



US Army Corps  
of Engineers®  
Memphis District

White River

Navigation Improvement  
project



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# The White River Navigation Improvement Project

## *The Existing Project*

One of Arkansas' most unique economic and environmental treasures is the lower White River.

Congress authorized the White River to be maintained as a navigable waterway by the Rivers and Harbors Act of 1892. This authorization allows the Memphis District, U.S. Army Corps of Engineers, to maintain a channel as follows:



*The White River at Des Arc, Arkansas*

- 4.5 feet deep by 100 feet wide from Augusta (river mile 198) to Newport (river mile 254).
- 8 feet deep by 125 feet wide from the Arkansas Post Canal (river mile 10) to river mile 198.

These standards are in effect when stages are equivalent to or exceed 12 feet on the Clarendon gage, with a 5-foot minimum depth at lower stages.

The channel is now maintained by dredging and snagging at a cost of approximately \$1.7 million annually.

## ***The Ongoing Study***

The Memphis District is now conducting the White River Navigation Improvement Study to assess the feasibility of improving the existing navigation channel. This study was re-authorized by Congress in the Water Resources Development Act of 1996. The current engineering goal of the study is to establish a navigation channel that is nine feet deep, 95 percent of the year. To date, the study indicates that navigation improvements are economically feasible. This study is being performed in compliance with the requirements of the National Environmental Policy Act (NEPA), and all other applicable environmental protection statutes.



***Dredging on the White River***

Current analyses indicate a nine foot deep channel (between the Arkansas Post Canal at river mile 10 to Newport at river mile 254) can best be accomplished with the construction of low dikes in less than five percent of the river. The dikes are designed to temporarily reduce the cross sectional area of the river at low water conditions, thereby increasing the water velocity and moving sediment in the area near the dikes. As the river bottom deepens, the flow area increases and water velocities return to near original flow conditions. Three stone revetment sites have been identified to ensure bank stability along with the dike construction. At the dike locations, the dikes effectively deepen the channel with potentially less effect on the environment than annual dredging. The dikes are expected to reduce annual dredging requirements.

Current flood conditions will remain unchanged with the implementation of the project. As the water level rises in the river, the dikes become submerged, and the influence of the dikes diminishes until river stages reach a point where the dikes have no effect. The proposed dikes are to be located where they will not interfere with the functions of tributaries or oxbow lakes.

The total cumulative length of the proposed dike fields is about 11 miles along the entire navigable river. Since the project includes a length of river approximately 244 miles long, the dike fields account for only about 4.5 percent of the project length.



*Wildlife habitat*

Portions of the White River have been modeled using state-of-the-art computer models and physical micro-models. Engineering models have proven to be reliable and accurate tools for predicting feasible channel improvement solutions. The models and actual experience in constructing dikes indicate that there will be no significant changes in water levels.

According to a recent study conducted by Arkansas State University, potential project benefits include more than \$7 million in annual transportation cost savings. The savings are due to the greater carrying capacity and fuel efficiency of waterborne commerce. For example, one barge with a nine-foot draft can carry as much grain as 15 railroad cars or 60 tractor-trailers. Additionally, the efficient use of navigable rivers reduces air pollution, preserves the highway system from heavy truck traffic, and increases the amount of commerce in local communities.

As a direct result of continued interagency coordination with state and federal agencies, a number of concerns are being addressed. Some of these issues with analysis largely complete, include fisheries, cultural resources, and mussel population studies. Other topics to be addressed include cumulative effects, national wildlife refuge compatibility, recreation, aesthetics, wetlands and waterfowl.



*White River barge traffic*

The Corps of Engineers uses a comprehensive approach to planning, including a focus on protecting the environment. During the study process, meetings to define and refine the project scope have been held with citizens, special interest groups, and state and federal government agencies. The Corps of Engineers has expended significant levels of effort to study the existing river ecosystem to analyze potential environmental impacts. This effort is presently ongoing. All interested parties will be given an opportunity to comment on the proposed project once the study is complete, including the draft Supplemental Environmental Impact Statement (SEIS).

## ***The Future***

The President's proposed budget for fiscal year 2001 does not include funds to complete the reevaluation of the White River Navigation Improvement Project. No decision will be made regarding this project until the study is complete and undergoes public, state and interagency review.



***Waterfowl near the White River***

### ***Notes:***

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