

Fishtrap Road Study and Environmental Assessment

~ April 2008 ~



US Army Corps
Of Engineers

Fishtrap Road Project Environmental Assessment, Pike County Kentucky

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ATTACHMENT 1

Finding of No Significant Impact

ATTACHMENT 2

US Department of Transportation, Section 4(f) Evaluation

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Executive Summary

The U.S. Army Corps of Engineers (Corps) is evaluating various road configurations at the Fishtrap Lake Project. This study was conducted in response to the naming of a “*Road at Fishtrap Lake*” in the Consolidated Appropriations Act of 2004 (H.R. 2673, P.L. 108-199). This Act provided under the General Provisions for Federal Highway Administration (FHWA) and specified that “funds made available under this section may, at the request of a State, be transferred by the Secretary to another Federal agency to carry out a project funded under this section, such funds to be then administered by the procedures of the Federal agency to which such funds may be transferred”. Pursuant to this provision, the Kentucky Transportation Cabinet requested FHWA transfer the funding to the Huntington District U.S. Army Corps of Engineers to execute the environmental study of the project.

Based on the identified key needs, draft goals and objectives the purposes for the project were specifically defined as improvement of access to Pikeville for the residents of the communities of Upper Pompey, Jonican Branch, River Hurricane, and Grapevine (See *Figure 1*); and economic diversification for the area through recreation development. In summary the goals for the road project are:

- *Decrease travel time or improve access for those communities whose access was directly impacted by construction of the Fishtrap Lake Project; specifically the areas of Upper Pompey, Jonican Branch, River Hurricane, and Grapevine.*
- *Enhance the potential for recreation development that would provide significant long-term economic stimulus for Pike County.*

Recognized constraints in the planning process are:

- *Any road development must be built to KYTC level of service standards for state park roads.*
- *The Congressionally authorized project purposes for the Fishtrap Lake Project of flood control, recreation, low-flow augmentation, and fish and wildlife conservation must not be adversely affected by road development.*
- *Environmentally acceptable – direct, indirect and cumulative impacts to the environment must be minor, with or without mitigating measures.*

In order to develop plans that could address the identified problems detailed studies were conducted to assess potential recreation opportunities and to ascertain traffic and transportation needs, both current and future. The information gained from these studies formed the basis for development of the alternative road alignments.

The recreation analysis found that two recreation activities have potential for significant long-term economic input into Pike County – fishing/hunting and off-road vehicle activities. The transportation analysis quantified issues with respect to community

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access, including travel time required to access Pikeville, local schools and emergency services.

Initially the Corps identified broad road corridors. In addition, two road alignments that had been previously developed by Pike County were considered, along with improvements to the existing Ridgeline Road. No road alignments were identified that would meet all of the study objectives because none would facilitate significant recreation opportunities and/or have minimal environmental impacts. However, one road segment, which would connect the dam site to Upper Pompey Road, was identified as an alternative alignment that would improve local access to Pikeville and incidentally offer some recreational benefits because it would provide potential to improve the Fishtrap Lake State Park. This alternative was developed and evaluated in more detail, along with the No Action alternative.

A summary of the key findings for the impacts associated with the development of the connector roadway between the Fishtrap Dam site and Upper Pompey Road are provided below.

- Reduction of approximately 15 minutes for trips from Upper Pompey Road to Pikeville with the construction of a new connector roadway.
- Reduction of only approximately 6 minutes for trips between Jonican Road and River Hurricane Branch to Pikeville with the construction of a new connector roadway.
- Improved access and travel time from Upper Pompey Road to Millard Elementary School and Millard Middle School with the new connector roadway. Travel times to these schools are approximately 25 - 26 minutes whereas with the new roadway, the travel time is reduced to approximately 8 - 10 minutes.
- Improved access and response time for emergency vehicles with the construction of the connector roadway. The Millard Volunteer Fire Department becomes the closest emergency response station to Upper Pompey Road, and response times range from 8 - 13 minutes depending on the specific location along Upper Pompey Road.
- Provides an alternate route to KY 1441 which may lower the crash rate on this roadway.
- Increased traffic volume on Upper Pompey Road. An additional 210 vehicles per day may utilize Upper Pompey Road with the construction of the connector bringing the total volume on that roadway to 310 vehicles per day.
- Increased pavement width may be required. An additional 8 – 11 feet at a minimum may be required to accommodate the additional traffic volume on Upper Pompey Road.
- No significant impacts to the human environment would be expected from construction and operation of the proposed connector.

This Environmental Assessment considered the potential environmental impacts to the human environment. This document meets the requirements for an Environmental Assessment pursuant to the National Environmental Policy Act (NEPA). A finding of No Significant Impact would be anticipated for construction of the proposed connector.

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1.0 Background and Authority

The U.S. Army Corps of Engineers (Corps) is evaluating various road configurations at the Fishtrap Lake Project. This study was conducted in response to the naming of a “*Road at Fishtrap Lake*” in the Consolidated Appropriations Act of 2004 (H.R. 2673, P.L. 108-199). This Act provided under the General Provisions for Federal Highway Administration (FHWA) and specified that “funds made available under this section may, at the request of a State, be transferred by the Secretary to another Federal agency to carry out a project funded under this section, such funds to be then administered by the procedures of the Federal agency to which such funds may be transferred”. Pursuant to this provision, the Kentucky Transportation Cabinet requested FHWA transfer the funding to the Huntington District U.S. Army Corps of Engineers. On May 16, 2005 a Memorandum of Agreement (Agreement No. DTFH71-05-X-30013) was executed between the FHWA and the Corps to provide for implementation of a study pursuant to the National Environmental Policy Act (NEPA). The MOA established the roles, responsibilities, funding, and procedures by which the Corps and the Department of Transportation, Federal Highway Administration, Eastern Federal Lands Highway Division would jointly participate in a project to conduct an environmental study. The scope of work consists of conducting the NEPA process, including scoping, public meetings, coordination with other pertinent State, Federal, and local agencies, and producing the required written document pursuant to the NEPA.

Fishtrap Lake is a unit in the comprehensive flood control plan for the Ohio River Basin and was authorized under the Flood Control Act of 28 June 1938, Public Law No. 75-761, Seventy-Fifth Congress, Third Session. The dam was completed and became operational in October 1968. Minimum pool elevation, 725' above mean sea level (msl), was attained in July 1969. Fishtrap Lake is a multipurpose project authorized by the Congress to provide flood control on the Levisa Fork of the Big Sandy River in eastern Kentucky. Other Congressionally authorized project purposes are fish and wildlife conservation, recreation, and low-flow augmentation.

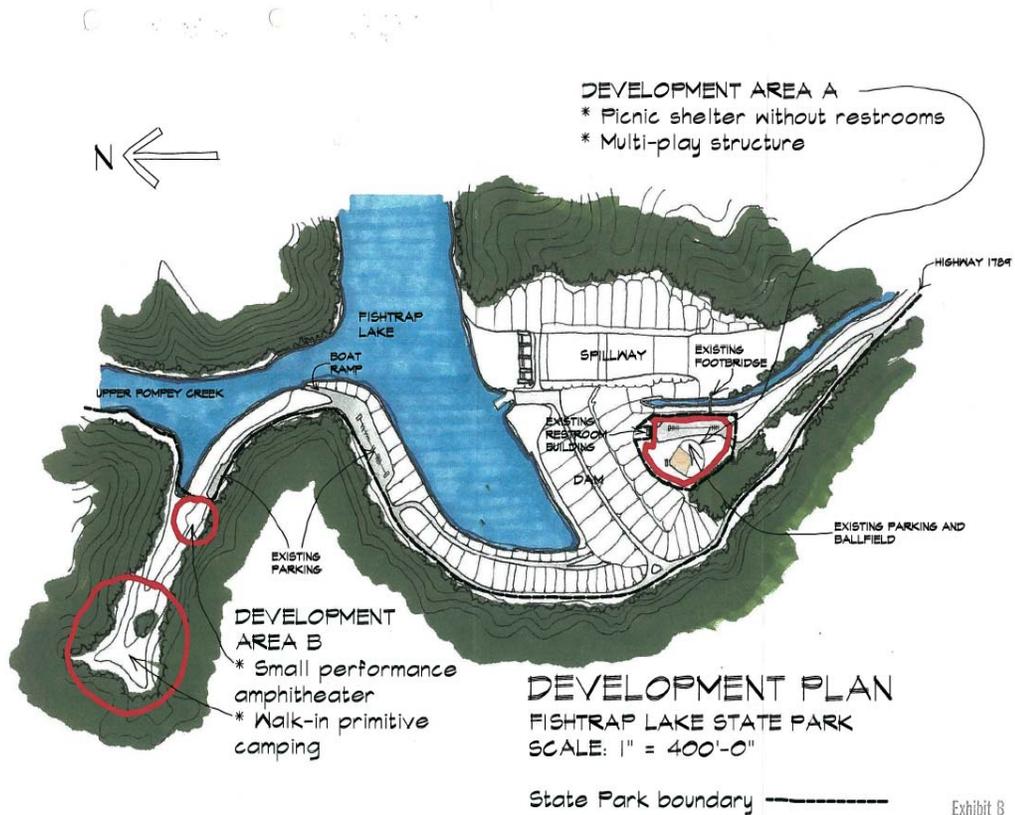
Fishtrap Lake project is located in Pike County, Kentucky, 2.6 miles upstream on the Levisa Fork from its confluence with the Russell Fork. The city of Pikeville is located 14.6 miles downstream of the dam. The project is approximately 130 miles upstream from the confluence of the Big Sandy River and Ohio Rivers at Catlettsburg, Kentucky. The dam is located at 37 degrees 25 minutes 59 seconds north latitude and 82 degrees 25 minutes 02 seconds west longitude. Access is provided from the east and west by U.S. Route 460 and from the north and south by U.S. Route Nos. 23 and 119. The project has a drainage area of 392 square miles, of which about 80% lies within the Commonwealth of Virginia.

The project consists of 15,429 acres owned in fee by the US Government and a 203 acre flowage easement. Total miles of project boundary are 58. Corps project operation areas comprise 37 acres. There are 60 acres of recreation areas, and 15 acres leased for private marina at the dam site. The Corps maintains a maintenance shop, visitor's center/office, and a dam-tender's quarters near the base of the dam. The Grapevine Recreation Area and the Lick Creek Boat Launch are the only improved recreational sites at the project maintained by the Corps. There are numerous outgrants at the project, particularly for natural gas related extraction well heads, access roads and

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transmission lines. The Kentucky Department of Fish and Wildlife Resources (KDFWR) has a license to manage 15,296 acres of the Fishtrap Lake project area for fish, wildlife, and forest management purposes through a license with the Corps.

In November 2003, a lease was conveyed to the State of Kentucky for about 296 acres to be called Fishtrap Lake State Park. This area is near the dam site. Plans for the park are shown below. Currently, the park is maintained by Pike County through a sublease from the state. However, Millard Volunteer Fire Department manages the campgrounds, the two day use shelters, and ball field.



On January 6, 2006, a Notice of Intent to prepare an Environmental Impact Statement (EIS) was published in the Federal Register. When a federal action has the potential for significant impacts on the human environment an EIS is the appropriate level of documentation under the National Environmental Policy Act (NEPA). The initial alternatives that were presented by the Pike County Fiscal Court would likely have significant impacts to the human environment. Therefore, at the inception of this study an EIS was deemed necessary. However, as alternative formulation progressed it became apparent that the final alternatives would not have significant impacts, and therefore an EIS would not be necessary. This document includes all documentation required for an environmental assessment pursuant to NEPA and is the appropriate level of documentation for the project.

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2.0 Problems and Opportunities

On November 21, 2005 a meeting was held with stakeholders of the project. The stakeholders are those agencies, governments, and interest groups that would have responsibility and/or vested interest in a road project at Fishtrap. Primary stakeholders are Federal Highway Administration (FHWA); Pike County Fiscal Court; Kentucky Transportation Cabinet (KYTC); Kentucky Department of Parks; Big Sandy Area Development District; and Kentucky Department of Fish and Wildlife Resources. The purpose of the meeting was to identify needs and issues important to the stakeholders. The issues, concerns and viewpoints of the stakeholders were considered in developing the goals and objectives for the project.

The economy of Pike County is largely centered on coal mining. The coal industry accounts for about 57 percent of dollar inflow to the county.¹ A diverse economy is considered more stable than an economy based largely on a few industry segments. In initial scoping of needs for the Fishtrap Road Project, it was recognized that increased recreational use of the Fishtrap project may help provide economic diversification for the region. Further, recreation is a congressionally authorized purpose of the Fishtrap Lake Project. In addition, accessibility to Pikeville is difficult for many of Pike County's rural residents due to the steep terrain. Construction of Fishtrap Lake closed the most direct road access to Pikeville via US 460 which was rerouted around the lake. These two issues, economic diversification and community access, were identified as the primary needs to be addressed by a road project.

Based on the identified key needs, draft goals and objectives for the project were developed and presented to the stakeholders for consideration and input at a subsequent meeting held December 6, 2005. The purposes for the project were more specifically defined as improvement of access to Pikeville for the residents of the communities of Upper Pompey, Jonican Branch, River Hurricane, and Grapevine (See *Figure 1*); and economic diversification for the area through recreation development. It was recognized that the project must support the congressionally authorized project purposes of Fishtrap Lake, and that any development must be environmentally acceptable. Further, the overall Federal Objective for water resource related projects must be addressed: "to contribute to national economic development consistent with protecting the Nation's environment, pursuant to environmental statutes, applicable executive orders, and other Federal planning requirements."²

In summary the goals for the road project are:

- *Decrease travel time or improve access for those communities whose access was directly impacted by construction of the Fishtrap Lake Project; specifically the areas of Upper Pompey, Jonican Branch, River Hurricane, and Grapevine.*
- *Enhance the potential for recreation development that would provide significant long-term economic stimulus for Pike County.*

Recognized constraints in the planning process are:

¹ Community Economic Analysis, Pike County, Kentucky Economy, January 2003, University of Kentucky Cooperative Extension Service.

² Economic and Environmental Principles for Water and Related Land Resources Implementation Studies, March 1983

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3.0 Public Involvement

A Notice of Intent to prepare an Environmental Impact Statement was published in the Federal Register on 6 January 2006. In that notice, the public meetings times and locations were included along with a description of the project background, purpose and need. These Scoping Meetings were held as follows:

- 1) January 23, 2006, from 6:00-8:30pm, Kimper Grade School, 8151 State Highway 194 East Kimper, KY;
- 2) January 24, 2006, from 12:00-2:30pm, Pike County Courthouse, Fiscal Courtroom, 146 Main Street, Pikeville, KY; and,
- 3) January 24, 2006 from 6:00-8:30, Millard Grade School, 20 Rocky Road, Pikeville, KY

The two evening scoping meetings were extremely well attended, each attracting between 125-150 people. A presentation was given at all three meetings on the project and oral comments and questions were solicited. Following this portion of the meeting, attendees were encouraged to stay to discuss their concerns directly with Corps representatives.

The size of the turnout was the best indication of the interest in this project. The planning for a new road was identified as extremely important for the communities on the northeast side of the lake. Several issues that must be considered in any road planning became evident during the course of the meetings and included: community access, recreation needs, road location, environmental concerns, and coal mining, among others. A large contingency attending the meeting were in support of off-road vehicle, or ATV, recreation use. In addition, a questionnaire had been prepared and was made available at the public meetings as well as at other locations during the public scoping period. The questionnaire was developed to provide indication of interest in recreation activities.

Summaries of issues and concerns and comments from the public meeting attendees and from written public comments follow.

Community Access

The residents of Jonican, Upper Pompey, River Hurricane and Grapevine (and to a lesser degree Island Creek) turned out in large numbers to impress upon the Corps the importance of good access to their communities. The current access, which has been in place for almost 40 years, is not considered acceptable for several reasons including safety and the travel time it takes to reach essential services.

This sentiment was echoed in the comment sheets that attendees filled out. The most consistent message received on the comment sheets is support for a road to provide residential access primarily to Jonican, Upper Pompey, River Hurricane and Grapevine. It is clear that residential access, according to attendees, needs to take priority over recreational development as that message was repeated several times. The most

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serious concerns include safety of travel, especially in winter, and emergency access. Additionally, access to schools, grocery stores and other services were also mentioned.

The economic well-being of the communities was discussed as an issue. The population of these communities is aging and as people leave or pass away, their houses remain vacant. New people are not moving to these communities due in part to the access.

An early project alternative was developed and provided for consideration by the Fiscal Court. This alternative has a road originating at the dam, accessing Upper Pompey and Jonican, and terminating at a site suitable for a lodge complex. Although there was no opposition to this plan, the voiced and written concern was to build the road first and connect all the communities before the recreational components are built. Once again, the priority needs to be on community access.

Recreation

The second issue discussed was the possibility of facilitating recreation development within the Fishtrap Lake area by providing good access to developable lands. There is overwhelming support for recreation development in the area for both the local residents and to promote tourism. However, it was clear that the majority of the attendees consider recreation development of secondary importance.

The attendees were supportive and excited about the prospect of seeing new recreational facilities built in the Fishtrap area. There was a firm belief that this would help the area economically. A questionnaire with a list of facilities was provided to the attendees in an attempt to ascertain what activities would be preferred or not preferred. With a few exceptions, all the activities were supported.

There were additional recreational activities specifically mentioned in the comments. They included a lodge, walking/nature trails, swimming pool, golf course, putt-putt golf, picnicking, camping, restaurant, boat ramps, beach, rock climbing, hunting and family programs. One person proposed a casino as an economic draw.

An existing recreation activity on federal property that has experienced some success is a horse trail. There is an organized horse ride twice yearly on an existing road within the Fishtrap Lake boundary that draws significant numbers of people from as far away as Virginia, Ohio and West Virginia.

All Terrain Vehicles

The one activity that was mentioned and came up on the written comment sheet the most was the need for ATV trails. Particularly at the Millard meeting, members of an ATV user group attended to voice their support for a trailhead and trail access. On the written comment sheet, this activity was identified more than any other. Twelve counties are currently working to develop the Kentucky Mountain Trail, an ATV trail that would link with the Hatfield/McCoy trail in Matewan, West Virginia. Any connection that could be facilitated through this project should be pursued. There appears to be a lack of public trails in an area where many people own ATVs. The meeting attendees expressed a great deal of frustration with being denied access to public lands even though they are tax payers and offer to help with maintenance and enforcement.

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Road Location and Existing Problems

The public offered several ideas relative to potential road locations and what road problems currently exist. It was clear that they wanted this road to access the communities on the north side of the lake. How that access is to be provided, however, is not unanimous. Providing better community access is the paramount issue, not how that access is provided.

Reference was made to three roads that are being planned or built in the project area. I-66 is passing near the communities parallel to Ridgeline Road which is the current access road. This interstate highway would have an interchange at Route 194 and would go directly into Pikeville. Route 119, Appalachian Corridor "G", is being upgraded to a four lane road to the northwest. The third route is the Coalfield Expressway (US Route 121) is being constructed with the aid of coal companies and would link Interstates 64 and 77 in West Virginia with Route 23 in Virginia, which links to interstates in Kentucky and Tennessee.

Rte 194 is the primary access for Grapevine. This road comes from the eastern end of the project (upstream), through the community and then over the mountain to Kimper. From Kimper, Rte 194 continues west to Rte 119 which is being upgraded to four lanes. The problems related to Rte 194 are: the last half mile of the road before it crests the mountain is extremely steep; the distance required to reach Pikeville is excessive; and it only provides good access for Grapevine. One suggestion was to have the steep stretch of road redesigned which would address one of the problems.

If an access road is constructed along the shore of the lake, as some suggest, the elevation of the road relative to the lake is a concern. Residents would like to see the road close enough to the lake to allow access to the water. A road along this alignment would connect with the existing dam road to access Rte 460 in Millard. The capacity of the existing dam road will need to be assessed to determine if it could handle the projected added traffic. Residents along the existing road may be adversely impacted. Others in attendance advocated the road be built higher on the hill to correspond with the Clintwood coal seam. Access to this coal could offset the cost of building the road.

Environmental

There were several at the meetings that were concerned with environmental implications associated with the proposed road as well as with other activities in the area. The lake has been subjected to sedimentation due to activities in the region such as mining. This sedimentation could have a negative impact on any recreation activity planned for the lake. A proposal by Consol was discussed for disposal of mine drainage from deep mines in Grundy, Virginia, directly into the Levisa Fork upstream of Fishtrap. There is also concern for environmental impacts from the road, specifically impacts to local wildlife.

Coal and Coal Mining

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The Clintwood coal seam is located approximately 50 to 80 feet above the summer pool at Fishtrap. Local coal interests offered to mine the coal incidental to constructing the road grade to help offset the cost of the road. Some residents feel this would raise the road too high above the lake and make lake access prohibitive.

Political

There is a perception within the community that this project is a backdoor attempt by the coal companies to remove coal. Some indicated that this project needs to benefit the local residents and not solely benefit the economic interests.

4.0 Inventory and Forecast of Recreation and Transportation Resources

Problem identification was accomplished with input from the project stakeholders and the public, as previously discussed. These problems are access to Pikeville for certain communities and a single-industry based economy. Specifically, construction of Fishtrap Lake closed the most direct road access to Pikeville for communities previously identified. Further, the economic base of Pike County is currently primarily based on one industry segment - coal mining. Diversification of the economy was identified by the Fiscal Court as necessary to sustain the socioeconomic environment of the County.

In order to develop plans that could address the identified problems, a full understanding of the extent and nature of these problems was necessary. Detailed studies were conducted to assess potential recreation opportunities and to ascertain traffic and transportation needs, both current and future. The information gained from these studies formed the basis for development of the alternative road alignments. Following are summaries of these studies.

5.0 Recreation Demand Analysis

The purpose of the recreation demand analysis was to identify recreation needs that should be addressed as part of the overall planning effort for the road project as well as to provide key recreation demand variables for an economic impact analysis. The steps for performing the analysis included:

- Data collection;
- Summaries of the data (including sorting the data into the appropriate input variables for the economic analysis);
- Determination of activity trends/demand;
- Capacity analysis;
- Determination of recreation activities influence area;
- Determination of the economic contribution of each activity to the local economy; and
- A detailed evaluation of economic impact for activities determined to have the most potential for a positive impact, and a summary of key findings.

The primary study area for this analysis is Fishtrap Lake which is located in the south central portion of Pike County east of Pikeville in southeastern Kentucky as shown in

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Figure 1. For the determination of economic influence, Pike County was assumed to be the limit for local influence with the analysis extending to other counties and states depending on the specific analysis requirements.

For this analysis, ten discrete recreation activities were identified for Fishtrap Lake through an initial review of facilities and input from the public at workshops and public meetings (*See Public Participation*). Some activities currently are available at Fishtrap Lake, as indicated. In no particular order, these activities include:

- Competitive shooting (including skeet/trap shooting; rifle shooting; and pistol shooting)
- Fishing and hunting (current activity at Fishtrap)
- Golfing/resort complex
- Hiking/nature/recreation trails (current activity at Fishtrap)
- Birding
- Equestrian activities (current activity at Fishtrap)
- Motor-boating (current activity at Fishtrap)
- Off-road vehicle activities
- Camping (including RV camping) (current activity at Fishtrap)
- Mountain Biking

Population data as well as age demographics were reviewed for Pike County. The data revealed that the population of Pike County has been decreasing since 1980 and is expected to decrease further in the future. Regionally, the population is declining and will decline in the future similar to the trend in Pike County. A review of the age distribution in Pike County showed that there is a fairly even distribution of age groups in Pike County - the population is neither primarily young nor old but rather a generally even distribution of ages.

Variables necessary to performing a recreation economic impact analysis include number of visitors, visitor origin (resident / non-resident), visitor type (overnight / day), and duration of visit. Some general trends determined from analysis of this information include:

- In 2005, 404,939 visitors came to Fishtrap Lake. Overall, visitation rates have been decreasing at a rate of 0.2 percent per year since 1971.
- For regional recreation travel (including travel to Pike County), the top feeder markets are Lexington, Kentucky, for day trips (27.51% of visitors) and Indianapolis, Indiana, for overnight trips (12.27% of visitors).
- For most activities, 91% of the overnight visitors are from areas outside of Pike County.
- The majority of overnight visitors (78%) stay in a motel/hotel and the rest (22%) camp. Visitors staying with friends/family were assumed to be day users.
- The average duration of a visit was determined to be three days.

Overall, visitation at Fishtrap Lake has decreased slightly since 1971. For individual activities, visitor participation has decreased the most for fishing and hunting activities (-2.3% per year) with a slighter decrease in motor-boating activities (-0.8% per year). Camping (2.1% per year), hiking/nature/recreation trails (3.3% per year), and equestrian activities (3.3% per year) have shown modest growth over the past 30+ years.

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Nation and regional trends were examined to determine visitation trends for activities currently available at Fishtrap Lake as well as other activities that are being evaluated in this analysis. The following table (Table 1) shows the results of this analysis.

Table 1: National and Regional Trends in Percentage of People Participating in Recreation Activities

Activity	1972 - 1982		1982 - 1992	
	National	South	National	South
Primitive Camping	5.0%	3.4%	2.9%	5.9%
Developed Camping	6.0%	6.0%	0.4%	4.6%
Hunting	9.0%	12.2%	1.8%	-0.7%
Fishing	10.0%	12.3%	1.3%	-2.0%
Horseback Riding	4.0%	1.9%	0.5%	2.4%
Day Hiking	9.0%	6.2%	6.1%	10.7%
Pleasure Walking	19.0%	20.6%	9.2%	13.7%
Nature Study	-5.0%	-5.4%	25.2%	30.7%
Bicycling	22.0%	17.7%	-4.2%	3.6%

Sources: Outdoor Recreation Survey, 1973; Nationwide Recreation Survey, 1993; and National Survey for Recreation and the Environment, 1992.

Based on a variety of criteria including known trends for activities currently available at Fishtrap Lake, national and regional trends, given physical constraints, and known regional limitations including market capacity, projections for future visitation numbers for each activity were developed for the year 2030. The following is a summary of the projected visitation numbers.

Activity	2005 Visitation	2030 Visitation`	% Yearly
Fishing & Hunting	41400	25000	-2.0
Motor-boating	16200	16200	0.0
Camping	5800	9300	2.0
Equestrian	4300	8000	2.5
Hiking/Nature/Recreation Trails	4300	4300	0.0
Competition shooting	3900	3900	0.0
Golfing/Resort Complex	12000	12000	0.0
Birding	4300	9000	3.0
Off-road vehicles	11100	37600	5.0
Mountain biking	2500	4100	2.0

5.1 Capacity Analysis

The capacity analysis consisted primarily of a qualitative analysis comparing the current and future demand for recreation activities to the available resources. Ratings of 'adequate' or 'not adequate' were used for currently developed recreation activities at Fishtrap Lake. Recreation activities that are not currently available at Fishtrap Lake were not rated. The analysis revealed that Fishtrap Lake currently, and in the future, has adequate capacity for fishing and hunting, hiking/nature/recreation trails, motor-boating, and camping activities. During the trail ride weekends, parking and space to

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maneuver trailers has been a problem, therefore the facilities for equestrian activities were rated as 'not adequate'.

5.2 Recreation Activities Influence Area

A review of the proximity of Fishtrap Lake to the regional resources with the same recreation opportunities revealed that seven of the ten activities evaluated in this analysis are available at one or more additional locations within a 25-mile radius from Fishtrap Lake. These activities include fishing and hunting, hiking/nature/recreation trails, birding, equestrian, motor-boating, camping, and golfing/resort complex activities. The remaining recreation uses of competitive shooting, off-road vehicle activities, and mountain biking have the potential to attract visitors from a greater distance because of limited opportunities in the area and the relative uniqueness of each type of activity that could take place at Fishtrap Lake. Competitive shooting activities are expected to draw from a primarily local market with a broader market area. The expected market area for off-road vehicle activities is Kentucky, Indiana, Ohio, Virginia, and West Virginia. For mountain biking, visitors may come from areas throughout Kentucky as well as the neighboring states of Virginia and West Virginia.

5.3 Economic Impact Analysis

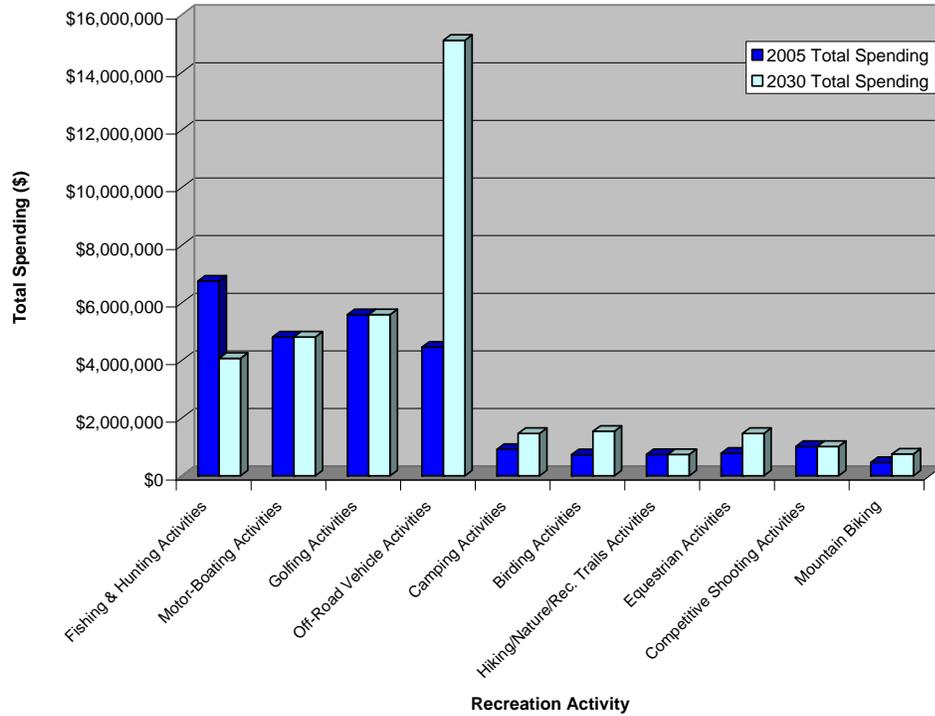
The estimated direct inputs developed as part of this study were used in the Recreation Economic Assessment System (REAS) for evaluating recreation effects on the tourism industry, which is USACE project specific. The model was run for each of the ten recreation activities identified for Fishtrap Lake. Both 2005 and 2030 visitation numbers were used to determine current and future economic trends. The spending variables were assumed to remain the same for both years thereby providing a consistent basis for comparison. The findings from the analysis were listed in the following terms:

- **Total spending** – the total amount of money spent by visitors during the length of their stay.
- **Direct jobs** – increase in jobs in the region resulting from tourism related spending.

Average spending per visit is included for reference. **Figures 2 – 4** show the results from the REAS model runs.

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Figure 2: Total Spending



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Figure 3: Direct Jobs

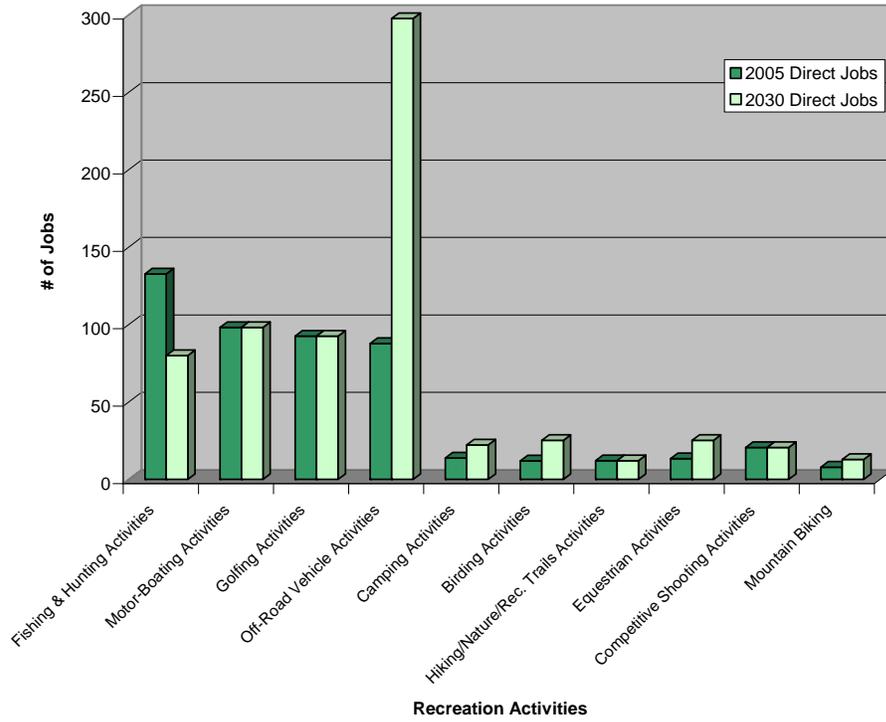
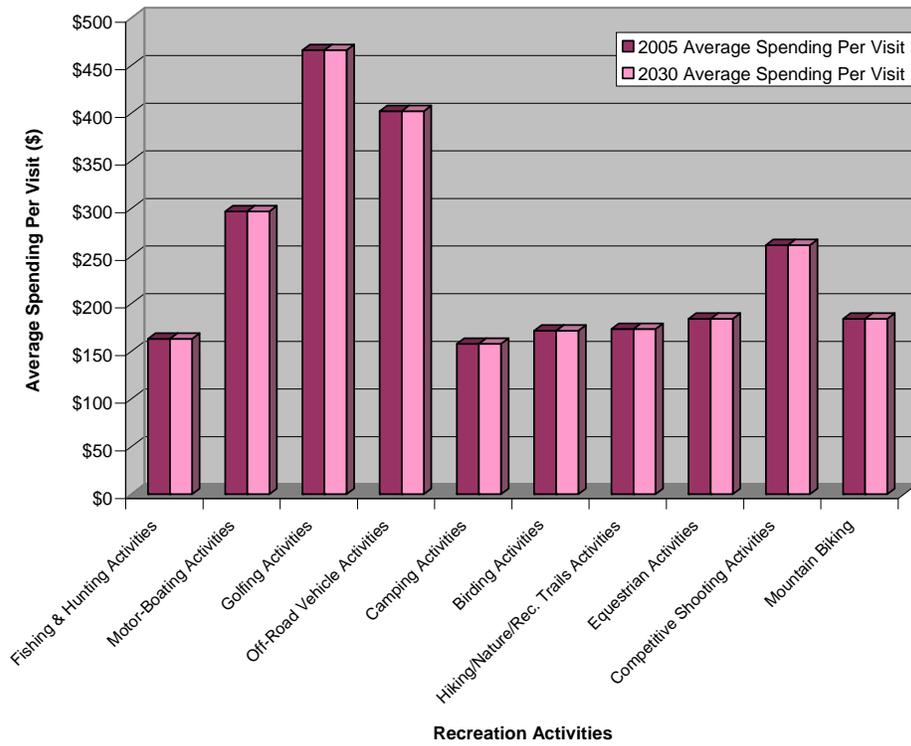


Figure 4: Average Spending Per Visit



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Overall, in 2005, fishing and hunting activities had the highest economic impact on total spending (\$6,758,230.00) and direct jobs (132.65). In 2030, off-road vehicle activities had the highest economic impact on total spending (\$15,116,770.00) and direct jobs (297.69). In 2005, mountain biking activities had the lowest economic impact on total spending (\$460,340.00) and direct jobs (7.88). In 2030, hiking/nature/recreation trails activities had the lowest economic impact on total spending (\$737,720.00) and direct jobs (12.12). These numbers indicate that fishing and hunting activities at Fishtrap Lake have the highest economic return currently, while off-road vehicle activities will have the highest economic return in the future.

5.4 Analysis and Screening of Recreation Activity Opportunities

Using the economic impact analysis along with other evaluation criteria, the ten activities were evaluated to determine which should be evaluated in further detail for potential development or enhancement at Fishtrap Lake. Each activity is listed below with the recommendation and a brief summary of the evaluation.

Fishing and Hunting – The development of significant enhancements to this activity is not recommended since this activity is not expected to have the greatest impact on the economy in the future. However, it is important to preserve the current level of activity and not negatively impact it.

Motor-Boating – The visitor base is primarily local and Fishtrap Lake is expected to maintain a steady visitor base through 2030. Given no expected change in the future, this activity was not recommended for further study.

Golfing/Resort Complex – This activity has the highest estimated average spending per visit and a higher economic impact on the local economy than many of the other activities. However, the local market area is currently saturated with golfing facilities and the terrain at Fishtrap Lake could prove challenging to build a course or resort. Therefore, this activity was not recommended.

Off-Road Vehicle Activities – This activity has the greatest economic impact in the future year 2030 and has a good estimated impact on the local economy currently. It has the greatest likelihood of drawing in visitors outside the region, and therefore was recommended for further study.

Camping Activities – This activity had a low impact on the economy and is not expected to have a significant impact on the economy in the future. In addition, it has the lowest average spending per visit. This activity was not recommended for further study.

Birding Activities – This activity had a low impact on the economy and is not expected to have a significant impact on the economy in the future. This activity was not recommended for further study.

Hiking/Nature/Recreation Trails Activities – This activity had a low impact on the economy and is not expected to have a significant impact on the economy in the future. This activity was not recommended for further study.

Equestrian Activities – This activity has a moderate impact on the local economy with the potential for increased benefit as visitation numbers are projected to increase in future

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years. In addition, there is good current demand for this activity as shown by well attended annual trail rides. This activity was recommended for further study.

Competitive Shooting Activities – This activity has the potential to draw high numbers of visitors from the region / nation during shooting events. This activity was recommended for further study.

Mountain Biking Activities – This activity had the least impact on the economy currently, and is not expected to have a significant impact on the economy in the future. It was not recommended for further study.

5.5 Detailed Economic Impact Analysis for Selected Recreation Activities

A detailed economic impact analysis was performed for the recreation activities carried forward for further evaluation, off-road vehicle activities, equestrian activities, and competitive shooting activities. Two levels of investment were evaluated for each activity – low and high. Both are based on a review of comparable facilities with similar investment levels to determine what visitation could be expected at Fishtrap Lake given a certain amount of capital investment. The list of comparable facilities selected as the most representative for use in this analysis, projected visitation, and planning level cost estimates for the development of similar facilities is shown in Table 2.

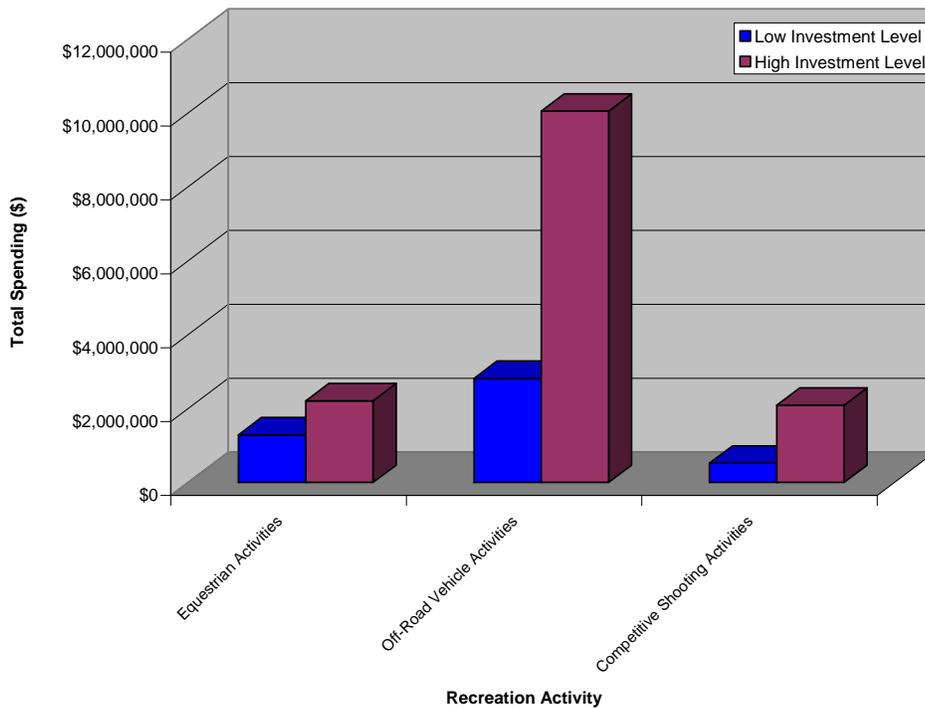
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Table 2: List of Selected Comparables

Activity	Investment Level	Reference Locaton	Facilities	Average Visitation Per Year	Cost
Equestrian	Low	Dale Hollow Lake	18 miles of trail Corral Storm Shelter Stalls	7,000	\$1,214,600
	High	Crooked Creek Horse Park	Horse Park: 3 Barns - 198 Stalls 35 - 40 mi Marked Trails Horse Shows, Trail Rides, Clinic & Rodeo	12,000	\$11,193,800
Off-Road Vehicle	Low	John Redmond Reservoir	140 acres of trails for dirt bikes and ATVs	7,000	\$261,800
	High	Hatfield-McCoy Trail System	400 miles	25,000	\$1,259,300
Competitive Shooting	Low	Pine Grove Shooting Sports	Sporting Clays	2,000	\$376,600
	High	Johnson Co. Fish & Game Assoc.	Outdoor Pistol (10 to 20 yds) Outdoor Rifle (300 yds) Trap Archery	8,000	\$960,200

Using the new average visitation numbers for these activities, the REAS model was run for each activity and each investment level. The results are show in Figure 5.

Figure 5: Detailed Analysis for Total Spending (2005)



Comparing the estimated planning level cost for facility investment to the expected return to the economy, the best return on the investment is both the low and high levels of investment for off-road vehicle activities.

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5.6 Recreation Analysis Summary

In general, Fishtrap Lake has had a fairly steady local visitor base over the past 35 years, and provides visitors with a variety of recreational opportunities including fishing and hunting, hiking/nature/recreation trails, equestrian activities, motor-boating, and camping. As part of this analysis, these activities as well as competitive shooting, golfing/resort complex, birding, off-road vehicles trails, and mountain biking were evaluated to determine variables for an economic assessment, current and future demand at Fishtrap Lake, the area of influence for each activity, and the relative impact to the local economy. A summary of the estimated demand, market area, and economic impact for each activity is provided in Table 3.

Table 3: Summary of Results

Recreation Use	Current Demand	Projected Future Demand (2030)	Estimated % Change Per Year	Market Area	2005 Estimated Economic Impact (Total Spending)	2030 Estimated Economic Impact (Total Spending)
Off-Road Vehicle Activities	11,100	37,600	5%	Kentucky, Indiana, Ohio, Virginia and West Virginia	\$4,462,660.00	\$15,116,770.00
Golfing/Resort Complex	12,000	12,000	0%	Local	\$5,593,820.00	\$5,593,820.00
Motor-boating	16,200	16,200	0%	Local	\$4,814,090.00	\$4,814,090.00
Fishing and Hunting	41,400	25,000	-2%	Local	\$6,758,230.00	\$4,078,500.00
Birding	4,300	9,000	3%	Local	\$730,010.00	\$1,543,360.00
Equestrian Activities	4,300	8,000	2.5%	Local	\$783,680.00	\$1,473,080.00
Camping	5,800	9,300	2%	Local	\$916,980.00	\$1,467,790.00
Competitive Shooting	3,900	3,900	0%	Primary: Local Secondary: Regional/ National for Competitions	\$1,019,660.00	\$1,019,660.00
Mountain Biking	2,500	4,100	2%	Kentucky, Virginia, and West Virginia	\$460,340.00	\$754,950.00
Hiking/Nature/Recreation Trails	4,300	4,300	0%	Local	\$737,720.00	\$737,720.00

Overall, fishing and hunting activities currently have the greatest impact to the local economy, while off-road vehicle activities were shown to have the greatest potential economic impact for the investment, particularly in the future. By maintaining fishing and hunting opportunities and pursuing the development of additional recreation opportunities for off-road vehicle activities, a maximum return to the economy should be

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realized from activities at Fishtrap Lake. Therefore, pursuant to the objectives of the Fishtrap Road Project, any road development should consider potential to develop recreation opportunities for these activities.

6.0 Transportation Resource Analysis

A transportation analysis for the Fishtrap Lake area was conducted to identify current transportation deficiencies and needs. The focus of the traffic analysis was access, safety, and capacity. The evaluation of access issues at Fishtrap Lake included:

- A review of historic access to Pikeville to provide a frame of reference;
- Current travel times to Pikeville;
- Emergency vehicle and school access; and
- Socioeconomic issues/trends.

A crash rate analysis was prepared to determine if there are any specific sections of roadway surrounding Fishtrap Lake that have a high crash rate. Finally, a review of current traffic volumes and levels of service was performed to determine what the current traffic volumes are in the Fishtrap Lake area and evaluate how well the existing transportation system operates. Of specific interest is determining the current traffic volumes for Upper Pompey Road, Jonican Road, River Hurricane Branch, and the Grapevine area to assist in the evaluation of how much traffic a project would serve. Also considered in the analysis were roadway improvements that are currently planned for Pike County and the impact these improvements would have on access and system connectivity.

The study area for the traffic analysis focused on the state-maintained roads directly adjacent to Fishtrap Lake including: KY 3418, KY 194, KY1499, KY 1373, US 460, KY 1789, and KY 1441. In addition, the analysis focuses on the northwest side of Fishtrap Lake including Upper Pompey Road, Jonican Road, and River Hurricane Branch. The Grapevine area is also included as part of the analysis focus with the Phyllis Post Office selected as the reference point for this area. Refer to Figure 1 for the location of Fishtrap Lake and the surrounding roadway network.

A review of historic access to Pikeville from Upper Pompey Road, Jonican Road, River Hurricane Branch, and the Grapevine area (designated as the Phyllis Post Office) was performed to evaluate local road system access in the past. In 1955 (prior to construction of the dam), US 460 continued east from Millard, following the Levisa Fork instead of following KY 80 south toward Elkhorn City. The old US 460 intersected with all three roads and goes through the Grapevine area providing a shorter path to Millard and to the city of Pikeville. Using approximate distances and an average travel speed of 45 mph, estimates of travel times from each of the roadways and from the Phyllis Post Office (representing Grapevine) to Pikeville were calculated. These travel times were calculated based on distances from the intersection of each road with US 460 or in the case of Grapevine, from the post office. Travel times from anywhere along Upper Pompey Road, Jonican Road, and River Hurricane Branch to Pikeville would be longer. Following construction of the dam, a portion of US 460 was closed and re-routed, thereby requiring residents along Upper Pompey Road, Jonican Road, and River Hurricane Branch to seek alternate routes to Pikeville. Construction of Ridgeline Road

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(KY 3418) to the north was to compensate for the increased travel times caused by the road closure; however, this road follows the contours of the mountains and must be driven at slower speeds.

Travel times from the communities along Upper Pompey Road, Jonican Road, River Hurricane Branch, and the Grapevine area to Pikeville were measured twice between the beginnings of the maintained portion of each of these roads to Pikeville and from the post office in Phyllis to Pikeville. Intermediate times were recorded to use as comparisons points between each run as well as to provide travel times between specific segments of the trip. At an average travel speed, it takes approximately 37 minutes from the head of Upper Pompey Road, 43 minutes from the head of Jonican Road, 49 – 52 minutes from the head of River Hurricane Branch, and 36 – 42 minutes from the Phyllis Post Office to get to Pikeville. It should be noted that during the travel time runs, the weather was mostly cloudy with no precipitation. During inclement weather (i.e. rain or snow), travel times would likely increase. Therefore, at the most, it takes some people slightly less than an hour to drive to Pikeville under ideal conditions. While the travel times may sound like a long time, it is not uncommon to take thirty minutes or more to get to a town or city from a rural area in this part of Kentucky.

Comparisons of current travel times to Pikeville with the historic travel times detailed above, is provided, below. Access to the Grapevine area has not been impacted as severely, however the trip to Pikeville was still shorter in the past.

	Upper Pompey	Jonican Road	River Hurricane	Grapevine
Before:	17	18	25	42
After:	37	43	49-52	36-42
Difference:	20	25	27-30	11-17

As shown by these travel time differences, changes in access, particularly the relocation of US 460 to the south of Fishtrap Lake following the dam construction has impacted travel times and access to Pikeville.

6.1 Emergency Vehicle Travel Times and Access

Another measure to determine if access to the communities along the northwest side of Fishtrap Lake is adequate is to evaluate the response times for emergency vehicles to Upper Pompey Road, Jonican Road, River Hurricane Branch, and Grapevine (Phyllis Post Office). Emergency vehicle services for this report are broadly defined as any first response service including both fire and ambulance service. To determine what an acceptable response time would be for emergency vehicles, the Pike County EMS Coordinator was contacted. Based on this discussion, Pike County has no formal response time standards or targets, but they follow Kentucky State regulations which specify an emergency service vehicle must be en route within 5 minutes of receiving a 911 call. In addition, the coordinator mentioned that when a department is paged following a call, they have 5 minutes to respond and then a second page is issued. If the second page is not answered, then the next closest station is called.

There are no national standards or guidance on emergency service vehicle response times; however, a common benchmark for rural areas is fifteen minutes at 90 percent compliance reliability. For this analysis, travel times were determined from the Grapevine Volunteer Fire Department to Upper Pompey Road, Jonican Road, River

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Hurricane Branch, and the Phyllis Post Office (Grapevine area) as it was the closest station. Driving at a slightly above average speed, but possibly less than what an emergency vehicle would travel, the travel time exceeds 15 minutes for most locations. The Grapevine Volunteer Fire Department is located very close to the Phyllis Post Office; therefore most destinations in the Grapevine area can be reached in less than 15 minutes. The intersection of River Hurricane Branch with KY 3418 can be reached in about 10 minutes, which is less than the recommended 15 minute response time threshold. But to reach the end of River Hurricane Branch, it takes approximately 16 – 18 minutes, or several minutes beyond the 15 minute threshold. The travel time to reach the intersection of Jonican Road and KY 3418 is approximately 15 – 16 minutes, at or slightly above the 15 minute threshold. Travel times to locations along Jonican Road exceed the 15 minute threshold, as well as the intersection of Upper Pompey Road / KY 3418 and locations along Upper Pompey Road. Based on these travel times and a 15 minute rural response time threshold, emergency vehicle access to these communities is substandard.

6.2 Local School Travel Times and Access

Millard Elementary and Millard Middle School, located near the intersection of US 460 and KY 1441, are the closest elementary and middle schools to Upper Pompey Road, Jonican Road, and River Hurricane Branch. Feds Creek Elementary, which includes Grades K – 8, is the closest elementary and middle school to the Grapevine area. There are several area high schools including Shelby Valley High School, Pike County Central High School, and East Ridge High School. Based on travel times, Pike County Central High School is closer to the northwest side of Fishtrap Lake; therefore travel times are based on trips to this high school only for Upper Pompey Road, Jonican Road, and River Hurricane Branch. For the Grapevine area, closer to the northeast side of the lake, East Ridge High School in Lick Creek, KY is the closest high school.

The longest trip is from upper River Hurricane Branch to Millard Middle School (approximately 38 – 42 minutes). The shortest trip is from the Phyllis Post Office to Feds Creek Elementary (approximately 15 – 16 minutes). Most other trips average 30 minutes to Millard Elementary School, Millard Middle School, Pike County Central High School or East Ridge High School. According to the Pike County School District, transportation times for students to local area schools should not exceed 30 minutes as mandated by the Kentucky standards (there are no standards for Pike County specifically). In the county, the transportation coordinator indicated that most travel times to schools were in the 25 – 30 minute range.

6.3 Crash Analysis

Crash data was provided by the Kentucky Transportation Cabinet (KYTC) for a three-year period from January 1, 2003 through December 31, 2005. Crash rates were computed for specific segments of each major roadway in the study area using the methodology provided in the crash analysis report periodically published by the KYTC³. The section crash rates are based on the number of crashes on a specified section, the average daily traffic on the roadway, the time frame of analysis, and the length of the section. Of the seven major roadways surrounding Fishtrap Lake, only two sections of

³ Analysis of Traffic Crash Data in Kentucky (2000 – 2004), Kentucky Transportation Center Research Report KTC-05-19/KSP2-05-1F.

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highway were identified as high crash rate sections, both on KY 1441 between KY 1789 and KY 3418. The total number of crashes on these segments was 29 between the year 2003 and 2005. While this might not seem high for a three year period, it is considered high for this road which has a relatively low average daily traffic between 360 and 1,000 vehicles per day.

The majority of the crashes on these segments were for single vehicles, involving either a crash with a fixed object or a by running off the roadway. These sections of KY 1441 are narrow, with lane widths between 7-9 feet and shoulder widths of 2 feet or less. Typical design standards specify a minimum of 9-foot lanes for rural low volume roadways and 2-foot minimum shoulders. Given the issue that some sections of the roadway are below typical geometrical standards, this may be a contributing factor to the high crash rate. Additional analysis of the data showed there were no fatalities during this time period on these highway sections; however, overall approximately 40 percent of the crashes on KY 1441 involved an injury.

There are a variety of factors contributing to the crashes including weather, driver behavior, and roadway geometrics. It is difficult to control the first two factors; however, deficiencies in roadway geometrics usually can be corrected. In this case, with most of the crashes involving single vehicles there appears to be a mix of contributing factors. Numerous single vehicle crashes were caused by the vehicle running off the roadway, most likely a result of situational factors versus roadway design issues. The other leading type of single vehicle crash was with fixed objects. This could include objects located too closely to the roadway, thereby becoming hazardous to drivers.

Overall, it appears that for the most part the roadways around Fishtrap Lake do not have a significant crash rate problem with the exception of KY 1441. This route was identified as having sections with high crash rates; however, the average daily traffic volumes are fairly low on this roadway. There are other highway sections surrounding Fishtrap Lake that could have crash rate issues since the section crash rates exceed the statewide average crash rates but the critical crash rates are not greater than one. There is a high percentage (approximately 50 percent) of crashes that involved an injury, while the number that involved a fatality was low (approximately 2 percent). Based on crash types, some crashes could be avoided by evaluating the proximity of objects to the roadway, while others that are due to weather or driver behavior may be unavoidable.

6.4 Capacity Analysis

Within the study area there are seven state-maintained roadways and three additional roadways that are part of the transportation network around Fishtrap Lake. These roadways include: KY 3418, KY 194, KY 1499, KY 1373, US 460, KY 1789, and KY 1441; and Upper Pompey Road, Jonican Road, and River Hurricane Branch. The Grapevine area is also considered to be part of the study area, and it is located along KY 194 near Phyllis, Kentucky. Average daily traffic volumes (ADT) for the state and national routes were obtained from the Traffic Counts System (CTS) database maintained by the Kentucky Transportation Cabinet. All traffic counts in the database for the study area roadways are fairly recent (2002 – 2005); therefore the estimate for 2006 was used since it is based on recent counts. Generally, traffic volumes have remained fairly steady in the past, only decreasing by at the most approximately three percent and increasing by, at the most, approximately four percent. This is despite declines in the

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county population. Given that the county population is expected to decrease even more in the future, it is unlikely that traffic volumes will increase significantly.

For Upper Pompey Road, Jonican Road, and River Hurricane Branch, 48-hour tube counts were conducted on July 25 and 26 (Tuesday and Wednesday), 2006. Based on that survey, for any given 24-hour period traffic volumes are approximately 100 vehicles on each of the three roads. This volume is low, but reasonable for this type of roadway. The traffic volumes per day can be further broken down into the highest hour of traffic for that day (peak hour). The time period that the peak hour occurred varied, with the volume of traffic during the peak hour between 9 and 15 vehicles. This is low, but also typical for this type of roadway. The Grapevine area is located along KY 194 which has a nearby count station that is part of the KYTC system. The most recent count at this station was in 2002 at 1,750 vehicles per day. Based on a forecasted growth rate for the area by KYTC, this number was projected to be 1,850 for the year 2006.

6.5 Current (2006) Levels of Service

A peak hour traffic operations analysis was prepared for major study area roadway segments using the Highway Capacity Software Version 5.2 (HCS+) two-lane road analysis package, based on the 2000 Highway Capacity Manual (HCM). For this method there are two classes of roadways: Class I highways include higher speed arterials and daily commuter routes, while Class II highways include lower speed collector roadways and roads primarily designed to provide access. Driver expectations regarding speed and flow are important in determining a highway's class. US 460, as a major through route in the study area, is considered a Class I highway. The rest of the state routes are considered Class II highways because they are classified as collectors and typically provide access in the study area.

Levels of service (LOS) for Class I highways are based on the estimated average travel speeds and percent time vehicles spend following other vehicles. Levels of service for Class II highways are defined only in terms of the percent time vehicles spend following other vehicles. Average travel speed is not considered since drivers typically will tolerate lower speeds on a Class II facility because of its function as an access roadway (serving shorter trips and fewer through trips).

LOS C is the threshold for desirable traffic operations in this study. Operations below this threshold are noted as undesirable and warrant improvement. For Class I highways, the LOS C threshold corresponds to an average travel speed of less than 45 miles per hour with less than 65 percent time spent following another vehicle. For Class II highways, the LOS C threshold corresponds to less than 70 percent time spent following another vehicle.

All roadways with the exception of US 460 operate at a LOS C or better. The portion of US 460 that begins at KY 1499 operates at a LOS D with the rest of US 460 currently operating at LOS E. This is the primary route south of Fishtrap Lake and carries higher traffic volumes than the other routes. As a result, the levels of service are worse, and are even below the desirable LOS C threshold.

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6.6 Evaluation of Planned Improvements

An understanding of future transportation plans and projects in the county is important for study context as well as for making future recommendations. A review of the KYTC Enacted Six-Year Highway Plan FY 2006 – FY 2012 (May 2006) was performed, and several projects that could affect access to Fishtrap Lake were listed in this document. These are described briefly below. Figure 6 shows the locations of these planned improvements on a map.

I-66 – A new coast-to-coast highway has been considered for the past several years beginning with a feasibility study conducted under the ISTEA-Intermodal Surface Transportation Efficiency Act. Conclusions from this study were that portions of the new interstate may be economically feasible. Further study and refinement of the location ensued, leading to the development of the Appalachian Corridor Segment. The Appalachian Corridor Segment is a 30-mile portion of the Southern Kentucky Corridor (I-66) beginning in Pike County on US 23 near Pikeville, and proceeding in a northeasterly direction through Kimper, McVeigh, and Ransom. Ultimately, the corridor would cross the state line and connect with the proposed King Coal Highway (Interstate 73/74) in Mingo County, West Virginia.

Funding for this new route has slowly been increasing, and is currently at approximately \$11 million. Part of this money has been allocated to perform preliminary engineering and environmental studies. In particular, field studies and environmental work have already begun on a six mile section between Upper Chloe and KY 194 near Kimper. While actual construction may not occur for several more years, the section of I-66 from US 23 near Pikeville to Kimper may provide substantial improvement to access to the communities located on the north side of Fishtrap Lake depending on where the interchange access points are located. As this project is still in the planning stages, it is difficult to assess the full impact the new interstate would have on access to these communities.

US 460 – An on-going project in Pike County is the reconstruction of US 460. This project will ultimately provide an alternate route for US 460 traffic from US 23 near Yeager, Kentucky to the Breaks Interstate Park near Breaks, Virginia. The new roadway will be a four-lane partially controlled access highway and will serve to increase travel speeds and decrease travel time while providing a safe route within this corridor. The new route is being constructed in phases, with right-of-way and utility relocation efforts already underway. The entire US 460 corridor is scheduled to be completed in 10 – 12 years. This project will improve traffic operations in the southeast portion of Pike County, along with improved access to the Breaks Interstate Park. Poor levels of service were identified for the current alignment of US 460 earlier in this report; however, the realignment will provide a new facility for traffic and substantially reduce traffic volumes on the old US 460 such that level of service issues would no longer be a concern. Benefits to the communities located along Upper Pompey Road, Jonican Road, River Hurricane Branch, and the Grapevine area are likely to be minimal from an access point of view since the new roadway will primarily serve the population south of Fishtrap Lake.

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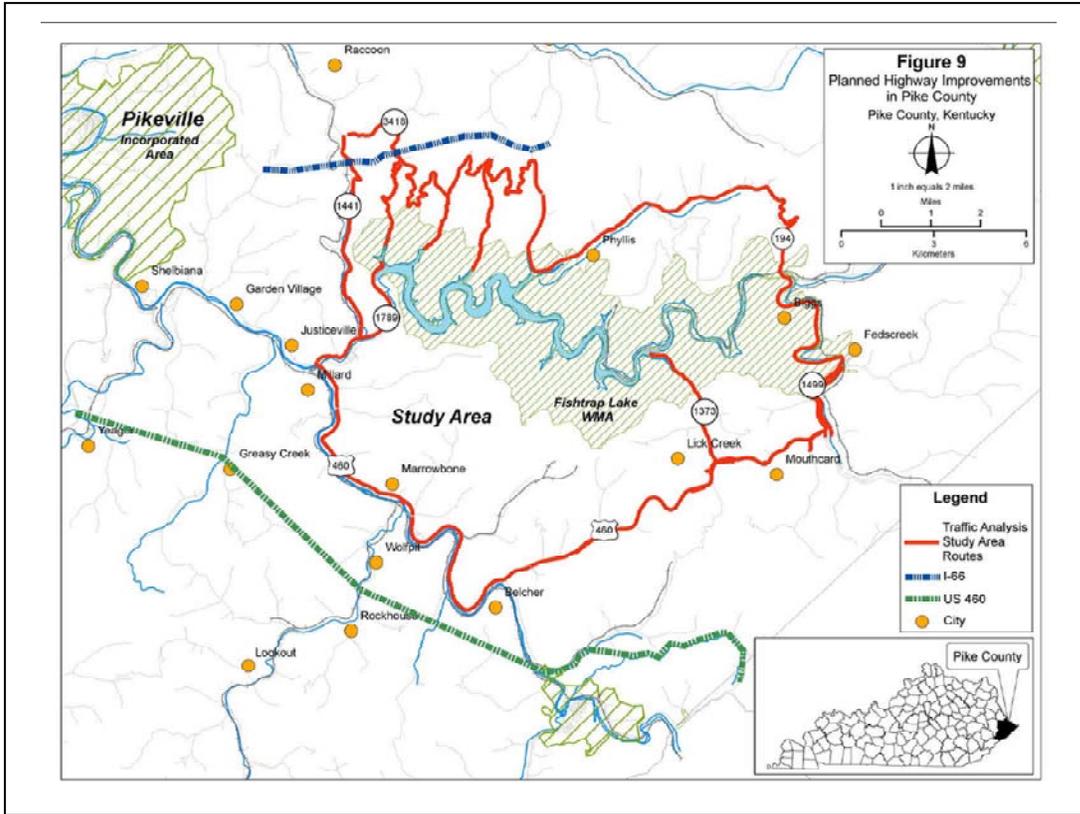


Figure 6. Planned Road Improvements in the study area.

6.7 Summary of Transportation Analysis

A summary of the key findings from the transportation review and traffic analysis for the existing conditions at Fishtrap Lake is provided in the following tables. Table 4 is a review / evaluation of the existing conditions for the roadway network around the lake, while Table 5 is a review / evaluation of the analysis for Upper Pompey Road, Jonican Road, River Hurricane Branch, and Grapevine.

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Table 4. Fishtrap Lake Transportation Network Evaluation Summary

Route	Section	Begin Milepoint	End Milepoint	2006 Average Daily Traffic Volumes	Historic Traffic Growth (per year)	Level of Service	Critical Crash Rate Factor
KY 3418	1	10.100 (KY 1441)	4.773 (Jonican Road)	701	0.32%	A	0.47
	2	4.772 (Jonican Road)	0.000 (KY 194)	222	1.64%	A	0.57
KY 194	3	29.181 (KY 3418)	35.317 (Lower Camp Branch Rd)	1,850	2.18%	B	0.59
	4	35.318 (Lower Camp Branch Rd)	39.603 (KY 1499)	1,100	0.32%	B	0.98
KY 1499	5	6.100 (KY 194)	1.834 (KY 366)	1,890	0.49%	B	0.63
	6	1.833 (KY 366)	0.000 (US 460)	3,220	-0.85%	C	0.91
KY 1373	7	6.706 (US 460)	9.752 (Fishtrap Lake)	572	0.40%	A	0.31
US 460	8	22.481 (KY 1499)	15.599 (Honey Fork Rd)	3,570	0.02%	D	0.64
	9	15.598 (Honey Fork Rd)	14.374 (KY 80)	5,490	3.80%	E	0.70
	10	14.373 (KY 80)	9.435 (KY 195)	8,090	1.99%	E	0.60
	11	9.434 (KY 195)	6.657 (Biggs Branch)	9,420	2.55%	E	0.85
	12	6.656 (Biggs Branch)	5.914 (KY 1789)	10,200	3.50%	E	0.90
	KY 1789	13	0.419 (KY 1441)	1.845 (Fishtrap Lake)	422	-2.81%	A
KY 1441	14	0.000 (US 460)	0.625 (KY 1789)	2,810	0.72%	C	0.31
	15	0.626 (KY 1789)	2.766 (Bevins Fork Rd)	999	0.84%	A	1.47
	16	2.767 (Bevins Fork Road)	6.531 (KY 3418)	359	1.14%	A	1.59

Deficient
 Potential Problem
 Acceptable

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Additional findings from this study pertinent to the surrounding roadway network include:

- The population of Pike County has been decreasing in the past and is projected to further decrease in the future by less than one percent per year. A similar decrease has been occurring and is expected in the future for the region.
- Of all reported crashes in the study area, a high percentage (approximately 50 percent) involved an injury.
- The most frequent crash type was single vehicle crashes (vehicles running off the roadway, vehicles striking fixed objects).

Table 5: Fishtrap Lake Evaluation Summary for Upper Pompey Road, Jonican Road, River Hurricane Branch, and Grapevine

Route	Historic Access to Pikeville (minutes)	Current Access to Pikeville (minutes)	Emergency Vehicle Access (minutes)	School Access (minutes)	2006 Average Daily Traffic Volumes	Impact of Planned Improvements
Upper Pompey Road	17	37	27	22-27	110	Depending on final design plans, the proposed I-66 interstate facility may benefit access.
Jonican Road	18	43	18	28-33	100	
River Hurricane Branch	22	49-52	16-18	34-42	120	
Grapevine	25	36-42	1	15-27	1,850	

	Deficient
	Potential Problem
	Acceptable

As shown on the previous two tables, the key evaluation points for this study are traffic volumes, traffic operations, safety, and access. Overall, the traffic volumes are low in this area, and the levels of service are in the acceptable range with the exception of US 460, which is currently being reconstructed just south of its present location. The safety analysis indicated that there is a problem along Lower Pompey Road (KY 1441), with numerous run-off-road and collisions with fixed objects crashes. While traffic operations may be good for this area, access is an issue, with excessive travel times for access to Pikeville and emergency vehicle access. School access is not as bad with River Hurricane Branch being the farthest of the communities; however areas along Jonican Road and River Hurricane Branch exceed acceptable travel times to school. In summary, there are known problems with access to Pikeville, for the emergency services, and schools, and a high crash rate on Lower Pompey Road (KY 1441) which is used as a primary travel path to Pikeville; however the traffic volumes are low and there are no capacity (level of service) issues for the roadways closest to Upper Pompey Road, Jonican Road, River Hurricane Branch, and Grapevine.

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7.0 Formulation of Alternative Plans

Alternative road alignments must address the study objectives, which are to decrease travel time or improve access for those communities whose access was directly impacted by construction of the Fishtrap Lake Project; and, enhance the potential for recreation development that would provide significant long-term economic inputs for Pike County. Further, the road alternatives must be developed within the planning constraints. The recreation analysis and the transportation studies were conducted to specifically identify problems and opportunities with respect to the project goals.

In short, the recreation analysis revealed that two recreation activities may provide significant long-term economic input into Pike County – fishing/hunting and off-road vehicle activities. Although negative growth is expected for fishing and hunting, it was recognized that these activities are and will remain economically important to the area in comparison with other recreation activities. Off-road vehicle recreation showed the greatest potential for economic stimulus to the local economy. As the name implies, roads are not needed for this activity, however access to areas, such as trailheads, are important. In order to help identify how road development on the Fishtrap property could support this activity, the Corps considered the model established for development of the Hatfield-McCoy Trail system in West Virginia. The Kentucky Mountain Trail Development Commission is currently in the planning stages for an off-road vehicle trail system in eastern Kentucky, the Skywards Trails of the Kentucky Mountain Trails System. Because of the success of the Hatfield-McCoy Trail System, this group is using the “Hatfield-McCoy” as a model⁴. The Hatfield-McCoy Trail System did not use public lands but instead relies on large tracts of privately owned lands. The close proximity of trailheads to the local communities provides great economic stimulus to the area.

In order to determine how a road alignment may support the proposed Skyward Trails, mapping of all tracts of privately held land greater than 100 acres and in the proximity to the Fishtrap property was obtained. Several areas were identified that could be assumed to meet the requirements for development of trail systems under the Skyward Trails initiative and these tracts are shown in Figure 7. The support services that Fishtrap could provide to such trail systems would be camping and access to the other recreation opportunities. It must be recognized that use of public facilities in opposition to similar private developments (e.g. campgrounds) would not provide the same socio-economic gains to the local area. Road development on the Fishtrap property would not be necessary to support the Skyward Trails initiative which would use private land and existing road systems in order to provide economic input to local communities.

⁴ Personal conversation with Mike Witt, November 2007.

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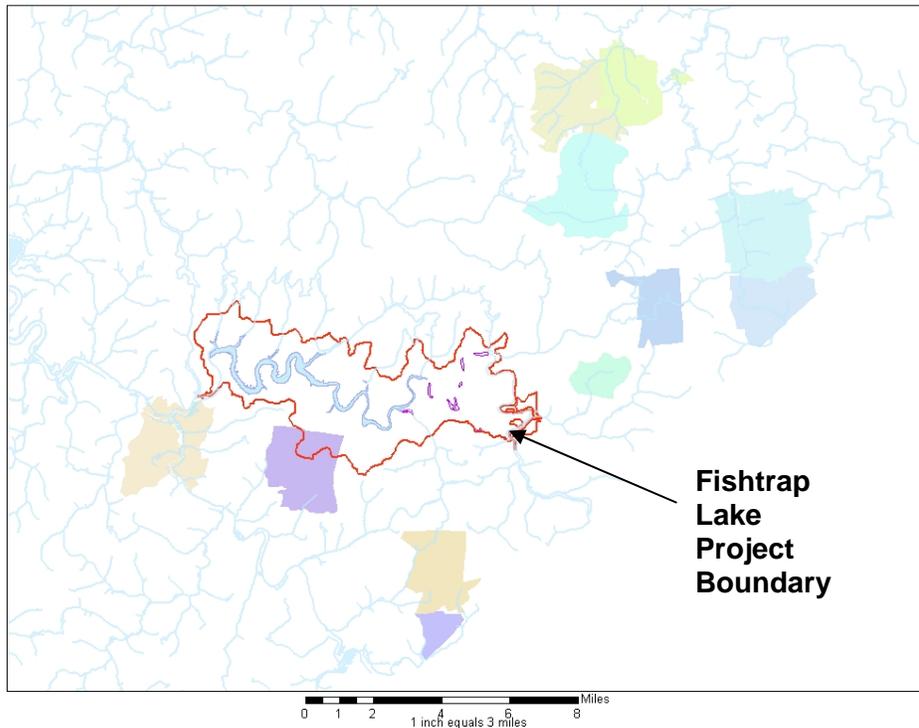


Figure 7. Large privately held land tracts in proximity to Fishtrap Lake.



Figure 8. Skyward Trail conceptual trail development map.

"This map shows conceptual trails locations. It is not based on any field evaluation of property ownership or trail feasibility. The map shows approximately 1,200 miles of potential trail in twelve counties"⁵.

⁵ Source: <http://www.trailscouts.com/skyward.htm>.

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The results of the transportation analysis study quantified the problems with access to the communities along Upper Pompey, Jonican Branch, and River Hurricane, and the Grapevine Area. Evaluation of all alternatives identified considered these factors in the alternatives screening process.

7.1 Screening of Alternatives

In 2004, Pike County developed a conceptual plan for road development at Fishtrap Lake to serve as a state park. The purpose of the project was to increase tourism and improve access to the areas around Fishtrap Lake. The project proposed an access road on the north side of the Fishtrap Lake, beginning at the Fishtrap Dam and ending at a site of a proposed lodge/resort area. Construction of the project was proposed to be in the following three phases: Phase 1 would connect Fishtrap Dam to Upper Pompey, Phase 2 would connect Upper Pompey to Jonican Branch, and Phase 3 would connect Jonican to the proposed lodge resort area. To minimize construction costs for the lodge, Pike County proposed to construct the access road to follow the outcrop of the Clintwood coal seam, using the revenues from extraction of the underlying coal to offset some of the costs necessary to complete the project. Two alignments were developed, as illustrated in Figures 9 and 10.

Pike County's road alternatives were based around development of a lodge and resort complex. The recreation demand analysis did not find a resort complex to be a good investment with respect to economic development, mostly because of the existence of several resorts in the local area, all of which are currently underutilized. Furthermore, park roads should be constructed to minimize disturbance to the existing terrain and be aligned to afford a visually pleasing driving experience. Because the proposed alignments would follow coal seams, the disturbance that would result from the relatively high cuts would not provide the visual experienced needed for a park road. These alternatives would not meet the project goals and objectives and were dropped from detailed consideration.

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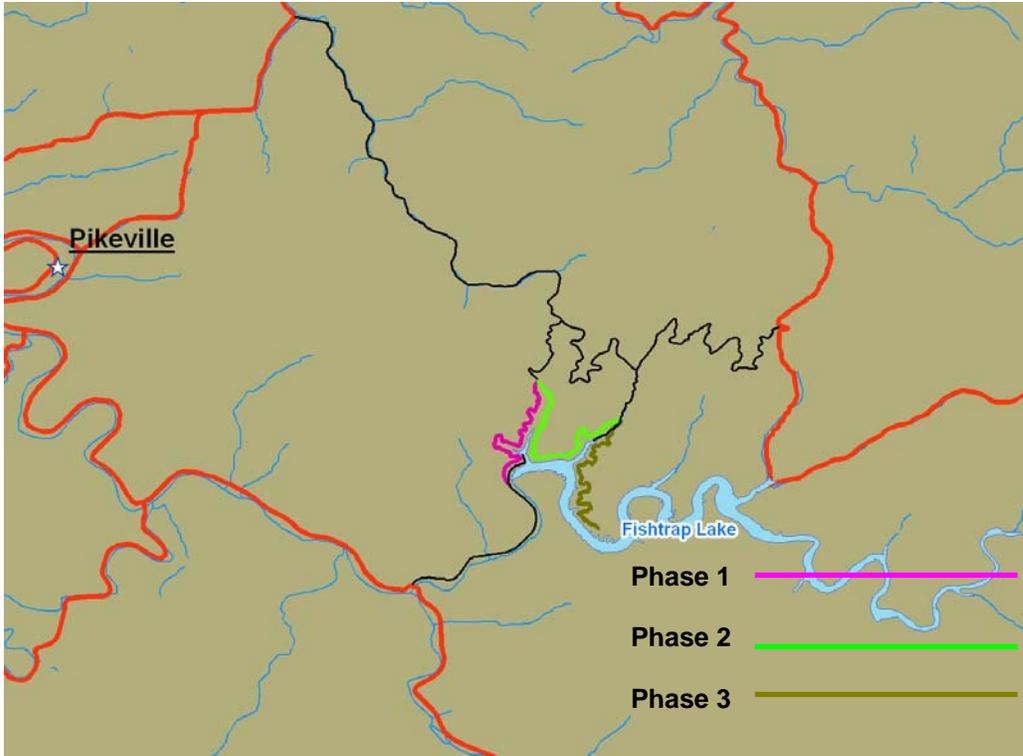


Figure 9 - Pike County Alternative 1

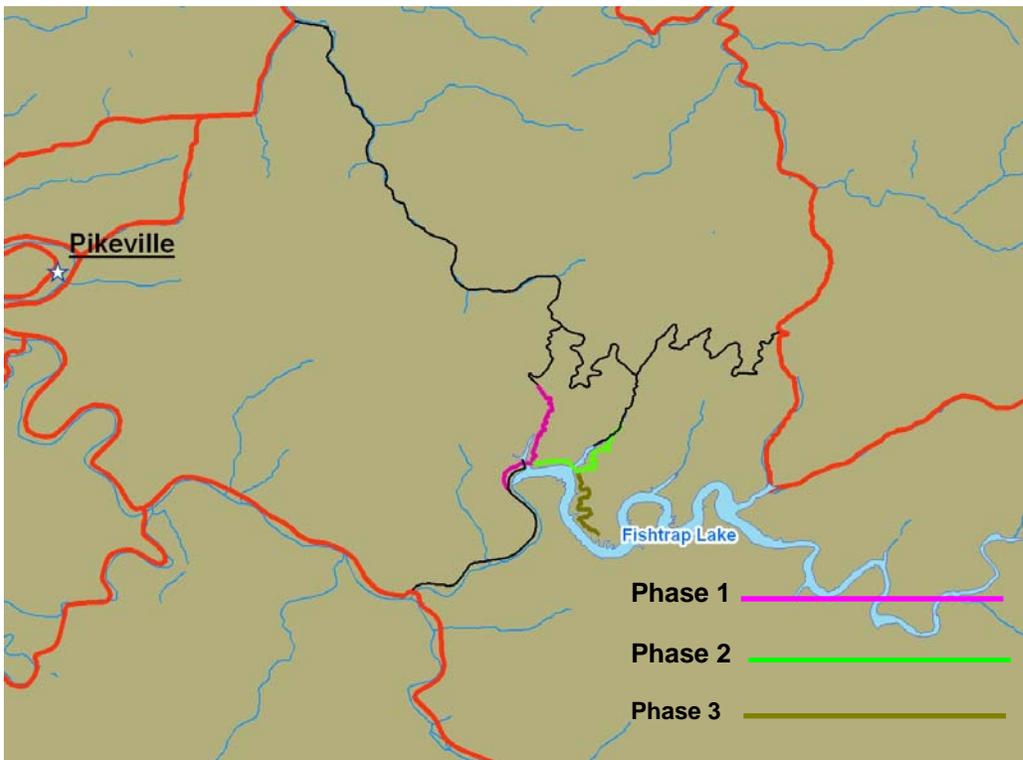


Figure 10 - Pike County Alternative 2

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In the identification of potential road alternatives, the Corps initially looked at road planning by using broad corridors. Two broad corridors were examined, one on the north side of the lake, one on the south side commencing at or near the Grapevine area. These corridors were intended, per the study objectives, to serve both recreational and access needs. Upon determining that the recreation activities that would meet the project objective for economic diversification to Pike County would not require road development (hunting/fishing and ORV), community access became the principle need for road development. Because the communities given the most consideration in this study are all on the north side of the lake, and in consideration of reasonably foreseeable road development plans (*See Evaluation of Planned Improvements*), only that corridor from Grapevine to the dam site was retained to evaluate in more detail.

In seeking solutions for improved access the Corps also re-evaluated Ridgeline Road. This road was constructed after the Fishtrap Lake project was completed to improve access for the residents affected by the impounding of the lake. Various modifications were considered to Ridgeline Road to improve travel time; however none were found that would make a significant improvement. In all, the Corps determined the alignment to be as effective as practicable.

To evaluate the Grapevine-Fishtrap Dam corridor aerial over-flights along with topographic mapping and other tools were used to develop potential road alignments in this corridor. The steepness of the terrain greatly restricts road development. A connector road would either require extensive cut-and-fill or the road would be designed to following the terrain and thus be a very long, circuitous route that would not likely result in significantly improved access times. In the former case, such a road design would not be acceptable for a park road (e.g. minimal disturbance and low visual impacts).

Road alignments that would connect River Hurricane Branch to Jonican Branch then to Upper Pompey and the dam site were also considered. Here again, the steepness of the terrain makes these connectors impractical for the same aforementioned reasons.

None of the identified road alignments would meet all of the study objectives because none would facilitate significant recreation opportunities and/or have minimal environmental impacts. However, one road segment, which would connect the dam site to Upper Pompey Road, was identified as an alternative alignment that would improve local access to Pikeville and incidentally offer some recreational benefits because it would provide potential to improve the Fishtrap Lake State Park. Therefore, the Upper Pompey Branch – Dam Site connector alternative was developed and evaluated in more detail, along with the No Action alternative.

In summary, only one road alternative was found that would improve community access and would be acceptable for support of those recreational opportunities identified as important for the economy of Pike County. This road would connect the dam-site area to Upper Pompey Road. This and the No Action alternative were carried forward for detailed evaluation as final road alternative plans.

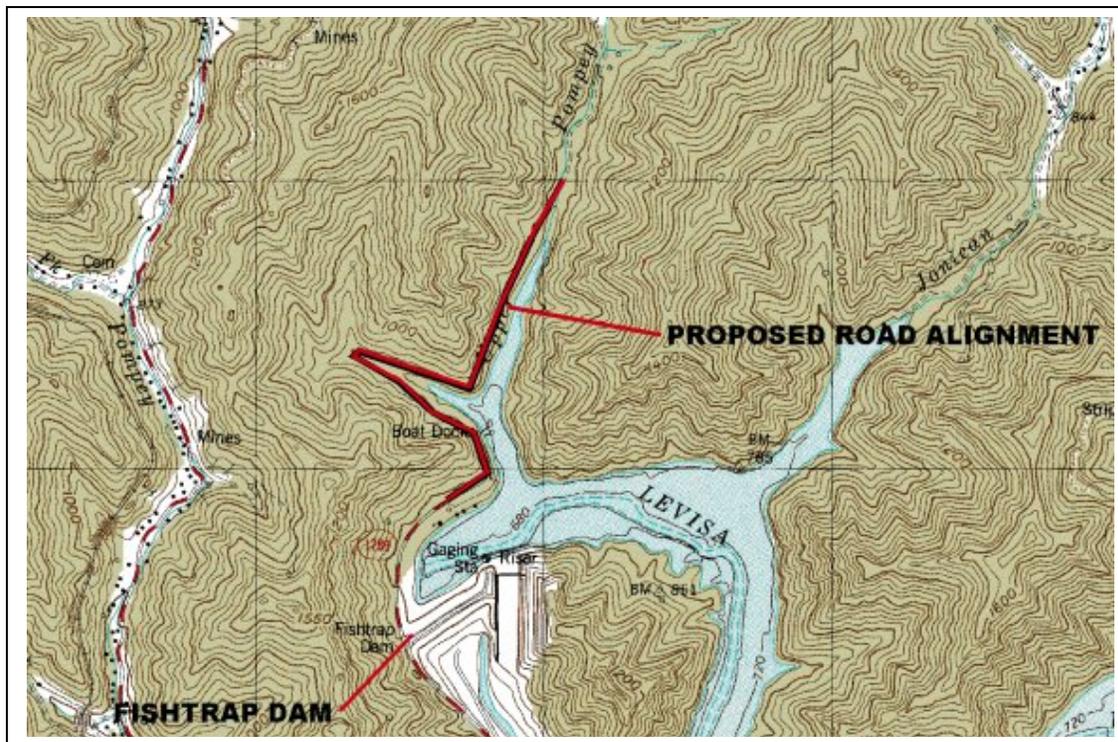
7.2 Description of Final Road Alternatives

Final road alternatives considered are a connector between the Fishtrap Dam site and Upper Pompey Road (connector) and the No Action Alternative. The connector would

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extend from the dam site area, approximately following the 800-foot (msl) contour, to Upper Pompey Road where pavement currently ends. Upper Pompey Road currently has a low-water ford near its terminus near the lake. The minimum road width would be 27 feet, except in sections with guardrails where the minimum width could be reduced to 22 feet. A bridge or culvert in would be necessary under the proposed action. A conceptual design is shown in Figure 11, below. The connector would disturb approximately 9 acres for construction, most of which is within the boundary of the Fishtrap Lake State Park. The road should be set back from the lake to provide a riparian buffer, both for ecological and aesthetic reasons in consideration of the park setting. A maximum speed limit of 25 mph would be appropriate for the reach through the Fishtrap State Park.

Figure 11 – Proposed Connector from Fishtrap Lake Dam site to Upper Pompey Road



The proposed connector between the Fishtrap Dam site and Upper Pompey Road would increase total volume on Upper Pompey Road to 310 vehicles per day. Even with this increase in volume, the road would likely remain classified as a local rural road. However, some upgrades may need to be completed to bring the existing roadway up to design standards to handle the additional traffic. According to the *AASHTO-Geometric Design of Highways and Streets* reference manual, local rural roads with less than 400 vehicles per day and a design speed ranging from 15 – 40 mph, a minimum road width of 18 feet is specified. This translates into two nine-foot lanes (one in each direction). The minimum recommended shoulder width is 2 feet on each side of the road. An additional 5 to 8 feet is recommended to provide a zone for horizontal clearance to obstructions. An exception may be made if guardrail protection is provided. In all, a total of 22 feet is required for a two-lane roadway carrying less than 400 vehicles per day.

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with guardrail. If there is no guardrail, then the minimum width would be 27 – 30 feet. The current paved width is 11 – 14 feet; therefore, an additional 8 – 11 feet at a minimum would be required.

Based on existing mapping it is estimated that the new connector would be approximately 1.5 mile in length. This distance is measured from the Fishtrap Dam site to the existing paved roadway of Upper Pompey Road. There is a gravel / dirt path that leads from the pavement along Upper Pompey to the lake; however, this would need significant upgrades (i.e. paved) and was therefore not included in the assumed length of the new connector. Additional improvements may be needed to bring Upper Pompey Road to current design standards for additional traffic.

Under the No Action Alternative there would be no federal involvement with construction of a road at Fishtrap Lake. The Corps, KYTC, and appropriate lessees, would continue to maintain the existing roads and lands serving the Fishtrap Project.

8.0 Detailed Evaluation of Alternative Road Plans

This section discusses the potential effects of the alternatives on the human environment, as required under the National Environmental Policy Act. In keeping with the intent of a concise document under NEPA, only those resources with a potential to be affected are discussed (40 CFR 1508.9 (a)). Those resources which were considered to have a potential to be affected by the project as documented herein are transportation and safety, recreation, cultural resources, fish and wildlife resources, and ecological resources. In addition, potential effects to threatened and endangered species were evaluated and an assessment of cumulative effects was made.

8.1 Transportation Impacts

The connector between the dam site and Upper Pompey Road was evaluated for transportation effects including traffic capacity, travel time and safety. Under the No Action alternative, no change to transportation would be expected.

8.1.1 Capacity analysis of Proposed Connector

Current traffic volumes are very low on Upper Pompey Road (approximately 100 vehicles per day according to a traffic count performed in 2006). On KY 1441, the parallel route, traffic volumes range from 360 to 1,000 vehicles per day (ADT). With the proposed connector, it is likely that some of this traffic would shift to Upper Pompey Road since it would be a shorter route. To determine an estimate of traffic diversion from KY 1441 to Upper Pompey Road, the Manual Gravity Technique was used. A simple network of streets was assumed for the diversion analysis including KY 1441, KY 3418, Upper Pompey Road, and KY 1789.

The initial step was to determine origin-destination (O-D) points and calculate the flow of traffic between them. The O-D points selected for this analysis were the intersection of KY 1441 / KY 1789 and the end of the maintained portion of Upper Pompey Road. These points were selected since they represent beginning and ending points for both routes to access US 460 to get to Pikeville. Utilizing the ADT volumes on the existing segments, a flow rate of 210 vehicles per day was calculated.

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The next step was to determine the change in distance and travel time as a result of the proposed connector route. Using an assumed distance of 1.5 miles for the new connector, the new route was determined to be 7.4 miles shorter. Based on the travel time runs presented earlier in this report, the new connector route would have a travel time reduction of 15 minutes.

Utilizing this information, a diversion percentage was calculated using the California diversion curve equation to apply to the flow rate. Since the reduction in travel distance and time is very high, the diversion percentage was calculated as 100%. Therefore, 210 additional vehicles would utilize the new connector route bringing the total volume on Upper Pompey Road to 310 vehicles per day.

8.1.2 Travel Time Effects with Proposed Connector

To evaluate the effect on the proposed connector on travel time, runs were performed from the Fishtrap Dam site to the various locations, and these were added to an estimated travel time for the new connector. The estimated travel time for the proposed connector was calculated by assuming a length of 1.5 mile and a speed of 35 mph, similar to the current speed along the roadway leading up to the dam site through the project area. Similar data collection methods were used as those for the previous data collection effort.

Based on existing data, it was determined that the proposed connector would impact the travel time from Upper Pompey Road, Jonican Road, and River Hurricane Branch to Pikeville, Millard Elementary School, and Millard Middle School. The travel time from the Phyllis Post Office (Grapevine) to Pikeville, Feds Creek Elementary, and East Ridge High School and from the three study roadways to Pike County Central High School would not be affected as it is unlikely that the proposed connector would be used by residents of those areas.

For Upper Pompey Road, Jonican Road, and River Hurricane Branch, the nearest emergency response station may change as a result of the new connector. To evaluate this, travel times were calculated from these roadways to the Millard Volunteer Fire Department.

Travel times for the various routes that would be affected by the proposed connector to Pikeville, the schools, and the fire department are provided in Tables 6-8.

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Table 6: Travel Times from Upper Pompey Road, Jonican Road, and River Hurricane Branch to Pikeville via the Proposed Upper Pompey Road Connector

Route	Section Beginning Point	Section Ending Point	Run 1		Run 2	
			Time	Total Time	Time	Total Time
Upper Pompey Road to Pikeville	Beginning of Maintained Portion of Upper Pompey Road	Dam Site near Campground	1:43	1:43	1:43	1:43
	Dam Site near Campground	Intersection of KY 1441 and US 460	7:06	8:49	6:23	8:06
	Intersection of KY 1441 and US 460	Off Ramp to Downtown Pikeville (Intersection of US 23 and KY 1384)	13:09	21:58	13:28	21:34
Jonican Road to Pikeville	Beginning of Maintained Portion of Jonican Road	Intersection of KY 3418 and Jonican Road	3:04	3:04	3:13	3:13
	Intersection of KY 3418 and Jonican Road	Intersection of KY 3418 and Upper Pompey Road	7:00	10:04	7:00	10:13
	Intersection of KY 3418 and Upper Pompey Road	Beginning of Maintained Portion of Upper Pompey Road	4:51	14:55	4:41	14:54
	Beginning of Maintained Portion of Upper Pompey Road	Dam Site near Campground	1:43	16:38	1:43	16:37
	Dam Site near Campground	Intersection of KY 1441 and US 460	7:06	23:44	6:23	23:00
	Intersection of KY 1441 and US 460	Off Ramp to Downtown Pikeville (Intersection of US 23 and KY 1384)	13:09	36:53	13:28	36:28
River Hurricane Branch to Pikeville	Beginning of Maintained Portion of River Hurricane Branch	Intersection of KY 3418 and River Hurricane Branch	7:51	7:51	5:12	5:12
	Intersection of KY 3418 and River Hurricane Branch	Intersection of KY 3418 and Jonican Road	4:42	12:33	4:17	9:29
	Intersection of KY 3418 and Jonican Road	Intersection of KY 3418 and Upper Pompey Road	7:00	19:33	7:00	16:29
	Intersection of KY 3418 and Upper Pompey Road	Beginning of Maintained Portion of Upper Pompey Road	4:51	24:24	4:41	21:10
	Beginning of Maintained Portion of Upper Pompey Road	Dam Site near Campground	1:43	26:07	1:43	22:53
	Dam Site near Campground	Intersection of KY 1441 and US 460	7:06	33:13	6:23	29:16
	Intersection of KY 1441 and US 460	Off Ramp to Downtown Pikeville (Intersection of US 23 and KY 1384)	13:09	46:22	13:28	42:44

1:43 = Time estimated assuming a 1.0 mile connector and a speed of 35 mph.

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Table 7: Travel Times from Millard Elementary School and Millard Middle School to Upper Pompey Road, Jonican Road, and River Hurricane Branch via the Proposed Upper Pompey Road Connector

Route	Section Beginning Point	Section Ending Point	Run 1	Run 2
			Total Time	Total Time
Upper Pompey Road to Millard Elementary School	Beginning of Maintained Portion of Upper Pompey Road	Millard Elementary School	7:35	7:55
Jonican Road to Millard Elementary School	Beginning of Maintained Portion of Jonican Road	Millard Elementary School	22:30	22:49
River Hurricane Branch to Millard Elementary School	Beginning of Maintained Portion of River Hurricane Branch	Millard Elementary School	31:59	29:05
Route	Section Beginning Point	Section Ending Point	Run 1	Run 2
			Total Time	Total Time
Upper Pompey Road to Millard Middle School	Beginning of Maintained Portion of Upper Pompey Road	Millard Middle School	9:51	9:53
Jonican Road to Millard Middle School	Beginning of Maintained Portion of Jonican Road	Millard Middle School	24:46	24:47
River Hurricane Branch to Millard Middle School	Beginning of Maintained Portion of River Hurricane Branch	Millard Middle School	34:15	31:03

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Table 8: Travel Times from Millard Volunteer Fire Department to Upper Pompey Road, Jonican Road, and River Hurricane Branch via the Proposed Upper Pompey Road Connector

Route	Section Beginning Point	Section Ending Point	Run 1		Run 2	
			Time	Total Time	Time	Total Time
Millard Volunteer Fire Department to Upper Pompey Road	Millard Volunteer Fire Department	Dam Site near Campground	7:00	7:00	6:34	6:34
	Dam Site near Campground	Beginning of Maintained Portion of Upper Pompey Road	1:43	8:43	1:43	8:17
	Beginning of Maintained Portion of Upper Pompey Road	Intersection of KY 3418 and Upper Pompey Road	4:51	13:34	4:41	12:58
Millard Volunteer Fire Department to Jonican Road	Millard Volunteer Fire Department	Dam Site near Campground	7:00	7:00	6:34	6:34
	Dam Site near Campground	Beginning of Maintained Portion of Upper Pompey Road	1:43	8:43	1:43	8:17
	Beginning of Maintained Portion of Upper Pompey Road	Intersection of KY 3418 and Upper Pompey Road	4:51	13:34	4:41	12:58
	Intersection of KY 3418 and Upper Pompey Road	Intersection of KY 3418 and Jonican Road	7:00	20:34	7:00	19:58
	Intersection of KY 3418 and Jonican Road	End of Maintained Portion of Jonican Road	3:04	23:38	3:13	23:11
Millard Volunteer Fire Department to River Hurricane Branch	Millard Volunteer Fire Department	Dam Site near Campground	7:00	7:00	6:34	6:34
	Dam Site near Campground	Beginning of Maintained Portion of Upper Pompey Road	1:43	8:43	1:43	8:17
	Beginning of Maintained Portion of Upper Pompey Road	Intersection of KY 3418 and Upper Pompey Road	4:51	13:34	4:41	12:58
	Intersection of KY 3418 and Upper Pompey Road	Intersection of KY 3418 and Jonican Road	7:00	20:34	7:00	19:58
	Intersection of KY 3418 and Jonican Road	Intersection of KY 3418 and River Hurricane Branch	4:42	25:16	4:17	24:15
	Intersection of KY 3418 and River Hurricane Branch	End of Maintained Portion of River Hurricane Branch	7:51	33:07	5:12	29:27

XX:XX Less than 15 minutes as recommended for a rural response time threshold
XX:XX Greater than 15 minutes as recommended for a rural response time threshold

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To illustrate the impact of these new travel times, Tables 9 and 10 show the differences in existing travel times determined previously in this study to the travel times that would be expected to occur with the proposed connector.

Table 9: Travel Time Comparison for Upper Pompey Road, Jonican Road, and River Hurricane Branch to Pikeville

Route	Scenario	Run 1	Run 2
		Total Time (min)	Total Time (min)
Upper Pompey Road to Pikeville	Existing Route	36:55	37:15
	Route with New Connector	21:58	21:34
	Difference (Existing Route - Route with New Connector)	14:57	15:41
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Jonican Road to Pikeville	Existing Route	42:54	42:47
	Route with New Connector	36:53	36:28
	Difference (Existing Route - Route with New Connector)	6:01	6:19
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River Hurricane Branch to Pikeville	Existing Route	52:23	49:03
	Route with New Connector	46:22	42:44
	Difference (Existing Route - Route with New Connector)	6:01	6:19

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Table 10: Travel Time Comparison for Upper Pompey Road, Jonican Road, and River Hurricane Branch to Millard Elementary School and Millard Middle School

Route	Scenario	Run 1	Run 2
		Total Time (min)	Total Time (min)
Upper Pompey Road to Millard Elementary School	Existing Route	25:17	25:18
	Route with New Connector	7:35	7:55
	Difference (Existing Route - Route with New Connector)	17:42	17:23
Jonican Road to Millard Elementary School	Existing Route	31:16	30:50
	Route with New Connector	22:30	22:49
	Difference (Existing Route - Route with New Connector)	8:46	8:01
River Hurricane Branch to Millard Elementary School	Existing Route	40:45	37:06
	Route with New Connector	31:59	29:05
	Difference (Existing Route - Route with New Connector)	8:46	8:01
Route	Scenario	Run 1	Run 2
		Total Time (min)	Total Time (min)
Upper Pompey Road to Millard Middle School	Existing Route	26:35	26:36
	Route with New Connector	9:51	9:53
	Difference (Existing Route - Route with New Connector)	16:44	16:43
Jonican Road to Millard Middle School	Existing Route	32:34	32:08
	Route with New Connector	24:46	24:47
	Difference (Existing Route - Route with New Connector)	7:48	7:21
River Hurricane Branch to Millard Middle School	Existing Route	42:03	38:24
	Route with New Connector	34:15	31:03
	Difference (Existing Route - Route with New Connector)	7:48	7:21

As shown on Tables 9 and 10, there is the potential for significant travel time savings for people traveling from Upper Pompey Road to Pikeville (approximately 15 minutes). By constructing the new connector, travel times are also somewhat reduced from Jonican Road and River Hurricane Branch to Pikeville (approximately 6 minutes). Travel times are reduced significantly between Upper Pompey Road and Millard Elementary and Middle Schools (approximately 17 minutes). Assuming school buses would be allowed to use the proposed connector the travel time to the schools would be reduced to approximately 30 minutes or less from all the study area roadways. This would result in compliance within the Kentucky standard for transportation times for students to local area schools.

8.2 Safety

With respect to potential impacts on emergency response, travel times to the Grapevine Volunteer Fire Department for the existing conditions and the Millard Volunteer Fire Department for the proposed connector route were compared. Response times from the Millard Volunteer Fire Department to any location along Upper Pompey Road are less

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using the new connector than those from the Grapevine Volunteer Fire Department, and in fact, are lower than the 15 minute response time threshold. However, for Jonican Road and River Hurricane Branch, response times would increase from the Millard Volunteer Fire Department using the proposed connector. Therefore, with respect to emergency response times, only the community along Upper Pompey Road would benefit as a result of the proposed connector roadway with respect to emergency response. Tables 11 shows the differences in existing travel times determined previously in this study to the travel times that would be expected to occur with the proposed connector with respect to emergency response.

Table 11: Travel Time Comparison for Upper Pompey Road, Jonican Road, and River Hurricane Branch to the Millard Volunteer Fire Department

Route	Scenario	Run 1	Run 2
		Total Time (min)	Total Time (min)
Emergency Response Station to the Intersection of KY 3418 and Upper Pompey Road	Existing Route	22:15	21:50
	Route with New Connector	13:34	12:58
	Difference (Existing Route - Route with New Connector)	8:50	8:52
Emergency Response Station to the End of the Maintained Portion of Upper Pompey Road	Existing Route	27:06	26:31
	Route with New Connector	8:43	8:17
	Difference (Existing Route - Route with New Connector)	18:23	18:14
Emergency Response Station to the Intersection of KY 3418 and Jonican Road	Existing Route	15:15	14:50
	Route with New Connector	20:34	19:58
	Difference (Existing Route - Route with New Connector)	-5:19	-5:08
Emergency Response Station to the End of the Maintained Portion of Jonican Road	Existing Route	18:19	18:03
	Route with New Connector	23:38	23:11
	Difference (Existing Route - Route with New Connector)	-5:19	-5:08
Emergency Response Station to the Intersection of KY 3418 and River Hurricane Branch	Existing Route	10:33	10:33
	Route with New Connector	25:16	24:15
	Difference (Existing Route - Route with New Connector)	-14:43	-13:42
Emergency Response Station to the End of the Maintained Portion of River Hurricane Branch	Existing Route	18:24	15:45
	Route with New Connector	33:07	29:27
	Difference (Existing Route - Route with New Connector)	-14:43	-13:42

XX:XX
XX:XX

Less than 15 minutes as recommended for a rural response time threshold
Greater than 15 minutes as recommended for a rural response time threshold

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The construction of a new connector roadway between Upper Pompey Road and the Fishtrap Dam site would provide a new route for vehicles to access Pikeville and other area destinations in addition to KY 1441 (Lower Pompey Road). During the initial evaluation of existing conditions, it was determined that portions of KY 1441 (between KY 1789 and KY 3418) have a high crash rate. With a new route and potentially better roadway, it is expected that some of the traffic currently using KY 1441 will shift to Upper Pompey Road and use the new connector. With a reduction in vehicles on KY 1441, there may be a corresponding reduction in the number of crashes on this roadway. Appropriate changes should be incorporated during detailed design to Upper Pompey Road to accommodate additional traffic volume and not increase the crash rate on this road.

The Fishtrap Lake project has been mined extensively underground to the point where subsidence cracks on land are so severe that hunters and hikers are "at their own risk" when walking the projects lands, and firefighters are not allowed to fight fires at night. Review of underground mine mapping revealed that about 30 - 40 percent of project lands have abandoned underground mines⁶. The proposed connector would not increase ability to access these affected areas and would therefore not be expected to have any effect on safety with respect to subsidence cracks.

Under the No Action alternative traffic patterns and flow would not be expected to change. Therefore, no change with respect to public safety would occur.

8.3 Socioeconomic Resources

Some socioeconomic data relevant to this study follow⁷.

- In 2006 there were 28,000 households in Pike County. The average household size was 2.4 people.
- In 2006, 84 percent of the people at least one year old living in Pike County were living in the same residence one year earlier; 10 percent had moved during the past year from another residence in the same county, 2 percent from another county in Kentucky, 3 percent from another state, and less than 0.5 percent from abroad.
- Eighty-five percent of Pike County workers drove to work alone in 2006, 10 percent carpooled, less than 0.5 percent took public transportation, and 3 percent used other means. The remaining 1 percent worked at home. Among those who commuted, it took them on average 24 minutes to get to work.
- In 2006, Pike County had 28,000 occupied housing units - 21,000 (75 percent) owner occupied and 7,000 (25 percent) renter occupied. Seven percent of the households did not have telephone service and 10 percent of the households did not have access to a car, truck, or van for private use. Multi-vehicle households

⁶ Deyer, David. Booker Associates, Inc. Field Reconnaissance 1994.

⁷ US Census Bureau, 2006 American Community Survey

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were not rare. Thirty-nine percent had two vehicles and another 24 percent had three or more.

The above data indicate a relatively low transient population, and in fact most residents in the county tend to remain in the county. However, past census information indicate annual fluctuations in population of the county likely depending on coal mining activities. Travel time to work is 1 minute less than the national average of 25 minutes. Use of public transportation is very low in comparison to the national average of about 5 percent, likely because of the rural nature of the county.

The proposed road would be expected to have minor yet positive impacts on socioeconomic resources of the county from the improved access to Pikeville for a number of residences. However, it is recognized that the increases in traffic that would be experienced by those residents on Upper Pompey Road could be considered a negative effect. The increase in traffic would not be significant enough to change the road classification and therefore would not be considered a significant impact.

The proposed connector would provide for improved access and opportunity for expansion of the Fishtrap Lake State Park. This would be expected to have a positive impact on socioeconomic conditions in the local area from revenues resulting increased availability of recreation opportunities.

The No Action alternative would not be expected to have any effects of socioeconomics.

8.4 Recreation

Recreation is a congressionally authorized purpose at the Fishtrap Lake project. Improved recreation areas at the project include: the Grapevine Recreation Area, Lick Creek Site, a ballfield and recreation area below the dam, and the marina/boat launch area at the dam site. The marina has a commercial boat dock, concession and bait sales area, with slips for small boats and a docking area for larger boats. The docking area was relocated from a cove area in front of the dam and parking lot in 1994.

Recreation opportunities within the potentially affected environment of the proposed connector include boating, fishing and camping. This area includes the approximate 15-acre dam site area (marina, boat launch ramp and parking), and the 296-acre Fishtrap Lake State Park. The marina and boat ramp are heavily used during the warmer months. The state park currently has little development, primarily consisting of eight RV sites equipped with water, electric, and sewage dump (no direct RV to sewer connection).

The proposed connector would only have a minor contribution in providing for recreation development with respect to the project objective of diversification of the Pike County economy. However, this action would provide opportunities for development of the Fishtrap Lake State Park because of the increased access through the park area. During construction of the road some minor impacts to recreation would be expected from the short-term closing of a portion of the state park to facilitate the construction.

Under the No Action there would be no change to recreation.

Fishtrap Road Project Environmental Assessment, Pike County Kentucky

8.5 Cultural Resources

Thirty prehistoric archeology sites are recorded on Federal property at Fishtrap Lake, consisting of 25 open habitation sites and five Late Prehistoric village sites, Twenty-three sites have been inundated, either seasonally or permanently, and one has been destroyed (USACE 1993). There are no sites or buildings on the National Register of Historic Places (NRHP).

The terrain which the proposed road would traverse is very steep and well elevated above the original stream. Therefore, it is very unlikely any archeological resources are present. Pursuant to Section 106 of the National Historic Preservation Act, no adverse effect on historic properties would be expected from either the proposed action or the No Action alternative.

8.6 Fish and Wildlife Resources

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has a license with the Corps to manage 15,296 acres for fish and wildlife enhancement and forest management. Featured game species are deer, turkey, squirrel, rabbit, raccoon, and grouse. KDFWR's responsibilities include monitoring and management of fish and wildlife habitats, fish stocking, forest management, and law enforcement. The KDFWR coordinates with the Corps for yearly management plan objectives under their license. None of these managed areas are within the proposed project area.

Fisheries in Fishtrap Lake are managed by the Kentucky Department of Fish and Wildlife Resources. Game fish include largemouth bass, smallmouth bass, spotted bass, white bass, crappie, and trout. The Fishtrap Lake Wildlife Management Area (WMA) is open to public hunting and trapping under Kentucky hunting laws. Other types of recreation provided by the WMA include picnicking, hiking, berry picking, and fishing. Featured game include rabbit, raccoon, deer, turkey, grouse, squirrels and trapping for mink and otter.

The proposed connector would directly affect about 9 acres of steep, wooded land that would be permanently converted to roadway. The road would be constructed above the elevation of 790 feet msl, and thus clearing for the road would have no effect on lake quality other than minor turbidity increased during construction. The propose project area is leased for operation of the Fishtrap Lake State Park and is not managed for fish and wildlife. No significant impacts to fish and wildlife resources would be anticipated.

The No Action alternative would have no effect in fish and wildlife resources.

8.7 Ecological Resources

The Levisa Fork Basin lies wholly within the physiographic province known as the Appalachian Highlands. Water quality at Fishtrap Lake is characterized as good. A water body assessment prepared by the Kentucky Division of Water in 1992 for Fishtrap Lake concluded that it fully supported all of its state designated uses and that there were no sources of impairment under the Clean Water Act (33 U.S.C. §1251, et. seq.) (Kentucky Division of Water 1994). The lake exceeds state standards as a warm water aquatic habitat under Kentucky Division of Water Administrative Regulations, Title 401,

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Chapter 5:03 1, Section 4, Aquatic Life, for DO, pH, and temperature, and for Recreational Waters under Section 6. Turbidity levels are good even with the rapid sedimentation rates in the lake. During the summer the lake stratifies, with the hypolimnion usually depleted of oxygen. This anoxic condition is magnified by the rapid sedimentation rate that Fishtrap Lake is experiencing. Fishtrap Lake is experiencing sedimentation at a higher rate than anticipated in the design of the project. The "Report on the 1993 Sedimentation Survey, Big Sandy River Basin, Louisa Fork, KY" (USACE Huntington District, 1995) states that since the project began operations in 1968, to 1993, 13,572 acre-feet of sediment have been deposited in the lake. The soils in the watershed are not prone to suspension⁸. Many wetland-type areas have developed over time due to sedimentation entering the lake at mouths of creeks thus forming marsh areas.

The proposed action would directly disturb approximately 9 acres of steep hillside land. This disturbance would be from clearing of vegetation and grading of the roadbed along the contour from the dam site and along the embayment of Upper Pompey Branch to join with the existing Upper Pompey Branch Road where the pavement currently ends. Due to the limited extent of disturbance, impacts to terrestrial resources would be considered minor. Effects on aquatic resources are expected to be minor and only potentially occur from runoff entering the lake during construction. With use of Best Management Practices (BMP) such as silt fencing, straw bales, and other sediment control measures, these effects would be very small. No wetlands are within the proposed project area. Air quality impacts during construction would result from use of gasoline and diesel powered equipment and fugitive dust; however such impacts would be expected to be minor – thus emission would not exceed *de minimis* levels or direct emissions of a criteria pollutant or its precursors and is exempted by 40 CFR Part 93.153, because of the limited scale of the construction activities with use of above referenced BMP's.

The No Action alternative would have no effect on ecological resources.

8.8 Threatened and Endangered Species

There are no confirmed federally endangered or threatened species residing at Fishtrap Lake project.

The federally listed endangered Indiana bat (*Myotis sodalis*) is found over most of the eastern half of the United States, including Kentucky. Kentucky supports an estimated population of 62,000 animals. The 2005 total population estimate is about 457,000 Indiana bats, half as many as when the species was listed as endangered in 1967.⁹ The proposed project area may have trees that could be used for summer roosting. To avoid any impacts to the Indiana bat, all clearing for the proposed road would be done in the bat's dormant period. No other federally listed species would occur within the affected area of the proposed project. Pursuant to the Fish and Wildlife Coordination Act Public Law 85-624 (16 U.S.C. 661 note; 72 Stat. 563), initial coordination with the US Fish and

⁸ Environmental Baseline Analysis for the Operations and Maintenance of Fishtrap Lake Levisa Fork Basin of the Big Sandy River Basin Pike County, Kentucky, USACE Huntington District December 1996.

⁹ US Fish and Wildlife Service, Ecological Services, Region 3.

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Wildlife Service, is accomplished by review of this document; however, additional coordination would be made should funding for road construction be appropriated.

The Cerulean warbler is a species of concern – meaning it might be in need of concentrated conservation actions. (Species of concern are not protected under the Endangered Species Act). The Cerulean warbler’s core breeding area includes eastern Kentucky. Cerulean warblers nest and raise their young in large tracts of deciduous hardwood forests that have tall, large-diameter trees and diverse vertical structure in the forest canopy. Gaps in the forest canopy or small forest openings appear to be important. Migratory and winter season habitats are not well known. This species may prefer primary forests with older-growth conditions, but has been found in second-growth forests and shade-grown coffee plantations. Similar to breeding habitat, multiple layers of vegetation in the forest canopy appear to be important. Because the tree clearing necessary for the proposed road construction is minimal, little impact to potential habitat for the warbler would be expected.

The No Action alternative would have no effect on endangered or threatened species.

8.9 Cumulative Effects

The cumulative effects analysis qualitatively presented below is based on the potential effects of the proposed project when added to similar impacts from other projects in the region. An inherent part of the cumulative effects analysis is the uncertainty surrounding actions that have not yet been fully developed. The CEQ regulations provide for the inclusion of uncertainties in the analysis and states that “when an agency is evaluating reasonably foreseeable significant adverse effects on the human environment....and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking” (40 CFR 1502.22). The CEQ regulations do not state that the analysis cannot be performed if the information is lacking. Consequently, the analysis documented in this section includes actions that could be reasonably anticipated to occur during the lifetime of the road project and likely to have cumulative effects on a particular resource within the region of influence.

The proposed project would disturb approximately 9 acres for construction of a road connector between the existing Fishtrap Lake dam site and Upper Pompey Road. Past actions that may contribute to cumulative effects would be the construction of the Fishtrap Lake project, road construction and surface mining activities. Likewise, reasonably foreseeable future actions that would have similar impacts are road construction, as detailed under “Evaluation of Planned Improvements”, and surface mining activities. The region of influence considered for most resources that may be impacted from the proposed actions together with other actions is rather limited, and for most resources is the dam site area.

Only those resources that may be substantially affected from multiple actions including the proposed action were considered in this cumulative effects assessment. The proposed project would have only minor direct and indirect effects on various resources, as previously discussed. Those effects that would last only though the period of construction are not likely to have significant cumulative effects, such as minor increases in turbidity of the lake. Therefore, this assessment considered those resources that may be impacted in the long term. A temporal horizon beyond 50 years would be highly

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speculative and therefore this period seems appropriate where making initial assessment of significance of cumulative impacts on a particular resource. Those resources affected for the life of the project would be transportation, socioeconomics, recreation and terrestrial resources. Because an objective of the project was to improve transportation, any impacts from the project including cumulative effects should be positive. Similarly, improved access from the project and enhanced opportunities for recreation would be expected to be positive. As previously stated, approximately 9 acres of terrestrial habitat would be permanently converted to roadway. Vast areas of the county have or will be surfaced mined and many large road construction projects are planned. Considering the scale of the proposed action to those past and reasonably foreseeable future actions, no significant cumulative impacts would be expected.

9.0 Conclusions

The goals for the Fishtrap Road Project, as jointly developed by the Corps, agencies and stakeholder are to:

- *Decrease travel time or improve access for those communities whose access was directly impacted by construction of the Fishtrap Lake Project; specifically the areas of Upper Pompey, Jonican Branch, River Hurricane, and Grapevine.*
- *Enhance the potential for recreation development that would provide significant long-term economic stimulus for Pike County.*

No road alternative was identified that would provide for significant economic input for Pike County. However, a connector roadway between the Fishtrap Dam site and Upper Pompey Road would reasonably provide improvements in travel times and would also enhance opportunity for development of the Fishtrap Lake State Park.

The key findings for the impacts associated with the development of a new connector roadway between the Fishtrap Dam site and Upper Pompey Road are summarized below.

- Reduction of approximately 15 minutes for trips from Upper Pompey Road to Pikeville with the construction of a new connector roadway.
- Reduction of only approximately 6 minutes for trips between Jonican Road and River Hurricane Branch to Pikeville with the construction of a new connector roadway.
- Improved access and travel time from Upper Pompey Road to Millard Elementary School and Millard Middle School with the new connector roadway. Travel times to these schools are approximately 25 - 26 minutes whereas with the new roadway, the travel time is reduced to approximately 8 - 10 minutes.
- Improved access and response time for emergency response vehicles with the construction of the connector roadway. The Millard Volunteer Fire Department becomes the closest emergency response station to Upper Pompey Road, and response times range from 8 - 13 minutes depending on the specific location along Upper Pompey Road.
- Provides an alternate route to KY 1441 which may lower the crash rate on this roadway.

Fishtrap Road Project Environmental Assessment, Pike County Kentucky

- Increased traffic volume on Upper Pompey Road. An additional 210 vehicles per day may utilize Upper Pompey Road with the construction of the connector bringing the total volume on that roadway to 310 vehicles per day.
- Increased pavement width of 8 – 11 feet may be required to accommodate the additional traffic volume on Upper Pompey Road.

No significant impacts to the human environment would be expected from implementation of the proposed connector. Because this plan bests addresses the goals and objectives and can be implemented to meet the planning constraints, it is the selected plan.

ATTACHMENT 1

Draft Finding of No Significant Impact

**Finding of No Significant Impact
Fishtrap Road Project, Pike County Kentucky**

1. I have conducted an environmental assessment in the overall public interest concerning implementation of the Fishtrap Road Project. The purpose of this project is to decrease travel time or improve access for those communities whose access was directly impacted by construction of the Fishtrap Lake Project; and, to enhance the potential for recreation development that would provide significant long-term economic stimulus for Pike County.

2. The possible consequences of the project have been studied for biological, cultural and social effects. Another factor bearing on my assessment was the capability of the project to meet the public needs for which it was proposed. The following references that assessment:

a. Biological Considerations. The Huntington District has taken reasonable measures to assemble and present the known or foreseeable environmental impacts of the project in the environmental assessment. These impacts involve biological and human resources. No impacts to biological resources would occur as a result of the proposed action. All adverse effects of project implementation are insignificant or may be avoided through management techniques.

b. Social Well-Being Considerations. The proposed project will improve access for the affected communities to Pikeville and somewhat reduce emergency response time. No significant economic or social well-being impacts are foreseen as a result of the proposed action. No archeological resources are recorded in the project area and the selected project alternative would not impact significant unrecorded archeological sites.

c. Coordination with Resources Agencies. Pursuant to the Fish and Wildlife Coordination Act (FWCA) of 1958, coordination with the U.S. Fish and Wildlife Service has been made. No significant effects on fish and wildlife would occur as a result of the proposed action. Also, in accordance with the Endangered Species Act, as amended, the recommended plan would not impact listed species.

d. Other Pertinent Compliance. The proposed action is also in compliance with the National Historic Preservation Act, (Section 10632 CFR 300), Executive Order (EO) 11988 (Floodplain Management) and EO 11990 (Protection of Wetlands).

e. Other Public Interest Considerations. There has been no significant opposition to the proposed action by State or local Governments, or organized environmental groups. Comments received during the public review period have been included in the Final Environmental Assessment. There are no unresolved issues regarding the implementation of the project.

f. Section 176(c) Clean Air Act. The proposed action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the proposed action will not exceed *deminimis* levels or direct emissions of a criteria pollutant or its precursors and is exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Districts' continuing program responsibility and generally cannot be practicably controlled by the District. For these reasons a conformity determination is not required for this action.

5. I find the Fishtrap Road Project has been planned in accordance with current authorization as described in the Environmental Assessment. The project is consistent with National policy, statutes, and administrative directives. This determination is based on thorough analysis and evaluation of the project and alternative courses of action. In conclusion, I find the proposed Fishtrap Road Project will have no significant adverse effect on the quality of the human and/or natural environment.

DATE

DANA R. HURST
Colonel, Corps of Engineers
Commanding

ATTACHMENT 2

Section 4(f) Evaluation*

*Department of Transportation (DOT) Act of 1966 (Title 49 United States Code (U.S.C.), Section 1653(f).)

Section 4(f) Evaluation

Introduction

The proposed Upper Pompey Branch – Dam Site connector alternative would require acquisition of publicly owned property currently used for recreation. Therefore, Section 4(f) of the U.S. Department of Transportation (DOT) Act of 1966, as amended, applies to the proposed Project. This document presents a Section 4(f) evaluation for this Project.

Description of Section 4(f)

Section 4(f) legislation protects three basic types of resources: publicly owned park and recreation facilities, publicly owned wildlife and waterfowl refuges, and historic sites. Section 4(f) is codified into federal law under 49 USC Section 303 and 23 USC Section 138, and is implemented through the Code of Federal Regulations (CFR) 23 CFR 771.135.

Section 4(f) requires that the Secretary [of Transportation] may approve a transportation program or project...requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if:

1. There is no prudent and feasible alternative to using that land; and
2. The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) further requires consultation with the US Department of the Interior and other Federal Agencies and appropriate State and/or local agencies that use or have jurisdiction over the lands protected by Section 4(f).

In determining that there is no prudent or feasible alternative, the Agency must find that supporting information demonstrates that there are unique problems or unusual factors involved in the use of alternatives that would avoid these properties; such as a finding that the cost, social, economic, and environmental impacts, or community disruption resulting from such alternatives reach extraordinary magnitudes.

Use of a 4(f) Resource

Use of a Section 4(f) resource occurs in the following circumstances:

1. When land is permanently incorporated into a transportation facility;
2. When there is a temporary occupancy of land that is adverse in terms of the statute's preservationist purpose; or

3. When there is a constructive use of land, which occurs when the transportation project does not incorporate land, but its proximity impacts substantially impair the activities, features, or attributes that qualify a resource for protection under Section 4(f).

This Section 4(f) evaluation has been prepared because the Upper Pompey Branch – Dam Site connector alternative would permanently incorporate a Section 4(f) resource into a road alignment

Evaluation of Avoidance Alternatives

An alternative that avoids impacts on a Section 4(f) resource must be selected if it is determined to be feasible and prudent – unless a no action alternative is chosen instead. A feasible and prudent avoidance alternative avoids using the Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property.

An avoidance alternative is not considered feasible if it cannot be built as a matter of sound engineering judgment. An avoidance alternative is not considered prudent if:

- It does not meet the project purpose and need,
- It involves extraordinary operational or safety problems,
- There are unique problems or truly unusual factors present with it,
- It results in unacceptable and severe social, economic or other environmental impacts,
- It would cause extraordinary community disruption,
- It has additional construction costs of an exceptional magnitude, or
- There is an accumulation of factors that collectively, rather than individually, have adverse impacts that present unique problems or reach extraordinary magnitudes.

Measures to Minimize Impacts

If no feasible and prudent avoidance alternative is identified, all possible planning is applied to identify measures to minimize harm or to mitigate for adverse impacts to the Section 4(f) property. With regard to public parks and recreation areas, measures may include but are not limited to design modifications or design goals; replacement of land or facilities of comparable value and function; or monetary compensation to enhance the remaining property or to mitigate the adverse impacts of the project in other ways.

Summary

This Section 4(f) evaluation includes documentation of the Section 4(f) resources, studies of alternative alignments, and consultations with appropriate agencies. In addition, this evaluation ensures that the proposed action includes all possible planning measures to minimize harm to the affected property.

Project Description

This section summarizes the Purpose and Need and the Proposed Road Alignment, both of which are described in more detail in the environmental assessment. Figure 1 shows the study area.

Purpose and Need

The economy of Pike County is largely centered on coal mining. The coal industry accounts for about 57 percent of dollar inflow to the county. A diverse economy is considered more stable than an economy based largely on a few industry segments. It was recognized that increased recreational use of the Fishtrap site may help provide economic diversification for the region. Also, construction of Fishtrap Lake closed the most direct road access to Pikeville via US 460, which was rerouted around the lake.

The purposes for the project were defined as improvement of access to Pikeville for the residents of the communities of Upper Pompey, Jonican Branch, River, Hurricane, and Grapevine; and economic diversification for the area through recreational development.

Proposed Action

A connector between the Fishtrap Dam site and Upper Pompey Road (the connector) would extend from the Dam site area, approximately following the 800-foot (msl)[?] contour, to Upper Pompey Road where the pavement currently ends. Upper Pompey Road currently has a low-water ford near its terminus near the lake. The minimum road width would be 27 feet, except in sections with guardrails where the minimum width could be reduced to 22 feet. A bridge or culvert would be necessary. A maximum speed limit of 25 mph would be appropriate for the reach through Fishtrap State Park. Figure 11 shows the proposed road alignment.

Section 4(f) Properties

The study area contains public recreational land consisting of the Fishtrap Lake Dam Site, and the Fishtrap Lake State Park, and historic properties.

Historic Properties – Not Impacted by Project

Thirty prehistoric archeology sites are recorded on Federal property at Fishtrap Lake, consisting of 25 open habitation sites and five Late Prehistoric village sites. Twenty-three sites have been inundated, either seasonally or permanently, and one has been destroyed (USACE 1993). There are no sites or buildings on the National Register of Historic Places. The terrain which the proposed road would traverse is very steep and well elevated above the original stream. Therefore, it is very unlikely any archeological resources are present.

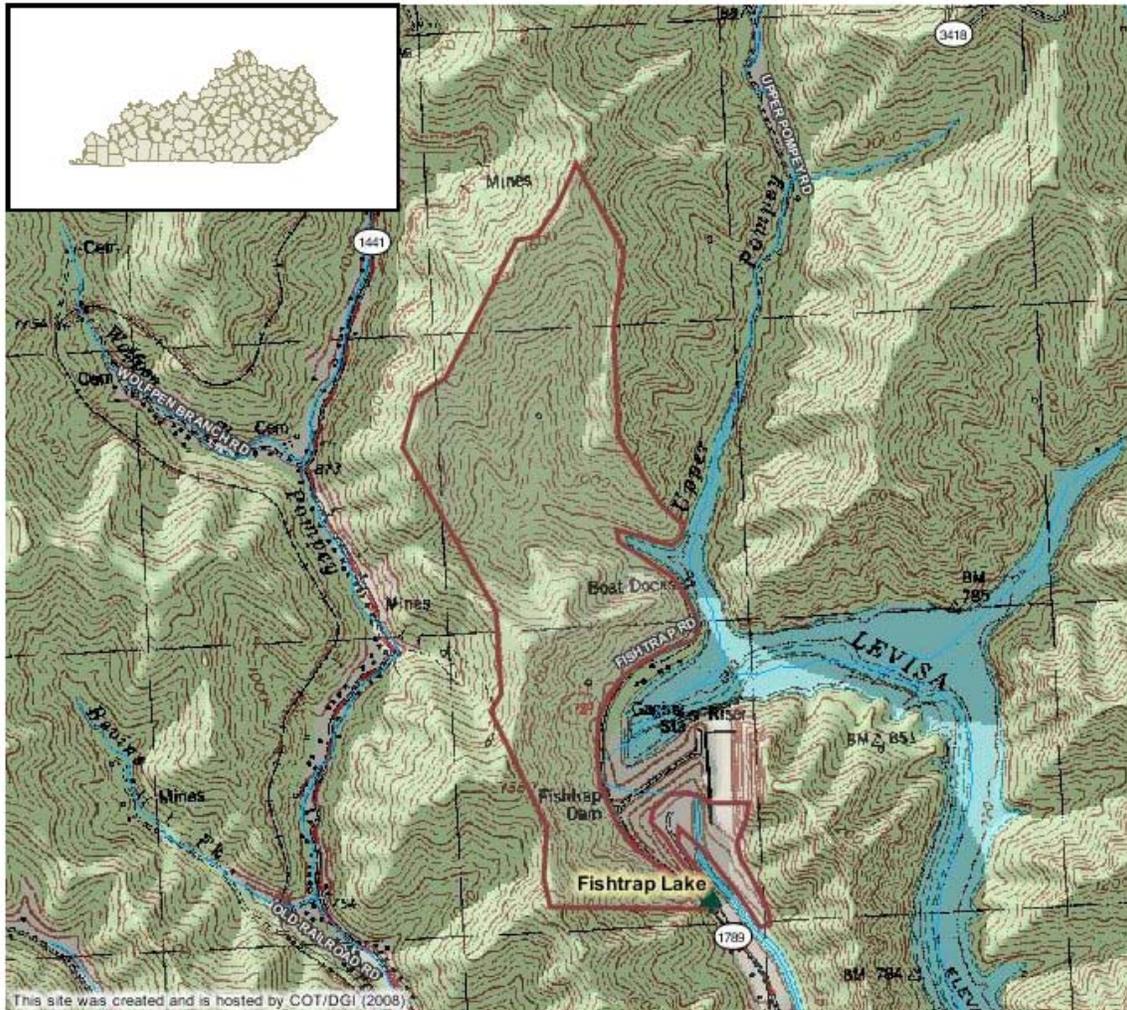
Public Recreation Land – Impacted by Project

The U.S. Army Corps of Engineers developed Fishtrap Lake after the people of Levisa Fork valley expressed the need for flood control along the Ohio and Big Sandy Rivers. The Army Corp of Engineers broke ground on the project in 1962, and President Lyndon

Johnson dedicated the project upon its completion in 1968. Nestled among mountains and dense forests, the Fishtrap Lake area provides opportunity for the enjoyment of several recreational activities.

Fishtrap Lake State Park

The proposed project area primarily comprised of a portion of the 296 acres leased for the operation of the Fishtrap Lake State Park, and is not managed as a fish and wildlife refuge. The State Park currently has little development, primarily consisting of eight RV sites equipped with water, electric, and sewage dump. Recreational activities include: fishing and hunting, off-roading, camping, birding, hiking/recreational trails, horseback riding, and mountain biking.



Fishtrap Lake Project

The project consists of 15,429 acres owned in fee by the US Government and a 203 acre flowage easement. United States Army Corps of Engineers (Corps) Project operation areas comprise 37 acres. There are 60 acres of recreational area, and 15 acres leased for a private marina at the Dam site. The 15 acre Dam site area includes the marina, a boat launch ramp, and parking. Recreation activities include boating and fishing.

Impact on 4(f) Resource

The connector road would begin at the Dam site area, and would extend approximately along the 800-foot contour to Upper Pompey Road where the pavement currently ends for an approximate total length of 1.5 miles. The minimum road width would be 27 feet, except in sections with guardrails where the minimum width could be reduced to 22 feet. The connector road would use approximately 9 acres of the recreational resource. The area affected by the road is approximately 3% of the 4(f) resource. Recreational activities would not be impacted by the connector road.

Avoidance Alternatives

The Fishtrap Lake Project area surrounds Fishtrap Lake (Figure 1). In order to avoid recreational lands, the roadway would need to connect to County Road 3418, Upper Pompey Road, Jonican Road or River Hurricane Branch from the north and west. Because of the steep terrain, direct connections to other roadways leading to Pikeville are not feasible. Roadways would have to follow the contour lines of the terrain, increasing their length; therefore they would also not be prudent.

No Action

Under the No Action Alternative there would be no federal involvement with construction of a road at Fishtrap Lake. The Corps, the Kentucky Transportation Commission, and appropriate lessees would continue to maintain the existing roads and lands serving the Fishtrap Project.

Findings

Under the No Action Alternative there would be no use of Section 4(f) resources. However, this alternative is not considered prudent, because it clearly would not meet the Project's stated purpose and need to improve access to Pikeville for the residents of the communities of Upper Pompey, Jonican Branch, River, Hurricane, and Grapevine; and encourage economic diversification for the area through recreation development.

Conclusion

No feasible and prudent avoidance alternatives were identified for this Project. It was determined that the No Action alternative would not be prudent, due to its failure to meet the Project purpose and need.

Measures to Minimize Harm

If there are no feasible and prudent avoidance alternatives, then all possible planning is applied to identify measures to minimize harm to the Section 4(f) resource.

The connector road would meet State standards for rural roads and have the minimum width possible while meeting those standards to minimize the area impacted. In addition, prudent practices would be followed in the construction of the road to minimize temporary impacts to the site.

Summary

Modifying the route to avoid all Section 4(f) resources altogether would not be feasible and/or prudent for the following reasons:

1. The project objectives would not be met.
2. There would be major adverse impacts to the natural environment from an avoidance alternative.
3. The monetary costs associated with avoidance would be high.

Based upon the analysis presented in this report, the connector between the Fishtrap Dam site and Upper Pompey Road would cause the least harm to the Section 4(f) recreational property. This alignment includes all possible planning to minimize harm to the Section 4(f) recreational resources resulting from such use, and would:

1. have the lowest level of effects to the natural environment;
2. provide additional access to Fishtrap Lake State Park;
3. provide additional opportunities for development of the Fishtrap Lake State Park;
4. improve access of residents to Pikesville.

The current recreational facilities and opportunities at the Fishtrap Lake Project and Fishtrap Lake State Park would continue to be impacted by the construction of the connector road. The recreational facilities and opportunities would be more accessible as a result of the construction of the connector road.

Conclusion

Based upon the above considerations, there is no feasible and prudent alternative to the use of the Fishtrap Lake Project and Fishtrap Lake State Park sites. However, the connector road includes all possible planning to minimize harm to the recreational property resulting from such use.

Fishtrap Road Study and Environmental Assessment

Public Agency Comment Period 03 March 2009 – 03 April 2009

Comments Received



ENERGY AND ENVIRONMENT CABINET

Steven L. Beshear
Governor

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
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Leonard K. Peters
Secretary

April 10, 2009

Mr. John S. Preston, Chief
Planning Branch
U.S. Army Corps of Engineers
502 Eighth Street
Huntington, WV 25701

Re: Draft Fishtrap Road Study Environmental Assessment (SERO 2009-3)

Dear Mr. Preston,

The Energy and Environment Cabinet serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act (NEPA). Within the Cabinet, the Commissioner's Office in the Department for Environmental Protection coordinates the review for Kentucky state agencies.

We received your letter that requested our review of the Draft Environmental Assessment. We appreciate the opportunity to provide comments on the document. The document was distributed to eleven state agencies and responses were received from three agencies. The Division of Water, Division for Air Quality, and Department of Natural Resources provided written comments and those documents are attached. If you have any questions, please contact me at (502)564-2150.

Sincerely,

A handwritten signature in cursive script that reads "Larry Taylor".

Larry C. Taylor
State Environmental Review Officer

**COMMONWEALTH OF KENTUCKY
STATE ENVIRONMENTAL REVIEW PROCESS**

Project Number: SERO 2009 -3

Draft Environmental Assessment

Project Title:

Draft Fishtrap Road Study Environmental Assessment

The following Commonwealth of Kentucky agencies make up the State Environmental Review Process. Their response is listed below. Agencies that did not receive the document for review or did not respond are also noted.

REVIEWING AGENCIES:	RESPONSE:
Division of Water.....	COMMENTS ATTACHED
Division of Waste Management.....	NO COMMENT
Division for Air Quality.....	COMMENTS ATTACHED
Department for Public Health.....	Not Sent for Review
Cabinet for Economic Development.....	Not Sent for Review
Division of Forestry.....	No Response Received
Department of Parks.....	No Response Received
Department of Agriculture.....	Not Sent for Review
Nature Preserves Commission.....	No Response Received
Kentucky Heritage Council.....	No Response Received
Division of Conservation.....	No Response Received
Department for Natural Resources.....	COMMENTS ATTACHED
Department of Fish and Wildlife Resources....	No Response Received
Transportation Cabinet.....	No Response Received
Department for Military Affairs.....	Not Sent for Review

Division of Water Comments

Fishtrap Road Project Environmental Assessment

Endorsement:

A request for review of the Fishtrap Road project Environmental Assessment in Pike County, Kentucky was received on March 26, 2009. The Division of Water (DOW) completed this review and has provided the following comments.

Compliance & Technical Assistance Branch:

Reviewer did not respond.

Water Quality Branch:

Reviewer did not respond.

Watershed Management:

No permits/formal approvals or comments are required at this time for 'Floodplain Construction' activities or 'Water Withdrawal/Water Management Planning'. A further review may be required when route is determined and just prior to actual project commencement.

Second reviewer did not respond.

Enforcement Branch:

No comments.

Division for Air Quality Comments

DAQ Comments: Draft Fishtrap Road Study – Env. Assessment (SERO 2009-3)

As this project is presented, the owner or operator of this company should comply with any applicable Division for Air Quality permitting requirements contained in 401 KAR Chapter 52 Permits, Registrations, and Prohibitory Rules located at <http://www.lrc.state.ky.us/kar/TITLE401.HTM> and <http://www.air.ky.gov/permitting/>. For permitting information, please contact the Division for Air Quality Permit Review Branch Manager, at (502) 564-3999.

Kentucky Division for Air Quality Regulation **401 KAR 63:010** Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please see the Fugitive Emissions Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm

Kentucky Division for Air Quality Regulation **401 KAR 63:005** states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm

The Division also suggests an investigation into compliance with applicable local government regulations.

Department for Natural Resources Comments



**ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR NATURAL RESOURCES**

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Leonard K. Peters
Secretary

Carl E. Campbell
Commissioner

MEMORANDUM

TO: Carl E. Campbell, Commissioner
Department for Natural Resources

THROUGH: Ronald P. Mills, Director *RM*
Division of Mine Permits

FROM: Robert Frazier, Supervisor *RF*
Courtney G. Skaggs, Supervisor *CS*
Division of Mine Permits

DATE: April 7, 2009

SUBJECT: Fishtrap Road Project Environmental Assessment

The documentation provided from the Department of the Army shows a proposed road alignment from the Fishtrap Lake Dam to Upper Pompey Road. Upon evaluation of the Fishtrap Road Project Environmental Assessment it does not appear that active or pending surface coal mining operations will have an impact on the proposed connector alignment.