

RELEASED

090789

26-0495

096

RESTRICTED - Not to be released outside the General Accounting Office except on the basis of specific approval by the Office of Congressional Relations.

COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548



B-103607

SEP 20 1975

The Honorable Birch Bayh  
United States Senate



Dear Senator Bayh:

In response to your request of April 14, 1975, and later discussions with your office, we gathered information concerning the benefits and costs and the current status of the Corps of Engineers' Big Pine Lake project from

--the Corps' district office in Louisville, Kentucky;

--the regional office of the Bureau of Outdoor Recreation, Department of the Interior, in Ann Arbor, Michigan; and

--officials of the Indiana Department of Natural Resources

We met with three proponents and two critics of the project, to learn their views of and concerns about the project.

PROJECT DESCRIPTION

The Big Pine Lake project, authorized by the Flood Control Act approved October 27, 1965 (Public Law 89-298), is part of a comprehensive network of water projects in the Wabash River Basin, Indiana. The project is to reduce floodflows along the river and to provide seasonal water storage for general recreation and fish and wildlife conservation. As of May 31, 1975, the \$1,144,376 the Chief of Engineers allocated to the project is being used primarily for real estate planning, engineering and design, and overhead.

In February 1975 the Corps estimated that the project would cost \$40.1 million, including about \$4 million as Indiana's share of the costs of general recreation and fish and wildlife conservation. The Corps estimated annual project benefits at \$2,801,000 and costs at \$1,672,000 for a benefit-cost ratio of 1.7 to 1.

Because of concerns environmentalists raised, in June 1975 the Corps considered an alternative project design which, if adopted, would produce annual benefits of \$2,050,000 and costs of \$1,437,000 for a benefit-cost ratio of 1.4 to 1.

BEST DOCUMENT AVAILABLE

LED-76-27

~~904026~~ 090789

B-183687

In computing the February and June 1975 estimates of annual benefits and costs, the Corps used a 3-1/4-percent interest and discount rate.

STATUS OF THE GENERAL DESIGN MEMORANDUM  
AND ENVIRONMENTAL IMPACT STATEMENT

The Corps prepares a project general design memorandum 1/ which the Office of the Chief of Engineers must approve before construction can be started. On March 4, 1975, the Corps' Ohio River Division office in Cincinnati, Ohio, returned the Louisville District's October 29, 1974, design memorandum with instructions to:

- Confer with Indiana on an alternative design which would reduce environmental damage to the Fall Creek Gorge.
- Provide additional information concerning the Corps' plans for improving the appearance of functional works, such as the dam, spillway, and outlets.
- Include a section of the design memorandum containing the State's cooperation agreement on recreation, as required under section 221 of the Flood Control Act of 1970, or furnish for approval a draft of the recreation contract with a letter from the State indicating its acceptance.
- Provide a complete analysis and evaluation of the technical aspects of the general design.

The district was responding to the above instructions in July 1975 and was also preparing the project's environmental impact statement based on comments on the draft statement by various Federal, State, nongovernment agencies, and individuals.

In June 1975 the District Engineer gave us the target dates for the following events.

---

1/Specifies the basic project plan of development, extent of major features of development, estimated benefits and costs, operating requirements, real estate requirements, and the extent of local cooperation.

B-183687

<u>Event</u>	<u>Target Date</u>
Coordinate proposed alternative project design with the State	June 1975
Submit final design memorandum and environmental impact statement to division	October 1975
Submit final design memorandum and environmental impact statement to the Office of the Chief of Engineers	November 1975
File final environmental impact statement with the Council on Environmental Quality	January 1976
Meet with area property owners on real estate matters	April 1976
Start acquisition of real estate <u>1/</u>	May 1976
Start construction	August 1976
Start water impoundment	September 1981

2 On June 19, 1975, the district office staff suggested to the Indiana Department of Natural Resources that the project reservoir's summer recreation pool elevation be lowered from 558 to 550 feet and that the winter pool be lowered from 554 to 544 feet, which would reduce environmental damage to Fall Creek Gorge. State employees were concerned because the 8-foot reduction in the summer pool would reduce the size of the recreation lake from 1,125 to 897 acres with a corresponding loss of area for water recreation. The smaller lake, they said, would be more difficult to keep clean and would, in turn, affect fishing. As of August 6, 1975, the district office was waiting for the State's written comments on the proposed design change. D.01289

#### FLOOD CONTROL BENEFITS

In its February 1975 budget submission, the Corps estimated flood control benefits at \$1,968,000 annually. Benefits from reduced crop and noncrop (farm machinery, fences, barns, and residences) agricultural damages accounted for \$1,830,000 or about 93 percent of the total benefits. Crop benefits amounted to \$1,055,000; noncrop benefits amounted to \$777,000.

1/Cannot be started until (1) the Chief of Engineers approves the design memorandum, (2) the final environmental impact statement is filed with the Council on Environmental Quality, (3) the cost-sharing contract with the State is signed, and (4) the Chief of Engineers approves a design memorandum for site acquisition.

B-183687

In estimating the future damage reductions to agricultural development (crop and noncrop) over the life of the project, the Corps assumed that future growth values would increase at 3 percent annually. <sup>1/</sup> Of the noncrop benefits of \$777,000, \$351,100, or about 45 percent, represented future growth benefits.

The Flood Disaster Protection Act of 1973 (87 Stat. 975) requires that localities with special flood hazards be participating in the National Flood Insurance Program before Federal agencies can approve financial assistance for property acquisition or construction in the locality after July 1, 1975. As a result, local communities were under strong pressure to adopt land use and control measures by July 1, 1975, because, to be eligible for flood insurance under the program, local communities must adopt such measures.

On August 5, 1974, the Corps issued regulations which required that benefit computations be based on the assumption that construction would be limited in flood plain areas. According to a district official, the Corps did not consider the impact this act would have on future growth in the flood plain in its flood control benefit computations because of the rural character of the flood plain.

Project critics maintain that the 3-percent annual growth rate factor applied by the Corps for noncrop damage reduction is inappropriate. They said the value of farm buildings and related items does not necessarily increase at the same rate as crop yields. According to a district official, the Corps assumed noncrop growth in the flood plain would increase in value at the same rate as crop growth.

Project critics say the Corps' estimate of flood control benefits is overstated because the Corps has not deducted the actual value of agriculture production lost when project lands are inundated or otherwise restricted. Corps methodology does not provide for such deductions. However, the fair market value the Corps pays for such lands is included in project costs. The Corps' land acquisition

---

<sup>1/</sup>The future growth factor is essentially an assumed rate of real economic growth.

B-183687

procedures provide that all matters which substantially affect fair market value be considered for just compensation. A Corps official has said that potential productivity of such lands is a factor in determining fair market value.

Further, State officials contend the Corps did not reduce its calculations to recognize the benefits from existing local agriculture flood protection projects. A district official said that the Corps considered only existing Corps levees in its calculations.

#### RECREATION BENEFITS

In February 1975 the Corps reported that most of the recreation benefits apply to general recreation. Benefits of \$787,000 were based on the Corps' projection of an ultimate 645,000 general recreation visits to the project each year. Benefits were calculated at \$1.60 a visit and discounted at 3-1/4 percent over the 100-year life of the project. If the Corps adopts the proposed reduction of the summer pool level by 8 feet, it would revise its estimate of annual recreation benefits downward to \$550,000 and its projected ultimate annual general recreation visits downward to 594,000.

Critics contend the recreation benefits are overstated because the Corps, in determining the visits to the project, did not consider (1) current recreation use of the proposed project area or (2) the impact of competing Federal, State, and privately owned lakes. The critics also said the Corps' day-use estimates were inaccurately calculated.

According to project proponents, current use of the area is minimal and the project, regardless of size, will benefit the local economy because it will attract large numbers of visitors each year.

According to the Corps' district planner for recreation, the market area served by Big Pine Lake is also served by other (Corps and others) lake projects, such as Cagles Mill, Big Walnut, Mansfield, Lafayette, Shafer, and Freeman. The district planner said that, because current recreational use of the proposed project area was unknown and the number of people who were using the project area was small, the Corps had not adjusted its benefit projections. The district planner added that, since the Corps' estimating practices were less than an exact science, inclusion of current visits, if known, would change the projection very little.

B-183687

State officials said the 1,126-acre summer pool was not as large as they would like to provide for expected visitors and the lower pool would restrict general recreation even more.

The State's 1975 outdoor recreation plan projected no need for water-based recreation in the project region until the year 2020 but emphasized furnishing public parks to satisfy local needs. In addition, the 1975 plan suggested studying the possibility of adding Big Pine Creek to the Indiana Natural River System.

Bureau of Outdoor Recreation views

1d4

3 The Bureau of Outdoor Recreation's Lake Central Region commented on project recreation plans in a July 1, 1974, letter to the District Engineer. The letter stated:

"In summary \* \* \* the proposed project would appear to significantly impact on the recreational environment, while providing a moderate net increase in recreation opportunities. The quantifiable and qualitative values which would be lost should be considered as costs of the project."

A planner of the Lake Central Region told us there had been no change in the region's views since July 1974. He said the State planning region in which the proposed project is located needed impounded and natural-flow water for recreation but said it would be inappropriate for the Bureau to judge the type of recreation most needed. In his opinion only the State can make this decision.

According to the Bureau planner, the unit value the Corps used to compute recreation benefits probably was understated because it did not include a factor for inflation. A Corps official told us that it normally was not the Corps' policy to consider factors for inflation in its economic analysis of proposed projects. In contrast, the Bureau planner questioned the Corps' initial day-use projection of 530,000 for 1980, saying that experience showed it would take from 10 to 15 years to reach this number of visits.

History of State cooperation

D. 112 88

4  
/ On March 7, 1967, the Indiana General Assembly approved a law authorizing the Department of Natural Resources to

B-183687

cooperate with the Corps in planning, constructing, operating, and maintaining the Big Pine Lake project and others.

A bill to amend the 1967 Indiana law, by deleting the Big Pine Lake project, was introduced on January 21, 1975, during the last session of the Indiana General Assembly. The Indiana House of Representatives approved the amendment by a vote of 83 to 8. The amendment was then sent to a committee of the Indiana Senate for consideration. A member of the Indiana House of Representatives told us that the amendment had not yet been reported out of committee.

The 1969 and 1971 Indiana General Assemblies appropriated funds totaling \$110,000 for the project. According to a State official, these appropriations had lapsed because they had not been used within the prescribed time. We were advised during our field work that State funds had not been designated for project cost sharing.

The Department of Natural Resources included a request for \$170,000 in its most recent budget submission. This request was later deleted from the State's construction appropriations bill which was approved on April 30, 1975, by both the Indiana House and Senate committees. Department officials are uncertain about when the State will formally commit itself to a contract with the Corps for sharing project recreation costs. One official told us that there was no urgency in this regard since it would be at least a year before the Corps could begin initial land acquisition for dam construction.

In March 1972 the Corps asked the State for a written agreement to assume its share of the project's recreation costs. Section 221 of the Flood Control Act of 1970 requires such an agreement before construction can begin. In 1972 the Corps furnished the State with a draft contract for review and comments. The State returned this draft with technical changes dealing with the State's authority to participate in the project and changes to meet legal requirements of the Indiana attorney general. The Louisville district counsel felt these changes made Corps approval of the contract doubtful. In August 1974 the Corps furnished the State with another draft contract in a form acceptable to the Corps. As of August 6, 1975, the State had not indicated its acceptance of the contract. On June 2, 1975, however, the district received a letter from the Department of Natural Resources stating its intention to participate

B-183687

as sponsor of the Big Pine Lake project subject to future funding by the U.S. Congress and the Indiana General Assembly.

#### INTEREST AND DISCOUNT RATE

In its economic evaluation of the project, the Corps uses a 3-1/4-percent interest rate for discounting future benefits to present values and computing costs or otherwise converting benefits and costs to a common time basis. The Water Resources Development Act of 1974 (Public Law 93-251) prescribes the formula for establishing the interest rate to be used in formulating and evaluating plans for water resource projects. According to the act, the rate for projects authorized before January 3, 1969, will be the rate in effect immediately before December 24, 1968, if the appropriate non-Federal interests have given satisfactory assurances to pay the required non-Federal share of project costs before December 31, 1969. The rate in effect immediately before December 24, 1968, was 3-1/4 percent. The Corps considers the 1967 law approved by the Indiana General Assembly as satisfactory assurance. Neither the act nor its legislative history indicates what constitutes satisfactory assurances.

#### ADDITIONAL VIEWS OF CRITICS AND PROPONENTS

Comments of critics and proponents may be found in various records which are available to the public. These include recent congressional hearings and Corps- and State-sponsored public hearings pertinent to the project. The critics' primary concern is the project's irreversible damage to the natural environment. On the other hand proponents claim such damage would be minimal and that the project would attract new businesses, with an attendant increase in the area's general economy.

- - - -

We did not ask the Corps to formally comment on this report. We did, however, discuss its contents with Louisville District officials.


BEST DOCUMENT AVAILABLE



B-183687

We hope this information is of help to you, and we will be glad to discuss any further questions you may have.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Warren A. Stead".

Comptroller General  
of the United States

BEST DOCUMENT AVAILABLE