaries, the Mountain Fork and Glover Rivers. Both come down through the hills to the north of Broken Bow.

And both, in their own individual ways, are beautiful.

But part of the Mountain Fork is gone—under Broken Bow Reservoir. Little River is dammed, too. For that matter, so are nearly all the other rivers. . .

Only Glover River still flows free from beginning to end. Actually a fairly small stream ("Glover Creek" on many maps), nevertheless it is the proposed target for another Corps of Engineers flood control dam. The dam is being demanded by downstream farmers and others who envision direct benefits. Many other Oklahomans, realizing that the Glover is the only truly wild river left in their state, are fighting to save it.

Here, Jim shares some of his expert's knowledge of the Glover—knowledge he double-checked when he and friends made several 'survey' floats of the river during 1971. (And of his survey, he comments: "I had a great time doing this. . .")

—Editor

THE GLOVER RIVER, as shown on the map, is floatable for only 45 miles. The river runs much of that distance through rough hill country, the southern Ouachitas. Then it leaves the hills behind and meanders across lower country toward its meeting with Little River.

In the hills, the Glover is comparable with other Ouachita Mountain streams such as the Cossatot and upper Little Missouri Rivers. Here the Glover often flows over solid bedrock, with many boulders along the banks and in and under the water. It has many natural dams—up-tilted hardrock ledges across the river, with the water spilling and tumbling down in noisy falls and cascades.

Those ledges have to be portaged when the river is low, and there's not enough water coming down in one place. When the river is at normal level, most of the rapids and cascades can be run with a boat or canoe. Many are a challenge to navigate. Sometimes you get through without hanging up. Sometimes you don't, but that's part of the fun.

When the river is above normal—beginning to flood—stay off. The falls can then be dangerous.

The hill country has a strong flavor of wilderness. Along the river are miles and miles of unbroken forest. Picturesque pines stand on the high places. Rocky outcrops and bluffs, gray-green with lichens, overlook the stream. A thick tangle of vegetation makes a jungle along the banks. Dark green cedars hang on to the rocks. In early spring, the redbuds here and there add their splashes of brighter color.

When the river begins to leave the hills, at about Mile 32, it takes on a different look. Now the river bottom is most often gravel or sand. From the Highway 3-7 bridge on down, the hills are about all gone, and the Glover flows past lowland forest and cleared pastures.

Below Mile 32, when the river is low, there can still be lots of boat-dragging.

(Even that gets easier below about No. Mile 38.) When the water is at normal floating level, the going becomes quite easy. When the river here is high, rapids and turns can be tricky, but not too dangerous.

From about Mile 33 downstream, the river also has many diversions or side channels. In a few places, old gravel pits have caused the river to split up for short distances (when possible, stay with the main flow). Below Mile 38, the river is very narrow in places, and there are logs and log jams (with a little care and maneuvering, **these too can be overcome).**

On the Glover, campsites are wherever you find them. Campers most often have used small clearings at woods roads which come down to the river. There are no developed camping facilities, and no fees are charged. So far, the campsites have been kept fairly clean (let's keep it that way).

There are not many springs along the Glover, and most campers take their water from the river, purifying it with tablets or by heating it. Some floaters drink straight from the river ("There couldn't be any pollution 'cept from that farm 'way up the river. By now, that's purified.").

Hiking across-country is hard because of the thick vegetation, but old logging roads, when they can be found, make good hiking trails. Most land along the river is unfenced and open to hiking.

Most of the unfenced land belongs to the Weyerhaeuser Company, and they have not placed any unreasonable restrictions on public use of their land. (For more information about recreation on Weyerhaeuser land, contact any of their Dierks Division offices or forestry stations in the area.)

Try to stay off fenced land. Because outsiders have abused property rights at times, owners of fenced land along the river are not too friendly toward floaters. For this reason, access to the east side of the Glover is closed below Mile 28.0, except for one access point on a county road at Mile 37.9.

Practically any part of the Glover is good for float fishing. Use a canoe or a 12- or 14-foot johnboat, and carry a spinning or spin-cast reel and 6- to 12-pound line. Or, try fly fishing.

Smallmouth bass and goggle-eye perch are the main fish species; in fact the Glover is considered the best smallmouth stream remaining in Oklahoma. You can also catch largemouth and Kentucky spotted bass and other types of sunfish. Fishermen also set trotlines on the Glover for flathead and channel catfish.

In the hills, where pulling a boat across the rock ledges can slow down a float, it's best not to try to go too far in one day. A float of 4 or 5 miles, or even 2 miles, can be the best. There's time then for any necessary boat-carrying. Just as important, there's time to leave the boat for a while to fish along the ledges and riverbank, or just to sit and loaf. Some of the best fishing on the Glover is on the upper portions of the river.

Downstream, in the lowlands, getting over the shoals won't take so much time, and a day's float can be 6 miles or more. Canoeists with light gear can go even farther in a day.

Normally the best times for any kind of float are from March to Mid-June and from Mid-September to November. This can depend on water level, and on which part of the river you want to float. Floating the upper end of the Glover can involve much dragging even when the water is just a little low. The downstream end is easy floating even when the rest of the river is low.

Since water level can change rapidly, it's best to call ahead to find out before coming to float. (For up-to-date information on the Glover, you can write Jim Jones, 501 East Craig, Broken Bow, Oklahoma 74728. Or phone him: 405-584-2650.)

The Glover River, especially the upper part where there are rocks and rapids too numerous to count, is not an easy float. While it may be easy for a native who's used to it, it may be more than a novice would want.

But, if you have developed some skill in handling a boat or canoe, and will take time to stop and scout each rapid, and will use cautious good judgment in deciding whether to run the falls or carry around it, you should have no reason to be sorry.

Taking care doesn't mean not having fun. You can have a really good time on the Glover. More than that, you can acquire something never to be forgotten; you will have seen the Glover's own special beauty; you will have felt the river's personality.

And that can reach into your soul.

PUT-IN AND TAKE-OUT POINTS on Glover River are given below. The left-hand column shows river miles downstream from a bridge across the river's West Fork near the village of

Battiest in northwest McCurtain County. The map shows selected routes of access, omitting other roads which are too rough for travel.

The best detailed maps covering the river area are the Bethel and Golden 15-minute quadrangles of the U. S. Geological Survey (50c each from Distribution Section, U.S.G.S., Federal Center, Denver, Colo. 80225). Even these maps do not show some newer roads which have been built—and are still being built—by Weyerhaeuser to serve their logging operations.

O.O Low water bridge on paved county road 1 mi. W. of Battiest (the name is pronounced Ba-TEEST).

1.2 Concrete bridge; access.

3.5 Dirt road on right, at long pool Bluff on right.

5.3 Dirt road to right bank; another long hole of water with bluff on the right.

7.7 Old Dierks Boy Scout Camp, now a retreat for Weyerhaeuser employees, on left bank. By road, come by way of Bethel Hill Church.

11.0 Ford (future bridge?) on logging road, new in 1971.

11.2 Junction of West and East Forks of Glover. Concrete low water bridge, new in 1971, used for Weyerhaeuser logging. Coming from Bethel, turn right 1 mi. E. of Arkansas Crossing.

13.0 Arkansas Crossing ford. Fairly good road from east or west. This was on the 19th centruy route from Little Rock to historic Fort Towson, 30 mi. SW of here.

-crete slab across river, fairly rough road from E. or W. Old-timer John Ulmer Jones had a ranch nearby in the early 1900's.

19.7 Below Carter Creek 0.1 mi. the remains of a Dierks railroad trestle, used about 1920 when trains brought logs from north McCurtain County to lumber mills at Broken Bow and Wright City.

21.0 On the right, Camp Glover, for Boy Scouts of the NetSeo Trails Council of northeast Texas and southeast Oklahoma. Good access road, with scenic view of river from hill above camp. YOU MUST HAVE PERMISSION FROM THE CAMP'S CARETAKER (whose home is at the camp gate) BEFORE USING THIS ACCESS POINT.

22.6 Southworth Crossing. Rough road to right bank.

22.9 Angle Bluff, on right, named for the steep pitch of its ancient rock layers.

24.0 Wolf Falls, a series of ledges at intervals for about ½ mi. of river above the mouth of Wolf Hollow. Some cascades have as much as 4 ft. of fall.

25.4 Meat Hollow Falls, perhaps the best on the Glover. At normal level, the river drops several feet down a steep chute. With caution, the falls can be run in an open boat or canoe.

25.5 Meat Hollow. Fairly rough road to and along right bank to mouth of Hollow. Popular primitive camping area.

26.4 Cedar Bluff on right, then the mouth of Cedar Creek on the left.

26.8 Cedar Creek Bridge, a concrete slab, (sometimes called the Golden Gate Bridge.) Fairly rough road from W. and E. Primitive camping area.

27.2 Site of the Corps' proposd Lukfata Dam, whose reservoir would inundate the valley as far upstream as the Forks of Glover, Mile 11.2.

28.2 Access. Rough road from Bear Mtn. Tower to right bank of river. Campsite.

34.5 Gravel crushing and washing plant on left. No trespassing.

35.5 State Highway 3-7 bridge, 10 mi. W. of Broken Bow. Parking under the bridge or on gravel bar at river.

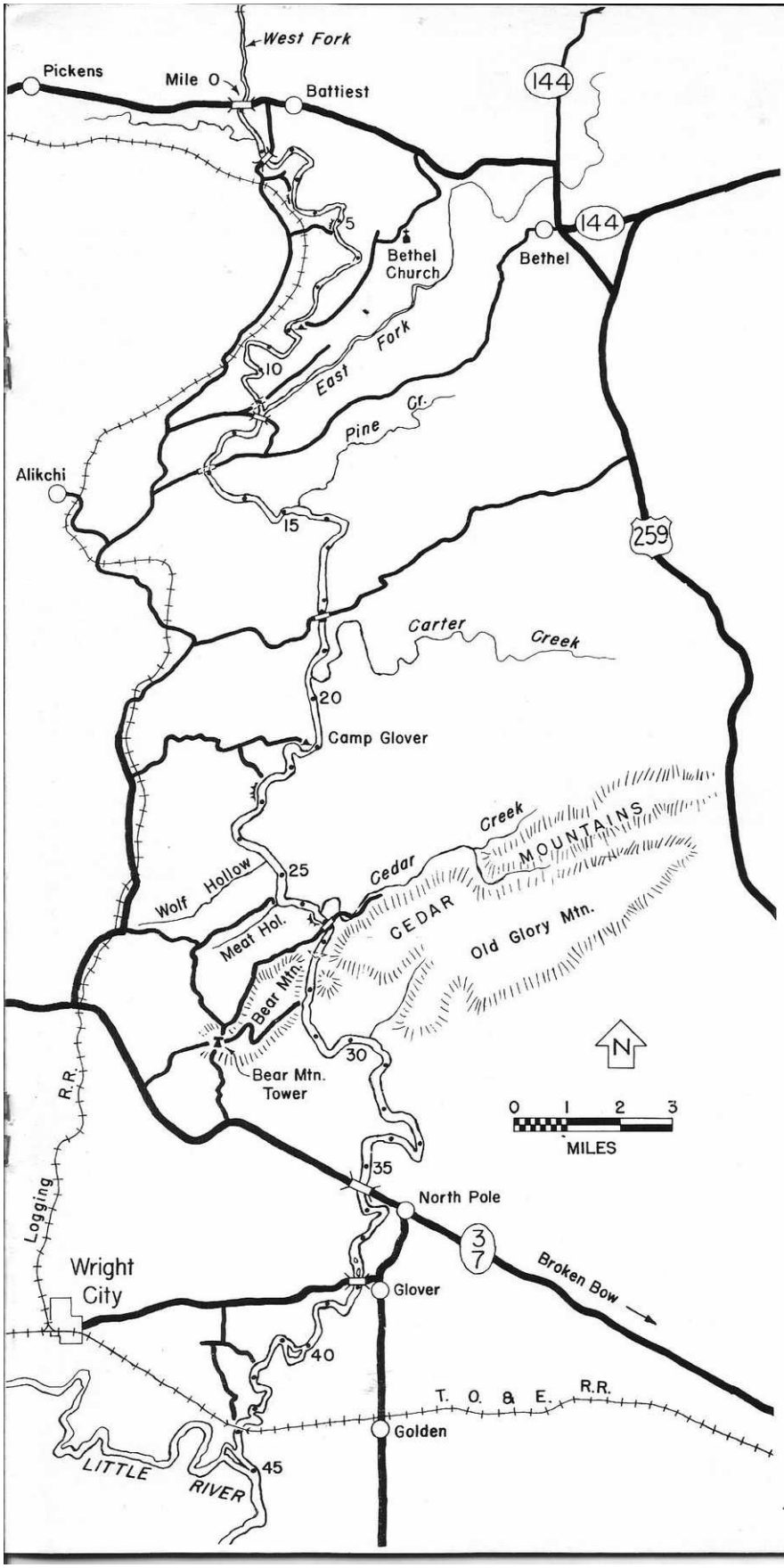
37.9 Low water bridge, 0.4 mi. W. of village of Glover. Paved county road. Park on shoulder of road.

41.8 Private access road from house on right bank. Obtain owner's permission to use.

43.9 Texas Oklahoma and Eastern railroad bridge. Rough road from west, very steep bank at river. Road is impassable when wet.

45.0 End of Glover River, at Little River. Next good accesss is at a county bridge 5 miles down Little River.

Meat Hollow Falls on the Glover Photo: Oklahoma Department of Wildlife Conservation



OZARK SOCIETY SPRING MEETING

The Spring Meeting of the Ozark Society was held on March 25 and 26 on the campus of Ouachita Baptist University in Arkadelphia, Arkansas. The Ouachita Chapter of the Society hosted the meeting.

The program began at 10:30 a.m., Saturday, March 25 with the president's address. In this presentation, Dr. Neil Compton reviewed the history of the struggle to save the Buffalo River, climaxed by the final approval of the National River Proposal. Immediately following Dr. Compton's address, former Governor Orval Faubus delivered an address entitled "The Decision to Save the Buffalo." This presentation revealed many of the things which happened prior to the letter which Mr. Faubus wrote to the Corps of Engineers stopping the dams on the Buffalo. Mr. Faubus' description of the decision to save the Buffalo was one of the high points of the meeting.

Other speakers included Richard Longing, Director, Department of Commerce; Professor Jim Ranchino, Chairman Political Science Department, Ouachita University; Troyt York, former Director of the Planning Department; Mr. Tom Foti, Pine Bluff, Arkansas.

The Master of Ceremonies for the evening banquet was Lt. Governor Bob Riley. On behalf of the Ozark Society, Governor Riley presented Mr. George Fisher a framed color photograph in appreciation of his conservation efforts through his cartoons. After the banquet, Frank Kowski, Southwest Regional Director of the National Park Service spoke on the activities of his organization. The first day of the meeting ended with a slide presentation on the Buffalo River by Mr. Robert Batson of Fayetteville.

The business meeting began at 9:30 on Sunday morning. Resolutions were passed on the Cossatot River, Whitaker Creek, and the White River Refuge Wilderness proposal. The Military Road Chapter gave a review of its efforts to develop a hiking trail in the area of the Jenkins Ferry Battlefield.

On Friday before the meeting, the advisory council of the Society met for the first time and elected J. Paul Batson as Chairman. As prescribed by the by-laws, the advisory council is composed of chapter presidents and has been activated in an effort to allow input from various chapters into the board. This group discussed various aspects of the Society including a by-laws amendment which would increase the number of persons on the Ozark Society Board. This proposal will be presented at the Fall Meeting.

Address Before The Ozark Society November 6, 1971

RICHARD S. ARNOLD

Richard Arnold of Texarkana was attorney for the Environmental Defense Fund until he formally announced a a news conference in Pine Bluff on March 11 as a candidate for United States Representative in the Fourth District. The Environmental Defense Fund, in cooperation with other conservation groups, is attempting to stop destruction of the environment. Arnold's recent successes are the temporary injunctions against Gillham Dam on the Cossatot and the 400 million dollar Tennessee-Tombigbee Waterway Project in Alabama. Bids have been postponed on the Cache River drainage project in eastern Arkansas to avoid contesting th request for a temporary injunction.

The Environmental Defense Fund and the people associated with it were featured in the NATIONAL OBSERVER of January 22. Much of the article is about Richard Arnold and the suits he has initiated, and Gale Eddins of the Arkansas Ecology Center who had much to do with halting work on the Cache River project. Picture of both Richard and Gale are displayed with the story.

The following article was presented by Mr. Arnold at the Ozark Society Annual Meeting last November.

Any forecast of the future of what has come to be called "environmental law" is necessarily tentative. If law in general is changing rapidly--and it certainly is, or at least has been for the last ten years or so--the pace of change in the environmental-law area is even quicker than in most other fields. Some commentators believe--upon good evidence, including the recent Supreme Court nominations--that the law of the seventies will perhaps change less quickly than that of the sixties seemed to, that we may be entering upon a period of consolidation and stabilization, as opposed to the recently concluded period of innovation. The transition from Earl Warren to Warren Burger, from Hugo Black to Lewis Powell, is, according to this view, only the most obvious item of evidence that a period of stability is in the offing. If this fore cast of a lessened degree of change is correct, as I am inclined to think, I venture to suggest that environmental law may be an exception to this prediction.

Environmental law, it seems to me, stands in about the same position as the field of civil rights occupied 15 years ago. It is fair to expect that the next 15 years may see the same kind of law explosion in the environmental field that the last 15 years have seen in the fields of civil rights and criminal law. To this extent, one may respectfully disagree with Mr. Chief Justice Burger's recent admonition that students should not enter law school in order to implement a desire to change society. At least in the environmental field, this statement is probably not true. Law schools and law practice, private or governmental, are excellent places for those who think our nation's environmental policies leave something to be desired.

What forms can we expect legal development in this field to take? We will see changes of great magnitude, I think, in the administrative, the judicial, and the legislative fields.

As far as administrative law is concerned, it was, until quite recently, dominated, so far as the environmental field is concerned, by those agencies, both on the federal and state levels, which have seemed to have a vested interest in construction of large public-works projects and in economic development. This situation is changing fast. A few of the changes that have already occurred or that may shortly be expected may be summarized as follows:

1. Old agencies are showing a new environmental awareness. The Corps of Engineers probably affords the best example of this kind of change. The Corps has, on paper anyway, the best and most comprehensive set of regulations and circulars requiring meticulous consideration of environmental concerns. The Corps has also established a distinguished three-member Environmental Advisory Board , which had quite a lot to do with stopping the ill-advised and wasteful Cross-Florida Barge Canal Project. The Corps has begun denying dredge-and-fill permits on environmental grounds, while traditionally only considerations of anchorage and navigation had been thought relevant. And the President has recently invested the Corps with the administration of the discharge-permit program under the Refuse Act of 1899, potentially a program with sweeping environmental effects. If we some times feel that all this environmental activity on the part of the Corps is, to a degree, only lip service, we must also concede, I think, that at least the top echelons of that agency genuinely recognize their new environmental responsibilities. This new attitude, in my view, will gradually trickle down to the operating level.

2. We have seen the creation of new administrative agencies entrusted explicitly with the task of environmental protection. Foremost among these is the Environmental Protection Agency. Whether this agency turns out to be only a hodgepodge of smaller bureaus, offices, and commissions thrown together from Interior, H.E.W., and the like, or whether it will somehow be forged into a true instrument of the public interest, remains to be seen. The prognosis for E.P.A. is, it seems to me, good. The administrator, William D. Ruckelshaus, is a man of ability and strength. His agency will probably succeed if it is not hamstrung from above.

3. Some of the older agencies long in existence and, it must be said, long dormant, are showing signs of life. A recent example from our own State comes readily to mind. The Arkansas Game and Fish Commission, unusual among administrative agencies in that it is constitutionally independent, in large measure, from the rest of state government, has not only announced its official and unequivocal opposition to a giant drainage project, but has actually gone so far as to ask to become a party litigant in a suit to enjoin that same project. Whether or not, as some have suggested, this is the first time that a state agency has brought legal action against a federal agency in the environmental field, the action is certainly unusual and a break with a more docile past. Such actions are not universally approved, of course. It has even been suggested that for the Arkansas Planning Department to do other than agree completely with the Corps of Engineers is a violation of law. If it is (and I doubt it), the law is a bad law and should be changed. The important point to note here is that federal and state agencies that have long walked softly in the shadow of the Corps are beginning to awaken. They will, I believe, become increasingly vocal. If they do, they will add to the usefulness of public debate and disputation on environmental issues, and they will be acting squarely in the public interest.

Other changes may be traced in recent court decisions. It is a measure of how rapidly change is taking place that most of the leading cases in the field are quite recent. Perhaps the most influential decisions are those coming out of the United States Court of Appeals for the District of Columbia Circuit, sitting at Washington. A three-judge panel of that court issued in July an opinion in an Atomic Energy Commission case that is probably the leading interpretation so far given by the courts to a potentially far-reaching statute, the National Environmental Policy Act of January 1, 1970. This case, called **Calvert Cliffs' Organizing Committee v. Atomic Energy Commission**, holds that the law requires strict compliance with the procedural provisions of Section 102 of NEPA, including the requirement that federal agencies must file a detailed environmental impact statement with respect to each major federal action significantly affecting the quality of the human environment. Nor should we overlook, when listing leading cases, the opinions of the United States District Court for the Eastern District of Arkansas in the Cossatot River litigation, to which, of course, you are a party. Those opinions have been cited with approval many times since February, at least twice by Courts of Appeals as far away as Washington, D. C., and Denver. The Department of

Justice itself has pronounced them "well reasoned." And they contain what is still and may remain the most extensive exposition of what a "Section 102 statement" must contain.

A man who ventures to guess what courts will hold in the future is dealing with one of the greatest of human uncertainties. I will not approach such dangerous ground. It is safe, however, to sketch briefly some of the newer arguments that counsel will probably be presenting to courts, on the theory that some, at least, of these arguments will meet with a measure of judicial hospitality. For example:

1. Courts will be asked to find some "substantive" content into NEPA. This is, the argument will be made that some actions have such serious environmental effects that they violate NEPA even though all the procedural requirements of that law have been meticulously obeyed. This argument has been presented to and rejected by some courts, but recent statements in some opinions indicate that life remains in it.

2. The District of Columbia Circuit, in a case involving the proposed Three Sisters Bridge over the Potomac River in Washington, has recently held that a decision of the Secretary of Transportation was invalid because he took into account the strongly held views of an influential member of Congress. This principle, certainly defensible on logical grounds, could have startling effects if broadly applied. Consider, if you will, the results of setting aside every agency decision to proceed with construction or other action that was based, in whole or in part, on political considerations, as opposed to the economic and environmental merits of the particular action involved. One cannot doubt that broad application of such a principle would revolutionize (for the better) this country's public-works establishment.

3. Although the day may be far in the future, the time may yet come when the courts accord constitutional status to some environmental rights or interests. Such a holding, if it comes, will almost certainly come from the Supreme Court of the United States, or, perhaps, from the Supreme Court of one of the States. Trial courts and even intermediate appellate courts are understandably reluctant to embrace the exhilarating opportunity of announcing new legal doctrine, as Judge Learned Hand put it. But Supreme Courts are not without power to give constitutions an appropriate construction in the light of new facts and needs. The extent to which this power is exercised will, as a practical matter, depend largely on how responsive legislatures are to what most people come to perceive as proper environmental policy.

The role of the courts is, of course, limited to interpretation of existing law. Courts do not, or should not, make law in the same unfettered sense that legislatures do. What kinds of changes in legislative policy, federal or state, can we reasonably expect? Let us begin by remarking how much change has already taken place. It was not long ago when any proposal that could be described as economic development was universally and uncritically accepted. The Public Works Appropriations bills were treated as though graven in stone. To oppose the construction of a dam, or the drainage of land, or the dredging of a navigation channel, was to lay hands on the ark of the covenant. Some legislators, federal and state, still seem affected by such reverence. Others, however, and the number is growing, have come to realize that the spending of money for construction, even in one's home county or district, is only one of many values of which the legislative process should take account. Intangible values, things like beauty, surcease from the neuroses of urban living, and wilderness, are receiving some recognition, too. Not that these intangibles should be the exclusive focus of our concern: they should not. But they are entitled to appropriate consideration, to their rightful place in a rational calculus of good and evil by which decisions affecting the environment should be made.

It is safe to speculate, I suggest, that legislatures will soon explicitly declare that environmental values are of equal dignity with those that have traditionally been regarded as economic. Perhaps this is what Congress has already said in NEPA.

If NEPA is not so construed, there is a good chance that Congress will speak again in tones that cannot be misunderstood. There is also a chance that the whole administrative system under which the same agency that decides whether a given construction project is to be built is also charged with the responsibility of building it, will be changed. If no man should be judge in his own cause, how long should such a system of decision-making prevail? We may be pardoned for viewing with some disquiet the solemn conduct of a reputedly exhaustive and objective study when the persons conducting the study almost always come out with the same kind of conclusion, and when, indeed, they would rapidly be out of a job if they did not.

True, Congress has created the Council on Environmental Quality, with power to review environmental impact statements, make studies, and publish reports. But the CEQ is a toothless tiger. It has no power, in the pure sense of the word, to do or undo anything. It can speak, but whether it speaks softly or loudly, it has no stick to go with its words. This situation may change. Congress may see fit, for example, to turn the Corps of Engineers into a mere construction agency, transferring planning and decision-making authority to a new cabinet-level Department of Natural Resources. Some governmental reorganization plans contain forms of this idea. Another possible development would be to invest the CEQ with some real power—not necessarily an absolute veto over construction projects, but perhaps the power to declare a moratorium, to delay an action for, say, one session of Congress, so that any doubts as to the will of that body could be dispelled. Whether any of these changes in fact comes to pass depends on how much the public wants it, or, more exactly, upon how much members of Congress believe the public wants it.

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My thumbnail sketch of a few of the areas of possible change in the field of environmental law is over. May I conclude by presuming to offer a few suggestions about how best to aid the process of change?

First, the most telling charge currently leveled against environmentalists is the charge of negativism--or, at least, many people so believe. Care should be taken lest this charge be well-founded. It is a mistake, intellectually as well as tactically, to oppose every new dam, every new power plant. A person who always reacts in the same way, no matter what the facts of an individual situation may be, whose judgment is predictable, may find that his fellow citizens are beginning to distrust his judgment.

Finally, concern with the environment must be man-centered. Ecology is a Greek word. It means the science of the home--man's home. Concern with other things, living and not, is good, because all things are good, but this concern should be informed by the realization that man is affected by all other things, animate and inanimate, and it is from the point of view of man's environment that judgments should ultimately be made. Still, it is true, and the public will come to realize, that the smallest creature may have effects on man undreamed of at any given time. One might say, paraphrasing John Donne, that no **creature** is an island, and we ignore this truth at our peril. All beings and things are bound together in a great chain of being, an invisible order that has above it and within it the rational intelligence of Him who alone spreads out the heavens and rules the raging of the sea.

We should recall the words of Francis Thompson:

All things to each other by almighty power
hiddenly linked are
That thou cans't not touch a flower
without troubling of a star.

Floating Cadron Creek

ROBERT T. KIRKWOOD

If, as Ken Smith says in **The Buffalo River Country**, the Buffalo is a "people stream", Cadron Creek is a challenge stream. As your canoe approaches the top of a long chute with haystacks higher than the sides of the canoe, the Cadron says, "Sure, you can take it easy and hold to the edges, but I challenge you to shoot the middle." As you drift to the willow covered gravel bar that masks the creek below, the Cadron says, "You could sneak around, but I challenge you to hit it hard, ride the rapids and be surprised by what I've hidden around the bend."

So, you shoot the middle, challenge the haystacks, and, as the third wave breaks into the canoe and the accumulated water destroys the stability, you clutch the canoe as it rolls you into the creek, float with it to the end of the chute, and push it to the shore through the ice that rims the pool. You speed around the end of the masking gravel bar and discover that what is around the bend is the Rock of Gibralter, sitting right in your path in the middle of the creek.

There are seven primary floats on Cadron Creek and its main tributary, Cove Creek. When the water is high, up in the brush along the bank, all of these are impossible. Four experienced floaters in two canoes once tackled the upper stretch of the East Fork of the Cadron in high water. In four miles they flipped one canoe three times, broke the back of the other, and, as Mike Rapp of the Chemistry Department of S.C.A. says,". . .left five finger-grooves down each side of the trees we were holding to as the water tore us loose and washed us away." (The float was abandoned and the floaters carried the surviving canoe and the bits and pieces they could salvage back through the woods to the car.)

The most challenging floats are those on the upper end of the East Fork. The put-in point for the first is the Hwy. 36 bridge north of Mount Vernon, Faulkner County. This begins rather deceptively. The rapids are easy, the pools long, and the only complications are logs across the creek. Each of these logs presents its own challenge. Whether to float under, lift over, or portage around depends upon the particular log and the water level. After the first two miles the rapids get more character. This float covers about eight miles and ends at the Hwy. 107 bridge north of Barney.

Float two on the East Fork starts at the Hwy. 107 bridge and covers about ten miles to the bridge on the country road between McGintytown and Holland. Six canoes, a kayak, and a jon boat recently tried this stretch. Five of the eight boats were swamped, one of them twice. The two-man kayak became lodged under a log jam, the occupants abandoning ship in the nick of time, and all members of the party worked for 45 minutes to free the kayak.

The upper float on the North Fork of the Cadron is completely different from any of the others. This stretch of the creek winds through lowland areas just below the put-in point, a bridge on a county road north of Gravesville. Logs across the creek present the only problems. There are some nice bluffs in the lower stretches but nothing challenging. The take-out point is the Hwy. 124 bridge on the main branch of the Cadron.

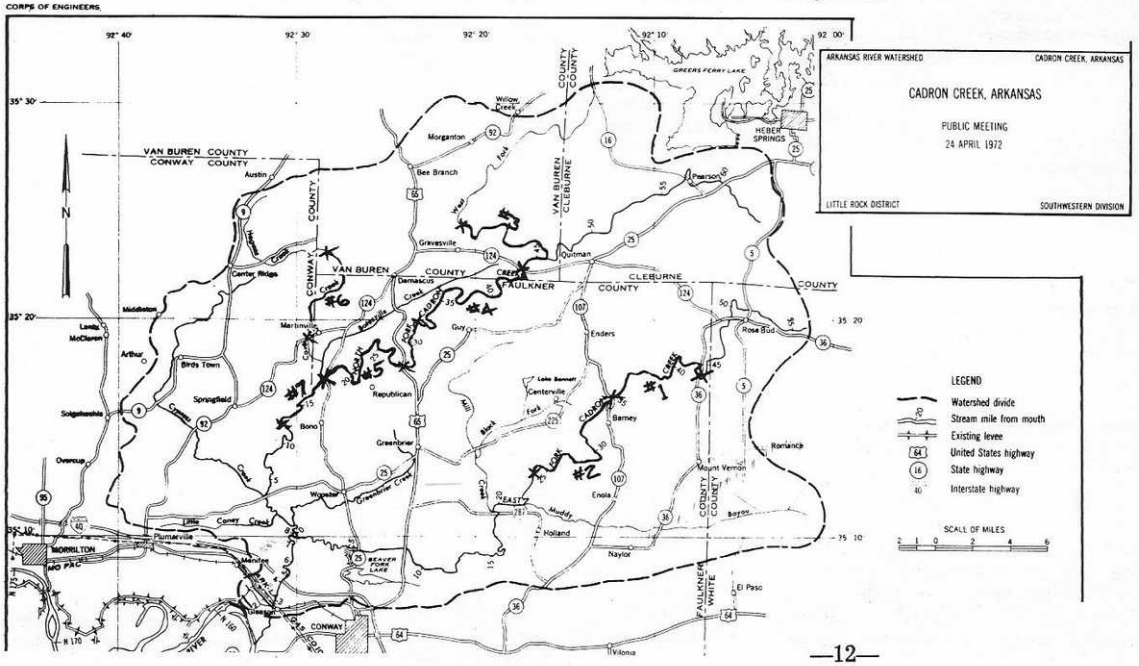
Starting at the Hwy. 124 bridge the next float extends to Pinnacle Springs, a once thriving community of which nothing remains but an open tabernacle. This stretch is about fifteen miles long and can be extended to eighteen by floating on down to the Hwy. 65 bridge. One can also take out at Stillhouse Branch which is only five miles below the Hwy. 124 bridge.

The last float on the Cadron originates at the Hwy. 65 bridge and extends for eleven miles to the Bono bridge on state Hwy. 285. This stretch combines some good runs, great scenery, and long, lazy pools. This is a good introduction to Cadron Creek.

Cove Creek presents two good floats. One originates where Hogans Creek and Pine Mountain Creek join to form Cove Creek and extends about 11 miles to the Martinville Bridge on Hwy. 124. Much of this stretch will be drowned when the lake is constructed for the new Boy Scout camp on Cove Creek.

The second stretch extends from the Hwy. 124 bridge to either the Bono bridge on the Cadron (floaters must paddle up the Cadron to the bridge) or to the Mallettetown bridge downstream on the Cadron. Both of the floats on Cove Creek are good with some exciting runs.

If you haven't floated the Cadron and would like to give it a try, get in touch with any Ozark Society member in any of the science departments at State College of Arkansas, Conway. We'll be glad to map out floats or act as guides.

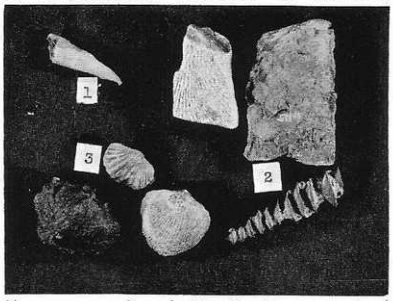


OZARK FOSSILS

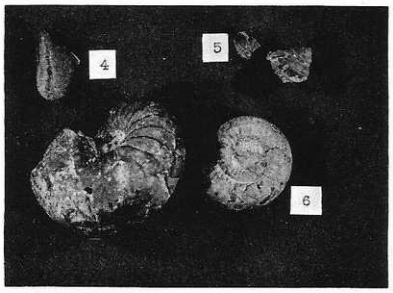
FRANCES C. JAMES
University of Arkansas Museum

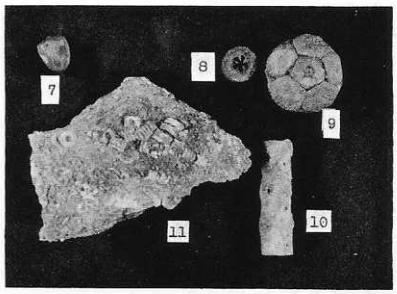
Once the place that is now the Ozark Highlands was a vast shallow extension of the ocean. Although there were islands that supported primitive plants like club mosses and tree ferns, most of the area consisted of a sea that teemed with animals and algae. At the end of the Paleozoic Era the bottom of the sea became elevated out of the salt water. It stands now like a many-layered cake filled with fossil treasures, the mineralized remains of its former inhabitants. As a matter of fact the Ozarks may be the richest source of information about marine life in the last half of the Paleozoic Era in the world. The great quantity and variety of fossils help geologists to interpret the complex sequences of strata of sandstone, limestone and shale. Charles Darwin would have been delighted with this fine record of organic evolution.

This abundant sea life existed at the time luxuriant vegetation in the Appalachians began its transformation into coal. It is called the Carboniferous Period and is divided into an older Mississippian System and a more recent Pennsylvanian System. The photographs are of fossils of marine animals commonly found in these strata: 1) Horn coral; 2) Bryozoans, colonies of minute



"moss animals" that secreted calcareous shells of lacy design (above), or along a screw-shaped axis (below, **Archimedes** from the Batesville Formation); 3) Brachiopods, having bilaterally-symmetrical shells and looking superficially like clams; 4) clam; 5) snails; 6) nautiloid from the Bloyd Formation (left) and a goniatite (right), mollusks anatomically similar to the chambered nautilus; 7)-11), stalked echinoderms related to starfish—7) **Pentremites,** the "petrified acorn" from the Bloyd Formation; 8) section from a crinoid stem; 9) calyx or "flower" of a crinoid; 10) crinoid stem; 11) limestone from the Boone Formation containing many sections of crinoid stems.





Late Paleozoic strata of the Ozark Highlands deposited as sediments in a period from 280 to 345 million years ago.

Period	System		Formation	
CARBONIFEROUS	Pennsylvanian	MORROW	Winslow[1]	Fossiliferous limestone containing goniatites, etc.; exposed at the spillway of the Ft. Smith Dam.
			Bloyd	Fossiliferous limestone and shale containing nautiloids, goniatites, brachiopods, coral, and the stalked echinoderm Pentremites; exposed along US Hwy 71 S of Fayetteville.
			Hale	Shale, limestone and sandstone with horn coral, brachiopods, cephalopods.
			Erosional Nonconformity	
	Mississippian		Pitkin	Bluish-gray limestone rich in fossils; the bryozoan Archimedes is outstanding.
			Fayetteville	Black shale with ironstone concretions, nautiloids, goniatites, crinoids, etc. Contains a long limestone barrier reef extending from Leslie to Batesville, Ark. as well as the Wedington sandstone.
			Batesville	Sandstone, top is rich in brachiopods; exposed in eastern portion of Boston Mtns.
			Boone[2]	Basal formation of Carboniferous strata; limestone and chert; widely exposed in southern Missouri, northeastern Oklahoma and northern Arkansas; many fossils, crinoid stems are abundant.

[1] Recent work by Dr. James Quinn of the Department of Geology, U of A, indicates that sandstones of the Boston Mountains known as Atoka are not quite equivalent to type Atoka in southeastern Okalhoma, and that the original name of Winslow should be reinstated.

[2] The lower member of the Boone is the St. Joe which is marble-like, chert free, varies from white and gray to pink, and averages about 20 feet in thickness. It is the limestone containing the tunnel at Lost Valley and most of Blanchard Springs Cavern. The Arkansas stone in the Washington monument is from a ledge of St. Joe near the present Dog Patch.

Ozark Society Activity Schedule Listed By Chapter Name

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.

May 27-28, PULASKI: Big Piney Creek canoe trip. Phillips ford to Double bridges. Camp on river. Meet at Double bridges (below Long Pool entrance) on Hiway 164 crossing on the Piney 8:30 a.m. Sat. for car shuttle. Big Piney is a "sporty" stream requiring PRIOR CANOEING EXPERIENCE. Wear life vests. For more details call leader John Heuston, at 372-4311.

May 27-28, CADDO: Caney Creek backpack hike. For details contact leader Bill Brown, 3004 County Ave. Texarkana, Ark. 75501. Ph. 773-6332.

May 27-28-29, INDIAN NATIONS: Buffalo River canoe trip, Ponca to Pruitt, wilderness camp. Lowell Dodson leader. Or Cove Lake, Camp and fish, Marion Gainey, leader 5754 E. 24th, Tulsa, Okla. 74114 ph. 918-835-3631.

May 28, DELTA: Buffalo River canoe trip. Ponca to Pruitt. For details contact leader, Tom Parsons, Pine Bluff, Arkansas.

June 3-4, SCHOOLCRAFT: Canoe on Courtois and Huzzah Creeks-a one day float on each-water permitting. Base camp near confluence of these two streams. Contact leader Buzz Darby, 1903 S. Maryland, Springfield, Mo. 65804. ph. 417-883-5685.

June 3-4, INDIAN NATIONS: Canoe on lower Lee Creek (N.E. Okla.) For details contact trip leader Otto Behnfeldt, 2648 E. 2nd St., Tulsa, Okla. 74104. ph. 918-939-1668. Ass't leader Alice Rodgers, Tulsa, Okla. ph. 918-582-5898.

June 10, HIGHLANDS: Canoe War Eagle Creek-Rocky Ford to Hiway 45 Bridge. Meet at Hindsville at 8:30 a.m. for guide to river and car shuttle. Dick Murray leader, 2006 Austin Dr. Fayetteville, Ark. 72701 ph. 501-442-8995.

June 10-11, INDIAN NATIONS: Canoe on Elk River. Trip leader Lyle Spoonover, 1815 N. Columbia, Tulsa, Okla. 74110, ph. 918-936-0491. Or Camp out at Lake Eucha (upper Spavinaw & Hiway 10) trip leader, Jean Estep, 5810 E. 30th Place, Tulsa, Okla. 74114 ph. 918-835-2575.

June 11, BAYOU: Family outing and float on 12 Mile Bayou. Contact leader Don Duggan, 859 Capt. Shreve Drive, Shreveport, La. 71105 ph. 318-865-9582.

June 11, DELTA: Canoe Middle Fork of Little Red River. Contact trip leader, Chalmers Davis, Altheimer, Ark. 72204. ph. 501-766-8301.

June 17-18, INDIAN NATIONS: Canoe on North Fork of White River (south Missouri) Camp at Hammond Mill Camp east of Dora, Mo. on North Fork. Trip leader, Perry Dickey, 4407 Bridle Road, Bartlesville, Okla. 74003 ph. 918-333-2676.

June 17-18, SCHOOLCRAFT: Hike in upper Buffalo country (canyons) Terrapin Branch and Leatherwood cove. Overnight base camp at Lost Valley State Park. Leader Bill Bates, 1713 Madaline Springfield, Mo. 65804. ph. 417-883-5199.

June 23, BAYOU: Canoe and swim by moonlight on Lake Bistineau. Leader Barney Gibbs, 203 Pennsylvania Ave., Shreveport, La. 71105 ph. 318-868-9570.

June 24-25, INDIAN NATIONS: Campout on Eufaula Lake-Porum Landing. Sailing and fishing. Trip leader Glen Ramsey, 1725 So. Yorktown, Tulsa, Okla. 74104 ph. 918-936-1546.

June 25, DELTA: Beginners canoe trip on Buffalo river. Learn the basics. State Park to Rush. Trip leader Tom Parsons, Pine Bluff, Ark. 71601 ph. 501-534-3400 or 535-2775.

July 1-2, SCHOOLCRAFT: Lower Buffalo river canoe trip-State Park to Buffalo City. A good float for beginners and fishermen. Overnight on river. Leader Charles McRaven, School of the Ozarks, Point Lookout, Mo. 65726.

July 1-2, INDIAN NATIONS: Campout at Lake Weddington, near Fayetteville, Ark. Leader Geo. Savage, 6904 So. Birmingham, Tulsa, Okla. 74105 ph. 918-743-2755.

July 1-2-3-4, BAYOU: Canoe the Ouachita river and camp at Fulton Branch. Float as much of the upper river as the water level allows. Leader Geo. Armstrong. Ass't leader and contact, Tom Dodder, 127 State Court, Bossier City, La. 71010. ph. 318-742-0849.

July 15-16, SCHOOLCRAFT: Canoe clinic on Northfork River and Bryant Creek-one day on each stream. Instruction in basic and intermedate skills. Leader Buzz Darby.

July 15-16, INDIAN NATIONS: Campout and canoeing on Lake Tenkiller at Sizemore Landing. Leader Landy Parman, 1823 So. Irvington, Tulsa, Okla. 74112 ph. 918-836-4766.

July 22-23, HIGHLANDS: Canoe Illinois River (N.E. Okla.) Chewey bridge to Eagle Bluff camp with overnight base camp at Round Hollow State Park. Meet at Chewey Bridge at 10 a.m. on 22nd for car shuttle. Leader Glen Parker, Dutton, Ark. 72726 ph. 501-677-2473.

July 22-23, BAYOU: Weekend of camping swimming and water skiing, etc. in the Parker Creek area of Lake Greeson. Leader and contact Bill Meier, 237 Rutherford St., Shreveport, La. 71104 ph. 318-865-2982.

July 29-30, DELTA: Canoe on Northfork of White River (south Mo.)-a clear, cool spring fed stream. Ideal for hot summertime. Put in at Hammond Camp and camp on river. Take out at Tecumseh (Hiway U.S. 160) bridge at head of lake. One day or two day floats. Leader Tom Parsons.

July or August, DELTA: Visit to Grand Prairie near Stuttgart, Ark. See virgin prairie grasses in full growth. Date to be determined by moisture and growth of grasses, etc. Bring plenty of mosquito repellent. For details and date contact leader Tom Foti, Pine Bluff, Ark. 71601 ph. 501-534-7107.

August 5-6, SCHOOLCRAFT: Beauty Cave-a rare opportunity to see one of Arkansas's scenic wonders. An overnight trip to the area with possibility as a clean-up or work project. Contact leader. Charles McRaven.

August 12-13, DELTA: Canoe upper Eleven Point River (southeast Mo.) Another clear cool, springfed stream, ideal for hot summertime. Trip leader, Chalmers Davis.

August 26-27, ALL OZARK SOCIETY CHAPTERS participating in the **Sixth annual Buffalo river clean up float.** Prizes offered. Clean up from Gilbert to State Park, camp overnight at Maumee landing. Dick Murray leader.

Sept. 2-3-4, INDIAN NATIONS: Campout and canoeing on Beaver Lake at Lost Bridge access. Leader Bob Martin, 2315 So. Fulton Pl., Tulsa, Okla. 74114 ph. 918-835-5325.

Continued on Page 15)

THE COSSATOT CRISIS

and the public generally ought to win in the political arena. That we and the public have not yet scored a clear victory in that arena indicates either (1) that there is something wrong with the political process as it relates to Gillham Dam, or (2) that we and the public generally have not yet made the necessary individual effort to make our views known to our elected officials and the present candidates for public office. No one should be heard to cast blame on the political process until he has personally made that necessary individual effort to contact his elected representative and candidates.

Federal Subsidy Per Landowner to Complete Gillham Dam (100 Year Flood Plan)

1971 estimate of total cost to complete, $15,300,000.00; Funds expended as of February 19, 1971 when injunction issued:

(a) Land, relocations, access road, outlet works, spillway, $6,650,000.00; (b) Engineering, design, supervision, and administration, $2,400,000.00.

Total, $9,050,000.00

Cost to complete (present estimate), $6,250,000.00; Cost per acre (18,089 acres) to complete $345.

Sixteen owners of 72.2 per cent of Weyerhaeuser 4,674 acres. Average per landowner 817 acres.

Subsidy per landowner, Cost of completion of Gillham Dam, average per landowner $281,865; average per landowner of total cost of Gillham Dam $691,182.

Remaining 27.8 per cent owned by 60 individuals and families in average tracts of 80 acres.

(Table of individuals owners omitted because of lack of space.)

Source of Ownership Information: 1971 Ownership Map, published by Wilson Engineering, Texarkana, Arkansas. Acreage planimetered.

Source of Limits and Acreage of Flood Plain: Limits were approximated by tracing the obvious terraces appearing on the U.S. Geological Survey 15' minute topographic quadrangles of the affected area. This area was planimetered at 18,089 acres. This result compares favorably with the estimate of 16,040 acres made by the Corps in the 1955 AWR Study and its more recent estimate of 18,900 acres for the area affected by the 100-200 year great flood of 1968.

How Big is 18,089 Acres: Relatively small by Corps standards. The Corps' nearby Millwood Reservoir inundates 5 times as much land (95,200 acres). This 18,089 acres is but 5.3 per cent of the 335,000 acres which lie underneath the waters of the twenty largest Corps reservoirs in Arkansas, at their normal pools.

Something Special For The Family

George Fisher, Little Rock cartoonist, who was honored at the banquet of Ozark Society's Spring Meeting, has assembled his cartoons on the activities of the Corps of Engineers. The title is **U.S. CORPS OF ENGINEERS COLORING BOOK.** This little gem of "Recycled cartoons printed on 100 per cent recycled paper, price one recycled dollar" is well worth the investment even if you have no crayons. Address:

George Fisher, Fisher Art Service
309 Center
Little Rock, Ark. 72202

Another Crisis

The U.S. Army Corps of Engineers has announced a Planning Meeting for Cadron Creek 7:00 p.m., April 24, 1972 in the Faulkner County Court House, Conway, Arkansas. All conservation interests should be represented as there are to be considered a S.C.S. watershed plan involving extensive channelization, and a plan for the construction of impoundments which will alter one of the few remaining stream systems in Arkansas. (See Engineeers' map with Bob Kirkwood's **Floating Cadron Creek.**

ACTIVITY SCHEDULE—

Sept. 9-10, SCHOOLCRAFT: Ozark Underground Laboratory-a rare opportunity to study cave ecology. Contact leader Tom Aley, Route No. 2, Ozark, Mo. 65712.

Sept. 9-10, BAYOU: Lazy weekend at Kisatchie Creek Primitive Camping Area. Leader Russ Bruner, 815 Slattery Bldg., Shreveport, La. 71104 ph. 318-868-1379.

Sept. 16-17, INDIAN NATIONS: Illinois River annual clean up canoe trip. All canoes invited. Leader Paul Kendall, 4813 East 26th St., Tulsa, Okla. 74114. ph. 918-939-1839.

Sept. 16-17, SCHOOLCRAFT: Peck-out Hollow clean up hike. A two day clean up trip with overnight campout in the area. Trip leader, Buzz Darby.

Sept. 23, HIGHLANDS: Hike to natural bridge on Indian Creek southwest of Pelsor, Ark. Meet at Fairview Recreation Area, one mile north of Pelsor on Hiway 7 at 8:30 a.m. Leader Harold Hedges, Ponca, Ark. 72670 ph. 501-428-5445.

Sept. 23-24, BAYOU: Cossatot Falls-Start the fall with hiking and camping (probably swimming). Leader George Armstrong.

Sept. 30-Oct. 1, INDIAN NATIONS: Campout and canoeing on Lake Tenkiller at Cookson Bend, Fishing and sailing included. Leader Bill Forrest, 10002 East 29th St. Tulsa, Okla. 74129 ph. 918-622-7138.

PAY YOUR 1972 DUES NOW!

Ozark Society dues for 1972 are payable now. Please fill out the blank below and send it, along with your check, to Box 38, Fayetteville, Ark. 72701. Your promptness in paying dues eliminates much work for your membership chairman. Send your dues today.

Dues are for the calendar year. They are regular (and family), $5; contributing, $10; sustaining, $25; life, $100· Student, courtesy membership, $1.00.

Please check: new member; _____ renewal _____ Date _____

Last name _____ first names of husband and wife _____

Address _____ City _____ State _____ Zip _____

Telephone _____ If Student-name of school _____

Warren Rock, two miles above Gillham Dam Site on the Cossatot

Photo: Wellborn Jack, Jr.