

# A Canal for Arkansas

Channel From Little Rock to the White River Could Be Constructed for Less Than \$10,000,000 and Would Open New Transportation Field for State.

By COL. JOHN R. FORDYCE

Canals as waterways for navigation are not obsolete, as many persons seem to believe. When transportation costs must be drastically reduced in order to develop the products of a region, canals often offer the solution to the problem of the cheapest means of transportation.

It is obvious that when the natural resources of a region are exhausted, those living within it must either disperse or other supplies must be brought in at costs which the population can afford to pay. Transportation costs in some regions often comprise the main factor in the price of vital commodities.

The present financial plight of the railroads demonstrates beyond a doubt that freight rates cannot be substantially reduced.

It is also apparent that the cost of transportation by truck in Arkansas probably will increase instead of decreasing because of the fact that trucks are not now paying a fair charge for the use of Arkansas highways. But neither the railroad nor the truck line can compete with waterways.

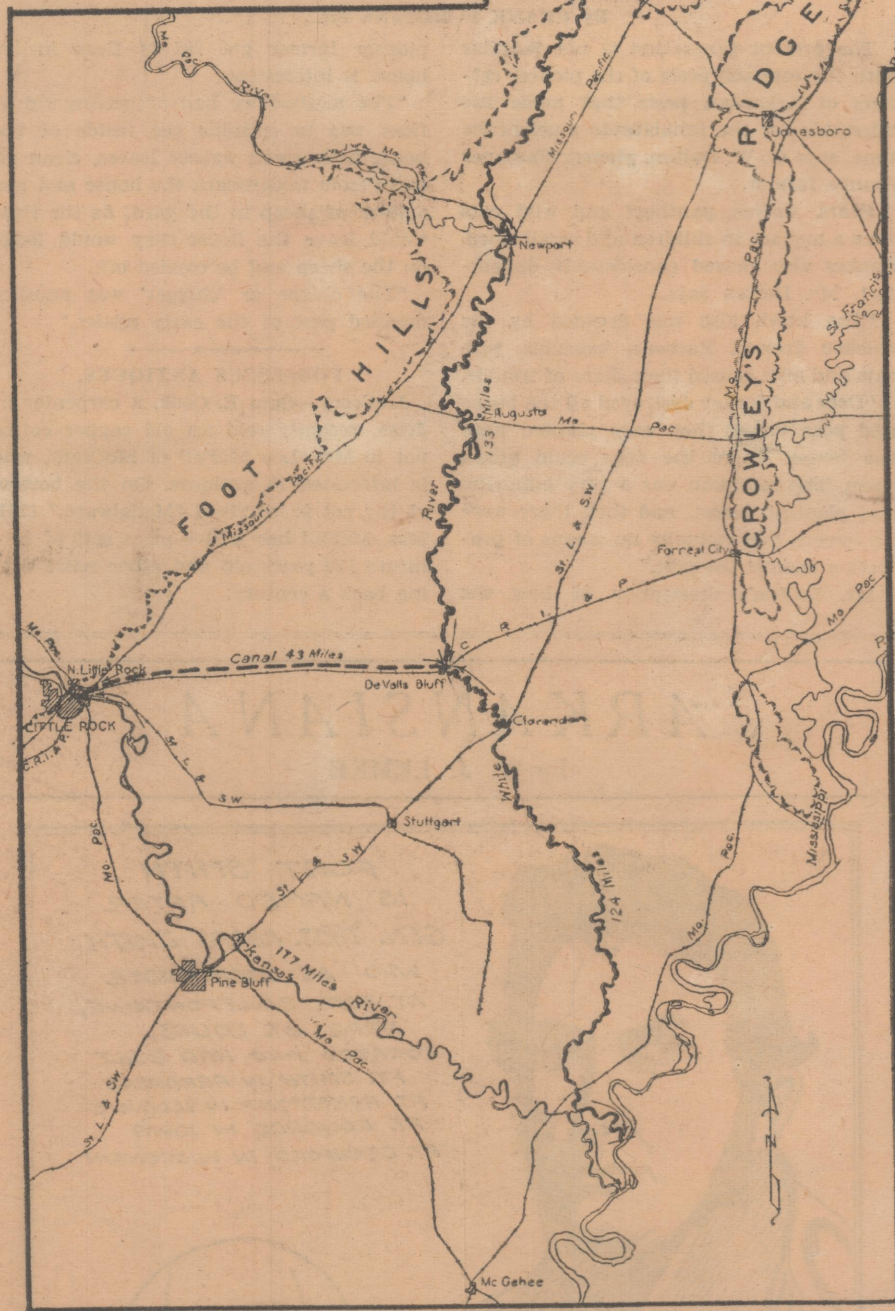
Arkansas has a great wealth of natural resources which she cannot consume and which she cannot export because transportation costs are too great. Costs of transportation cannot be reduced to any great extent by either the railways or truck line. It is possible, however, to materially improve the situation by constructing a canal direct from Little Rock to the White river.

The location of Little Rock in early days was determined by the fact that it was at the crossroads of the southwestern trail and the northwestern trail. This gave the point a strategical business advantage which it still holds. Little Rock is, as never before, the logical center for the assembly and distribution of goods in the state. In addition, it is the political and geographical center of the state. The principal commercial need at present is a practical method of connecting the Little Rock, or North Little Rock railway yards with the water transportation system of the Mississippi valley. In considering this need, it must be remembered that it is not economically practical to improve the Arkansas river from Little Rock to the Mississippi river. The chief of engineers of the army has had a report prepared which indicates that it would cost \$67,000,000 to create this channel for year-round water transportation and, in addition, would require a large sum annually to maintain it. On the other hand, it would cost less than \$10,000,000 to construct a canal from North Little Rock to the White river and provide a water way which would be large enough to enable the largest barge now in use on the Mississippi river to be brought into North Little Rock. Later on, if necessary, such a canal could be made to connect directly with the Arkansas river.

The construction of a canal from North Little Rock to the White river would connect Little Rock and all of central Arkansas to a relatively dependable river so far as navigation is concerned. In times of extreme low water, the White river carries almost 5,000 second feet of flow, while the Arkansas has only about 1,100 second feet. The White river is relatively non-silt bearing, while the Arkansas carries so much silt that it is an almost hopeless task to keep a channel open for navigation. White river has a fall of only three-tenths of a foot per mile, while the Arkansas falls seven-tenths of a foot per mile. This means that less aggregate mo-

tive power would be required for a barge to make a round trip between two points equally distant on the White river than on the Arkansas.

The distance from Little Rock to the Mississippi river by the Arkansas river route is about 177 miles. The distance via canal and White river is 167 miles by one route and 155 by another. It therefore not only would be cheaper to construct a canal to the White river from North Little Rock, but the route via the White river would actually be shorter than the Arkansas river route.



This map shows the location of the proposed canal from North Little Rock to DeWalls Bluff, connecting the Arkansas and the White rivers. In the upper right hand corner is the proposed canal from Poplar Bluff to Cape Girardeau, connecting the White with the Mississippi river.

While the proposed canal has been described as connecting North Little Rock and DeWalls Bluff, it is evident that all of the towns near the canal would benefit, as turnout basins can be constructed which would enable barges to be set out for loading and unloading at each town. All towns located on the White and Black rivers would also benefit by the increased traffic which the improvement of these rivers would bring.

The construction of the proposed canal might also offer another great advantage in that, at some later date, it may prove possible to improve the Black river channel above its junction with the White river and to connect the Black river with the Mississippi by a canal from near Poplar

Bluff to just below Cape Girardeau. This connection might be made by a canal which could occupy an old lowland channel of the Mississippi river. The water distances from DeWalls Bluff north, by this route, would be approximately as follows: White river, DeWalls Bluff to Newport, 133 miles; Black river, Newport to Poplar Bluff, 160 miles; by canal from near Poplar Bluff to Mississippi river, 65 miles. This is a total of 358 miles. The lowland formations in this area would be comparatively cheap to excavate and no cuts over 10 feet in depth would be required.

If this northeast canal and river connection were made, it would be possible for the water-borne freight from the Ohio

river and the upper Mississippi river, as well as from Chicago and the Great Lakes, to reduce water distances to Arkansas points by from 200 to 600 miles. Such a project would be partially carried on outside of Arkansas, but it might well play a substantial part in the development of northern Arkansas.

President Roosevelt has outlined plans for a great interior development program which he hopes to carry out. Let us bring the possibilities and needs of Arkansas to his attention. Surely our great natural advantages, our wealth of minerals and our waterways should be developed for the benefit of our own people and for the nation.

Arkansas already has on its statute books laws under which such canals can be built. Concerted action on the part of its people is now required to start this great project which would employ thousands of men and make possible the increased development of our raw materials and bring new wealth into our community.

## Geology of Proposed Route and Mineral Freight.

By GEORGE C. BRANNER,  
State Geologist.

The location which has been suggested by Colonel Fordyce for a barge canal connecting North Little Rock with DeWalls Bluff and the possible extension of a water route northward through the channels of White river and Black river to the Mississippi near Cape Girardeau, with an interconnecting canal, takes full advantage of the presence of the Mississippi embayment of the Gulf Coastal Plain of the southern United States. This embayment is a great blunt-nosed lowland centering along the Mississippi river as far north as Cairo. Its extent is shown on the index map above. The embayment has an east-west width in the latitude of Little Rock of approximately 400 miles, at Newport 325 miles, at Poplar Bluff about 225 miles, and comes to an end near Cairo. The surface of the embayment in Arkansas is, for the most part, made up of fresh water-laid sands, gravels and clays which are usually from 50 to 225 feet in thickness.

Crowley's Ridge is the only major highland area in the entire embayment. This is a remnant of a former highland, most of which in eastern Arkansas has been removed by erosion. The location of the ridge is shown in Figure 1. The proposed water transportation route north from DeWalls Bluff is confined to the lowlands between this ridge and the western edge of the Mississippi embayment.

A fact of interest in connection with (Continued on Page 10.)

the proposed canal routes are the low elevations.

Of the freight originating in Arkansas in 1929, approximately one-third (about 4,500,000 tons) represented mined products. It is therefore important that the shipment of these products be considered in connection with the construction of an inland waterway connecting North Little Rock with the White river.

Mineral product moved in part by rail through Little Rock which and probably would to some extent be shipped in part by way of a water connection to the White river are as follows:

Bauxite, originating in Pulaski and Saline counties. Reported production in 1931, 192,868 tons.

Burnt clay products, originating in central and southwestern Arkansas. Figures for the produced tonnages of burnt clay products are not available. In 1931, a total of 147,127 tons of raw clay was reported as used in the manufacture of these products.

Crushed stone, originating in Pulaski county. Reported production in 1931, 230,973 tons.

Sand and gravel, originating in central and southwestern Arkansas. Reported production in 1931, 1,140,882 tons.

Coal, originating in western Arkansas. Reported production in 1931, 1,051,642 tons.

Portland cement, originating in southwestern Arkansas. Raw products reported used in the manufacture of this cement in 1931, 282,000 tons.

Mineral products now moving through Batesville for the most part east which would probably, in part, be shipped by a northern water connection with the Mississippi river, are:

Marble (both exterior and interior) and terrazzo, originating in Independence and Izard counties. Reported production in 1931, 2,612 tons.

Burnt lime products, originating in Independence county. The last figure available on burnt lime products in Arkansas is for 1929 when an aggregate of 33,643 tons was manufactured.

Manganese ore, originating in Independence county. Reported production in 1931, 5,412 long tons.

Glass sand, originating in Izard county. Reported production in 1931, 22,960 tons.

In addition to carrying a part of the low grade mineral products freight the construction of an inland waterways system as described would probably have an immediate bearing on the creation of new mineral industries within the state. The development of the barite deposits in Hot Spring county would probably be expedited and stimulation of the crushed slate industry of western Arkansas might also follow. In northern Arkansas the development of the phosphate rock deposits would probably be influenced.

## CANALS PROPOSED FOR INLAND NAVIGATION.

The proposal to connect the Arkansas river at Little Rock with the White river at DeWalls Bluff by an artificial waterway is one of three barge canal projects whose advocates hope to have them included in the Roosevelt program of public works for unemployment relief. Its estimated cost is \$10,000,000, but it is the most modest proposal of the three.

In Alabama, plans for an \$80,000,000 canal between Birmingham on a branch of the Warrior river, and Guntersville on the Tennessee have reached the stage where a corporation has been organized. Birmingham, connected by a 17-mile short line with the nine trunkline railroads serving Birmingham, is a river terminal opened in 1920 to give access by water to Mobile and other Gulf ports.

The projected canal would complete a navigable waterway from Mobile to the Great Lakes, and give Birmingham and Alabama a northern market for their coal, steel, ore, pipe, cement and limestone. The construction corporation proposes to raise \$20,000,000 itself and borrow \$60,000,000 from the R. F. C. as a 10-year self-liquidating loan.



Ohio has long been talking about a trans-state canal to connect the Ohio river with Lake Erie. The active proposal at present is less ambitious than that, but still one of great magnitude. It is known as the Tri-Rivers Improvement Project, and contemplates the canalization of the Mahoning, Shenango and Beaver rivers to connect the great Youngstown industrial area with the Mississippi river system.

Thanks to its location on the canalized Ohio river system, the Pittsburgh steel district enjoys favorable water and rail-and-water rates for its products all the way down to New Orleans. The competing Youngstown and Birmingham districts are seeking to have conditions equalized.

The advantage of the DeValls Bluff canal would be that the White river is more reliable than the Arkansas for navigation. As planned, this canal would enable Mississippi river barges to reach Little Rock.

## SIGN APPLICATION FOR CANAL FUNDS

*Gazette*  
\$8,554,816 Sought From Public Works Administration By Mayors.

*Aug 17, 1933*  
An application to the Public Works Administration for an appropriation of \$8,554,816 for the proposed canal from the east bank of the Arkansas river to DeValls Bluff was signed by the mayors and special committeemen of the cities along the proposed route of the canal at a meeting in the Little Rock Chamber of Commerce board rooms yesterday.

Wallace Townsend, president of the chamber who was elected general chairman of the committee sponsoring the canal several weeks ago presided. A. M. Lund of Little Rock, consulting engineer for the project, read the application and explained the other divisions of the report, which included the engineer's report, a report by George C. Branner, state geologist, and a traffic survey by J. C. Murray, traffic manager of the chamber.

It has been previously pointed out that revenue for the canal will be collected on tolls for tonnage, warehouse facilities and water sold to rice planters for irrigation purposes. The total earnings available for interest and bond retirement has been estimated at \$785,568 per year.

**Tonnage Estimated.**  
Mr. Lund has estimated that the available tonnage will be 800,000 tons and charges will amount to 30 cents per ton. Charges for irrigation will be \$5 per acre, on approximately 75,000 acres. The canal will be 42 miles long and will take about two years to construct.

In his report, Mr. Branner said that nothing but clay and sand soils will be contacted in building the canal. Work on the project can begin two weeks after it has been approved.

As soon as the application has been signed by the mayors and committeemen of Little Rock, North Little Rock, Lonoke, Carlisle, Hazen, Stuttgart and DeValls Bluff it will be turned over to the Arkansas Advisory Board of the Public Works Administration and upon the approval of the state board it will be forwarded to Washington.

Mayors from Hazen and Stuttgart and the committeemen from Hazen and North Little Rock were not present at yesterday's meeting and did not sign the application. They will be contacted within the next few days.

Those who signed the application were: Mayor H. A. Knowlton of Little Rock and Mr. Townsend, committeeman; Mayor U. E. Moore of North Little Rock; Mayor W. H. Bransford of Lonoke and W. W. McCrary, committeeman; Mayor K. L. Lilly of Carlisle and M. B. Moore, committeeman; Mayor J. S. Whitcomb of DeValls Bluff and Judge J. G. Thweatt, committeeman, and J. Marion Stafford of Stuttgart, committeeman.

In addition to the mayors and committeemen, others attending yesterday's meeting included H. H. Tucker, who has appointed by President Roosevelt on a commission known as the Arkansas Valley Authority; J. K. Shepherd, first vice president of the chamber, Mr. Murray and Mr. Lewis, all of Little Rock.



Courtesy of the Little Rock "Arkansas-Gazette."

### MAYORS OF CITIES ALONG ROUTE OF PROPOSED ARKANSAS CANAL.

An application to the U. S. Public Works Administration for \$8,554,816.00 for the proposed canal from Arkansas River, opposite Little Rock, to White River at DeValls Bluff, was made August 16 by the Mayors pictured above and a committee from cities along the route at a meeting in Little Rock. Wallace Townsend, President of the Little Rock Chamber of Commerce, was elected general chairman of the committee and A. M. Lund consulting engineer. State geologist George C. Branner and traffic manager J. C. Murray submitted reports on the project. Annual revenue for the canal, estimated at \$785,568.00, would be derived from tonnage tolls, warehouse facilities, and water sold for irrigation to rice planters. This would include 30 cents a ton on an estimated tonnage of 800,000 tons. Irrigation revenue would be \$5 an acre on an estimated 75,000 acres. The canal would be 42 miles long and

only clay and sand soils would be encountered in its digging. Commenting on the matter, Lt.-Col. Harry H. Edwards, formerly of Little Rock, states that Arkansas is now the third rice producing state in the Union and that the territory is also a large producer of rock, gravel, sand, blue and gray granite, bauxite, aluminum, cotton, corn, fruit, and stock. Rice was first grown in Arkansas at Lonoke in 1830, the home of Senator Joe T. Robinson. The Mayors pictured above, left to right, are, seated: U. E. Moore, North Little Rock; Horace A. Knowlton, Little Rock; K. L. Lilly, Carlisle. Back row: W. H. Bransford, Lonoke; Wallace Townsend, President, Little Rock Chamber of Commerce; and Mayor J. J. Whitcomb of DeValls Bluff. The picture was made by a staff photographer for the "Arkansas-Gazette".

## PREDICTS GRANTING OF LOAN FOR CANAL

*Gazette*  
New York Publication Forecasts \$8,780,000 Expenditure on Arkansas Project.

*11-8-33*  
A prediction that the application for a loan of \$8,780,415 for constructing a DeValls Bluff-North Little Rock canal from the federal Public Works Administration will be approved is made by Commerce and Industry, New York publication, in an article in the November issue.

Several copies of the magazine were sent to the Little Rock Chamber of Commerce, which is sponsoring the project. The article pointed out that useful construction programs must be planned for lasting benefits to result from the public works loans.

It said the canal would mean much to the progress of Little Rock and Arkansas. Above the article was a picture of Little Rock taken from an airplane.

## REPORT ON CANAL PROJECT ASKED

Early Hearing Requested by C. of C. Head in Letter to Arkansas Basin Committee Chairman.

*Dec 20, 1933*  
The Public Works Administration in Washington has asked the Arkansas Basin Committee, of which N. R. Graham of Tulsa is chairman, to review and make a report on the Little Rock-DeValls Bluff canal project, Wallace Townsend, chairman of the Canal Committee and president of the Little Rock Chamber of Commerce, said yesterday in an address before members of the Kiwanis Club at the Peacock.

He said he has written Mr. Graham, asking him to hold an early hearing in Little Rock. He said he understood that the three railroads in this territory have asked PWA officials to conduct a hearing on the canal.

"In my opinion the canal would not hurt the railroads, and the Chamber of Commerce wants to do nothing to hurt the railroads," Mr. Townsend said.

He said he hoped the hearing would be called soon after January 1. H. H. Tucker of Little Rock is the Arkansas member of the Basin Committee. The chamber president briefly outlined the benefits which he said Little Rock and this vicinity would derive from the canal.

## CANAL'S POTENTIAL VALUE EMPHASIZED

Wallace Townsend Says Revised Rates for Little Rock Imperative.

*Jan. 15, 1934*  
Pointing out that the trade territory of cities as far removed as Houston, Tex., extends to within 55 miles of Little Rock, Wallace Townsend, United States attorney, told members of the Little Rock Engineers Club at the Hotel Ben McGehee yesterday that the freight rate structure must be revised if Little Rock is to survive as a commercial center.

The commercial life of the city depends upon proposed improvements to the Arkansas river, to make it a navigable stream, he said. Mr. Townsend outlined plans for the proposed DeValls Bluff-North Little Rock canal to connect the Arkansas and White rivers, a loan for which is being sought from the Public Works Administration.

The report of United States army engineers that the original proposal of making the Arkansas navigable from Tulsa, Okla., to the mouth of the river was impracticable because of the estimated cost, \$450,000,000, is excessive, will go before the Board of Review of the War Department Wednesday at Washington, D. C., Mr. Townsend said.

Since the river development was proposed, plans for the DeValls Bluff-North Little Rock canal have been formulated, but will not be considered by the Board of Review. The canal would eliminate need for the improvements on the Arkansas river below Little Rock.

**Vast Savings Indicated.**  
Army engineers estimated that the cost of placing concrete revetments from Big Rock to the mouth of the Arkansas would be approximately \$65,000,000, but the canal would cost only \$3,500,000, he explained. The revetments would be necessary south of Little Rock because of the loose texture of the soil.

The canal would connect the Arkansas with the White river, which, Mr. Townsend said, is navigable the year round to barges of six-foot draft and which, with small expense, could be made navigable to commercial barges of nine-foot draft.

Construction of the canal would allow Little Rock and Arkansas to compete with other inland ports, such as Memphis, New Orleans and Houston, for trade.

Low freight rates made possible by river traffic has caused great loss to Little Rock as a commercial center and also has arrested the growth of Little Rock, Mr. Townsend said. He expressed the belief that, if a census were made, Little Rock would show a loss in population since 1930.

Memphis, with its combination rail and water rates, has an advantage over Little Rock jobbers in prices, he said. Residents of Augusta, midway between Little Rock and Memphis, spent approximately \$300,000 out of town and practically all this money went to Memphis jobbers, Mr. Townsend said.

Houston wholesale merchants are able to compete with Little Rock as far as Malvern and the New Orleans territory extends to Stuttgart, because of low water freight rates. Mr. Townsend estimated that business in eastern Arkansas supports a population in Memphis equal to that of Little Rock.

He said that if the decision of the army engineers on the Arkansas river valley development is reversed by the Board of Review and if Congress authorizes the improvement, Little Rock again can compete with other cities which now hold the trade advantage.

**Interested in Two Canals.**  
Col. John R. Fordyce, in a short talk on the project, said that army engineers are interested in the canal project from the Arkansas river to the White river and also in another canal which would connect the Black and Mississippi rivers in southeastern Missouri.

The second canal would begin just below Cape Girardeau on the Black river and join the Mississippi about 60 miles to the east. Besides offering to Arkansas a water route to Chicago and ports on the Ohio river, the two canals would open a new means of flood control for northeast Arkansas and southeast Missouri, Colonel Fordyce said.

He said that in prehistoric times, the Mississippi river occupied the channel now followed by the Black river southward to Newport and by the White river southward from Newport. With relatively little expense, the Black river can be made navigable to the point of the proposed second canal, he said. Then with construction of several flood gates, high water could be drained off into the second canal to the Mississippi or into the Black and White rivers, he explained.

In a business meeting following the talks, M. Z. Bair, president of the club, appointed a committee composed of R. S. Lander, chairman; Haskell Dickinson and W. Terry Feild, to recommend a 1934 project for the community from a list presented by the Little Rock Chamber of Commerce.

## Loutre Creek Canal to Be Approved

*Gazette*  
12-16-36

El Dorado, Ark., Dec. 15 (P).—Maj. John R. Hall, medical inspector for the Seventh Corps Area, U. S. Army, said tonight that the Loutre creek drainage canal project "is worthy of being made a federal project" and promised a favorable report to the War Department.

He said he had compiled sufficient data on the malarial situation to recommend the project and also the installation of a Civilian Conservation Corps in the area.

James P. Slater, assistant state director of malarial sanitation, presented data on mosquito control and M. C. McIhvin, sanitary engineer, reported on progress made in the malaria fight.

Prosecuting Attorney Alvin D. Stevens, Attorney Joe K. Mahony, Dr. F. O. Mahony, county health officer, and Clyde E. Palmer, El Dorado publisher, promised full co-operation in the proposed project.

Tom Burton and J. B. Williams, Loutre creek area resident, said citizens would be forced to leave the section if malarial mosquitoes were not checked.