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FINAL SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

**PROPOSED PICKWICK PINES MARINA INC.  
YELLOW CREEK EMBAYMENT AT MILE 448.4R  
ON THE TENNESSEE-TOMBIGBEE WATERWAY  
PICKWICK RESERVOIR  
Tishomingo County, Mississippi**

TENNESSEE VALLEY AUTHORITY  
(LEAD AGENCY)

U.S. ARMY CORPS OF ENGINEERS  
(COOPERATING AGENCY)

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## ACRONYMS AND ABBREVIATIONS

<b>AADT</b>	Annual Average Daily Traffic
<b>AASHTO</b>	American Association of State Highway Transportation Officials
<b>BMP</b>	Best Management Practice
<b>CFR</b>	Code of Federal Regulations
<b>CWA</b>	Clean Water Act
<b>DA</b>	U.S. Department of the Army
<b>dB</b>	Decibel
<b>etc.</b>	Latin term <i>et cetera</i> meaning “and other things” “and so forth”
<b>e.g.</b>	Latin term, <i>exempli gratia</i> , meaning “for example”
<b>EIS</b>	Environmental Impact Statement
<b>FEA</b>	Final Environmental Assessment
<b>FONSI</b>	Finding of No Significant Impact
<b>FRP</b>	Flood Risk Profile
<b>HCM</b>	Highway Capacity Manual
<b>i.e.</b>	Latin term, <i>id est</i> , meaning “that is”
<b>ITE</b>	Institute of Transportation Engineers
<b>L</b>	Left Bank
<b>LOS</b>	Level of Service
<b>LRFD</b>	Load and Resistance Factor Design
<b>MDEQ</b>	Mississippi Department of Environmental Quality
<b>MDOT</b>	Mississippi Department of Transportation
<b>No.</b>	Number
<b>PM<sub>2.5</sub></b>	Particulate matter with a diameter less than or equal to 2.5 micrometers
<b>PN</b>	Public Notice
<b>R</b>	Right Bank
<b>RFP</b>	Request for Proposal
<b>SEA</b>	Supplemental Environmental Assessment
<b>SPCC</b>	Spill Prevention Control and Countermeasure
<b>SR</b>	State Route
<b>TCDF</b>	Tishomingo County Development Foundation
<b>TDOT</b>	Tennessee Department of Transportation
<b>Tenn-Tom</b>	Tennessee-Tombigbee
<b>TRM</b>	Tennessee River Mile
<b>TVA</b>	Tennessee Valley Authority
<b>TWRA</b>	Tennessee Wildlife Resources Agency
<b>µg/m<sup>3</sup></b>	Micrograms per cubic meter
<b>U.S.</b>	United States
<b>US</b>	U.S. Highway
<b>USACE</b>	U.S. Army Corps of Engineers
<b>USFWS</b>	U.S. Fish and Wildlife Service
<b>USCG</b>	U.S. Coast Guard

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## CHAPTER 1

### 1.0 PURPOSE OF AND NEED FOR ACTION

On September 15, 2005, a joint application for the construction of a commercial marina was submitted to the Tennessee Valley Authority (TVA), pursuant to Section 26a of the TVA Act, and the U.S. Department of the Army (DA), pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (CWA). The application was amended on February 1, 2006. The application, as amended, proposes to establish harbor limits and requests approval for a new marina with 228 boat slips, a dolphin, fuel dock and pump-out facility, shoreline riprap and retaining wall, boat ramp and bulkhead, dry stack storage building and dock, and approximately 3,000 cubic yards of reservoir dredging to accommodate marina construction. The development would be called the Pickwick Pines Marina and the applicant is Pickwick Pines Marina Inc. (Pickwick Pines). The proposed marina would be located at Tennessee-Tombigbee (Tenn-Tom) Waterway Mile 448.4R (on the right descending bank) in the Yellow Creek embayment of Pickwick Reservoir in Tishomingo County, Mississippi.

The marina would be part of a commercial recreation resort. This proposed use of the site was reviewed in a final environmental assessment (FEA), *Tishomingo County Development Foundation Request for Long-Term Tenure Commercial Recreation Easement Tract XPR-460RE* (TVA 2000a) ("2000 FEA"). TVA issued a Finding of No Significant Impact (FONSI) for this FEA on December 11, 2000. In June 2001, the TVA Board approved changing the allocation for this tract in the *Pickwick Reservoir Land Management Plan* (TVA 2002) to commercial recreation use and granting Tishomingo County Development Foundation (TCDF) an easement to construct and operate a commercial recreation facility. If TCDF fails to construct a commercial recreation facility on this property, TVA can terminate the easement. TCDF subsequently leased the property to Pickwick Pines. Under the easement and lease, plans for the resort and marina and associated land-disturbing activities must be approved by TVA. This supplemental environmental assessment or SEA considers the potential environmental impacts associated with constructing and operating the proposed marina.

A joint Public Notice (PN) No. 05-87-A with TVA and the State of Mississippi was issued by the U.S. Army Corps of Engineers (USACE) on February 17, 2006 (Appendix A), for the application, as amended. The PN provided a location map for the marina (PN No. 05-87-A, sheet 1), the disposal location for the proposed dredge material (sheet 6), and a more detailed description of the proposed development including design drawings of the planned facilities.

In addition to requested harbor limits (PN No. 05-87-A, sheet 3), the application includes the following proposed water-based facilities:

- 228-slip marina (lakeward extension 772 feet) – PN No. 05-87-A, sheet 3 (project layout) and sheet 4 (marina layout)
- Dolphin located at the southeast corner of the marina
- 1,800 linear feet of shoreline riprap and retaining wall

- Fuel dock and pump-out facilities with buoys for a 50-foot no-wake zone – PN No. 05-87-A, sheet 4
- Dry stack bulkhead (30 feet x 40 feet x 14 feet), a service ramp (12 feet wide) including 155 cubic yards of concrete fill, a dry stack building (110 feet x 200 feet), and a dry stack dock (6 feet x 30 feet) – PN No. 05-87-A, sheet 5
- Dredging of two areas – Area 1 (cove area near dry stack dock), approximately 9,000 square feet, and Area 2 (near restaurant and connecting deck), approximately 9,959 square feet. The total dredge is estimated to be approximately 3,000 cubic yards – PN No. 05-87-A, sheet 6.

The scope of this SEA review includes the proposed 228-slip marina and water-based facilities. The environmental commitments identified in the 2000 FEA that apply to construction of this marina are listed in Section 6.0 of this SEA.

### **1.1. The Decision**

TVA approval of the plans for the marina and associated land-disturbing activities is required under the terms of the easement and lease of the property. In addition, Section 26a of the TVA Act requires TVA authorization for any water-use facilities and shoreline alterations in and along the Tennessee River and its tributaries. Section 10 of the Rivers and Harbors Act of 1899 prohibits the alteration or obstruction of any navigable waters of the U.S. unless authorized by USACE. Discharge of dredged or fill materials into waters of the U.S. is prohibited in accordance with the CWA, Section 301, unless authorized by USACE pursuant to Section 404. A TVA Section 26a permit and USACE Section 10 and 404 permits are required for the proposed marina. TVA and USACE must decide whether to issue permits to the proposal (and with what, if any, conditions) or deny the applicant's request.

### **1.2. Other Pertinent Environmental Reviews or Documentation**

*Reservoir Operations Study Final Programmatic Environmental Impact Statement* (TVA 2004a). This environmental impact statement (EIS) was prepared in cooperation with USACE and the U.S. Fish and Wildlife Service (USFWS). It examined proposed changes to TVA's policy for the operation of its reservoir system, including Pickwick Reservoir. This included a detailed evaluation of the recreational use of TVA reservoirs and the impacts associated with such use. On May 19, 2004, the TVA Board decided to adjust TVA's reservoir system operations policy to enhance recreational opportunities.

*Pickwick Reservoir Land Management Plan and Final Environmental Impact Statement* (TVA 2002). The EIS and land plan were prepared to update the 1981 land plan for approximately 19,238 acres of TVA public land on Pickwick Reservoir in Alabama, Mississippi, and Tennessee. The plan is used to guide land-use approvals, private water-use permitting and resource management decisions on Pickwick Reservoir.

*Tishomingo County Development Foundation Request for Long-Term Tenure Commercial Recreation Easement Tract XPR-460RE – Pickwick Reservoir Final Environmental Assessment* (TVA 2000a). The FEA evaluated the potential environmental impacts of

approving a commercial recreation easement over 31 acres of TVA land on Pickwick Reservoir. The actual size of this tract was later determined to be 26 acres.

### **1.3. The Scoping Process**

The agencies issued the first joint PN on this proposal and application, PN No. 05-87, on October 19, 2005. Comments on the proposal were solicited from the public; federal, state, and local agencies and officials; Indian tribes; and other interested parties to help the agencies consider and evaluate impacts of the proposed activity. The public comment period ended for PN No. 05-87 on November 16, 2005. Comments were received from USFWS, Mississippi Department of Environmental Quality (MDEQ), Yellow Creek State Inland Port, Ergon and Magnolia Marine, Crouse Corporation, and approximately 40 property owners who own homes on Yellow Creek embayment near the proposed development.

The USFWS response dated November 16, 2005, stated that based on its records, there are no federally listed or proposed endangered or threatened species that occur within the project area and that the requirements of Section 7c of the Endangered Species Act of 1973, as amended, were fulfilled.

The MDEQ responded by letter dated November 23, 2005, to PN No. 05-87 and requested additional information on the marina design, storm water, and wastewater treatment and maintenance facilities necessary for them to review prior to issuing a 401 Water Quality Certification.

A substantial number of comments on the first PN (No. 05-87) identified concerns about recreational boating congestion, the proposed size, number of slips and lakeward extension of the proposed marina, location of proposed fueling dock, and potential navigational risks. The original marina design contemplated approximately 400 slips, a lakeward extent of 1,600 feet with a distance of 1,475 feet to the Ergon terminal, and the fuel dock and marina entrance on the south side. The navigation community commented that this arrangement posed serious risks for both towboat operators serving the Ergon terminal and the marina itself. Specifically at issue was the large profile of the marina in the embayment restricting maneuverability of the tows, the proximity of the marina to the terminal in the event of a windblown tow, and the location of the entrance and fuel dock on the side closest to the terminal. Commenters also stated that increased recreational boat traffic resulting from the location of the marina entrance and fuel dock posed safety and security issues for the terminal and the added potential of an explosion in the event of a barge colliding with the fuel dock.

TVA and USACE navigation specialists, the U.S. Coast Guard (USCG), Yellow Creek State Inland Port, and local tow experts (Ergon and Magnolia Marine, Crouse Corporation, Ingram Barge Company, and Muscle Shoals Marine Service) met to discuss these navigation safety concerns and possible ways of addressing them on December 6, 2005. As a result, the applicant revised the proposed marina design by relocating some of the associated structures with an overall smaller size (footprint) and a shorter lakeward extension. The revised marina design was submitted to TVA and USACE on February 1, 2006.

Because of the extent of design revision for the proposed marina, a second joint PN (No. 05-87-A), was issued by the agencies on February 17, 2006. The comment period for this

second notice ended on March 18, 2006. Approximately 83 comment letters were received in response to the second notice. Two petitions with 34 names were also received. Common concerns expressed were that the proposed marina would cause additional boating traffic and congestion and safety concerns in the embayment. Environmental concerns related to water quality; fish and wildlife, fuel spills and trash, damage to private property from boat wakes, and the necessity for completing a thorough environmental review were also expressed. The applicant, Pickwick Pines, prepared and submitted a response to these public comments, and it is provided in Appendix C.

The USFWS responded to the USACE's second PN (No. 05-87-A) by letter dated March 20, 2006, again stating that based on its records, there are no federally listed or proposed endangered or threatened species that occur within the project area, and that the requirements of Section 7c of the Endangered Species Act of 1973, as amended, were fulfilled. USFWS suggested that the dredged material be placed in an upland location outside the 100-year floodplain. MDEQ responded to the second PN on March 8, 2006, reiterating their comments regarding information needs in order to obtain a 401 Water Quality Certification. Based on navigation and safety concerns, Ergon terminal objected to the marina proposal in a letter dated March 18, 2006.

#### **1.4. Public Review of the Draft Supplemental Environmental Assessment**

TVA released the draft SEA for public and interagency review on June 14, 2006. Approximately 32 comment responses were received regarding the draft environmental review. TVA also met with a group of Yellow Creek homeowners on July 10, 2006, to better understand their concerns regarding the marina proposal. Common concerns were that the proposed marina and additional boating traffic would cause congestion and safety issues in the embayment. Environmental concerns related to water quality, highway traffic, and damage to private property from boat wakes was also identified.

The USFWS responded by letter dated July 10, 2006, stating that records available do not indicate that federally listed or proposed endangered or threatened species occur within the impact area of the project and that based on the information available, Section 7 of the Endangered Species Act of 1973 has been fulfilled. The Mississippi Department of Wildlife, Fisheries, and Parks responded by e-mail that they did not feel that the proposed marina would have negative impacts on boating safety other than the normal increase in boating accidents that come with increased activity in a certain area. The Mississippi State Historic Preservation Office responded by letter dated November 20, 2006 that they have determined that no properties listed in or eligible for listing in the National Register of Historic Places will be affected and that they have no reservations with the proposed project. Agency response letters are contained in Appendix G.

The Mississippi Wildlife Federation responded by letter dated July 26, 2006, stating that they were concerned about the sale or transfer of public property for private development, continual loss of public lands, and increasing encroachment on important Natural Resource Conservation areas.

#### **Necessary Federal Permits or Licenses**

In addition to the Section 26a permit from TVA and Section 10 and 404 permits from USACE, a Water Quality Certification from the State of Mississippi under Section 401 of the CWA is required. MDEQ issued the Section 401 Certification on October 10, 2006.

National Pollutant Discharge Elimination System storm water construction permits would also be required if activities involve soil disturbance greater than 1 acre.

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## CHAPTER 2

### 2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

This chapter discusses alternatives to the proposed action. Because it was earlier determined that Tract XPR-460RE is a suitable location for a commercial recreation facility, including a marina, based on the 2000 FEA and the Pickwick Reservoir Land Plan and EIS, the only alternative to approving the proposed marina as now designed (and what, if any, conditions to impose on these approvals) is to not approve the marina or the No Action Alternative.

#### 2.1. The No Action Alternative

Under the No Action Alternative, the marina as proposed by Pickwick Pines would not be constructed. However, this would not preclude building a differently designed marina on Tract XPR-460RE. This tract has been allocated for commercial recreation use and TVA's grant of easement to Tishomingo County Development Foundation (TCDF) requires appropriately designed commercial recreation facilities to be constructed on this tract subject to loss of the easement.

#### 2.2. The Build Marina Alternative

Under the Build Marina Alternative, the design of the marina proposed by Pickwick Pines would be approved, and Pickwick Pines would be issued permits for the proposed harbor limits and the construction and operation of a marina with 228 slips, dolphin, fuel dock and pump-out facility, shoreline riprap and retaining wall, boat ramp and bulkhead, dry stack storage building and dock, and approximately 3,000 cubic yards of dredging. The proposed marina facilities and dredging are described in more detail in Appendix A.

#### 2.3. Comparison of Alternatives

The following major sections were evaluated under the No Action and the Build Marina Alternatives:

- Terrestrial Environment (Air Quality, Flora, and Fauna)
- Aquatic Environment (Water Quality, Aquatic Ecology, Wetlands, and Floodplains)
- Human Environment (Socioeconomic Environment, Land Use, Cultural/Historic Resources, Visual Resource, Navigation, Recreation, Transportation, and Noise)
- Natural and Managed Areas

#### **No Action Alternative**

Under the No Action Alternative, the proposed Pickwick Pines Marina would not be built. It is likely that there would be no impacts to environmental resources from construction or operation of a new marina at this location for some period of time. There also would be no economic benefits generated to Tishomingo County, Mississippi, from the proposed marina.

However, because this location has already been determined to be suitable for commercial recreation facilities, it is also likely that such facilities will be constructed on the site some time in the future with impacts similar to those described in this SEA.

### **Build Marina Alternative**

Under the Build Marina Alternative, construction and operation of the proposed Pickwick Pines Marina are not expected to result in significant environmental impacts. No impacts to threatened and endangered species, cultural and historic resources, or wetlands have been identified. Little or no change in air quality is expected. Shoreline alterations including soil disturbances, removal of tree canopy, and any herbicide usage required to construct the marina would have insignificant impacts to flora and fauna with adherence to required best management practices (BMPs). Vegetation removal would be in accordance with environmental requirements, which are expected to reduce water quality and aquatic ecology impacts to insignificant levels. Floodplain impacts would be minimized with adherence to required permit conditions and mitigation measures. The marina would be constructed and operated in accordance with TVA Clean Marina Standards including a pump-out system to handle sanitary wastes. A fuel-dispensing facility would be required to operate in accordance with an approved spill prevention plan. Visual protection requirements would preclude a significant change from the current condition. The marina has been designed to avoid any significant navigation impacts. Recreational boating traffic is expected to increase, but this should not have significant impacts on an individual or cumulative basis. The noise levels associated with this increase are not expected to be significant compared to existing conditions. An increase in traffic on the adjacent roadway would occur but is expected to be insignificant. The development is expected to result in positive effects on the local economy both during construction and operation by increasing employment and income in the local area.

### **2.4. The Preferred Alternative**

TVA has selected approval of the proposed marina with its modified design and subject to identified commitments to enhance environmental protections as its preferred alternative. USACE is precluded from identifying a preferred alternative at this stage of its permitting process.

## CHAPTER 3

### 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

#### 3.1. Introduction

As previously stated, in December 2000, TVA completed an FEA that assessed the potential environmental impacts associated with changing the land-use allocation for the 26-acre TVA tract (XPR-460RE) and making it available through a long-term easement to the TCDF for commercial recreation purposes. A conceptual plan for a commercial recreation facility was used to evaluate potential impacts in the 2000 FEA. This included construction of a convention center, rental cabins, and a 100-slip marina. No significant environmental impacts were identified.

TVA and USACE have now received a proposed marina design. Responding primarily to concerns about navigation risks, an earlier proposed design has already been modified by Pickwick Pines to address those concerns. This chapter provides supplemental information and additional analyses based on the modified design.

#### 3.2. Terrestrial Environment

##### 3.2.1 Air Quality

Air Quality was previously discussed in Section 3.2.1 of the 2000 FEA. Subsequent to completion of the 2000 FEA, the U.S. Environmental Protection Agency significantly lowered the 24-hour  $PM_{2.5}$  from  $65 \mu\text{g}/\text{m}^3$  to  $35 \mu\text{g}/\text{m}^3$ . States are currently evaluating all areas and will make recommendations on designations of attainment status with the new ambient standard by December 2007. Final designations of attainment status will not be made until December 2009. Additional areas, including some rural areas, may no longer be in compliance with the revised, more stringent standard (these would become “nonattainment” areas), and additional measures would have to be taken to reduce emissions of pollutants that contribute to  $PM_{2.5}$  levels in these areas. Based on current ambient measurement data, it appears that Tishomingo County will likely be in attainment of the new standard. EPA is also currently reviewing the NAAQS for ozone and is considering lowering that standard which could impact the area.

Under the No Action Alternative, a marina would not be built at this time, and there would be no impact on  $PM_{2.5}$  levels. However, under the Build Marina Alternative, emissions associated with construction of the marina and its subsequent operation are expected to be relatively trivial and would have little or no effect on regional air quality including  $PM_{2.5}$  levels. More attention may be given to smaller sources of fuel combustion such as internal combustion engines and wood-fired heating devices, but these would likely be addressed through new equipment standards.

##### 3.2.2 Flora

Flora was previously discussed in Section 3.2.2 of the 2000 FEA and the description of the existing flora remains accurate with two exceptions. First, the 2000 FEA states that no federally listed plant species are known from the county, that 79 state-listed plant species

occur in the county, and that 55 such species occur within 5 miles of the project site. Based on current data in the TVA Natural Heritage database, no federally listed species are known from the county, but one candidate plant species for federal listing, monkey-face orchid (*Platanthera integrilabia*), occurs in the county within 5 miles of the sites. Currently, 93 state-listed species are known from Tishomingo County, Mississippi, and 59 such species are known from within 5 miles of the project. No listed or candidate plant species occur on or immediately adjacent to the project tract.

The second change from the 2000 FEA involves the addition of the disposal area associated with the Build Marina Alternative that has now been identified. The subject area is an excavated site that is more than 90 percent bare dirt. The vegetation on the site is representative of disturbed areas in the region. Broom sedge (*Andropogon virginicus*), loblolly pine (*Pinus taeda*), shortleaf pine (*Pinus echinata*), sweetgum, (*Liquidambar styraciflua*), and mimosa (*Albizia julibrissin*) occur in scattered areas. No federally or state-listed or candidate plant species occur on or immediately adjacent to the proposed disposal area. In addition, no uncommon plant communities occur on or near the project lands.

Under the No Action Alternative, the dredge disposal area would remain in its current condition and, barring additional disturbance, would undergo natural revegetation. No significant impacts are anticipated to the general flora of the region or to federally or state-listed species from adopting this alternative for the time being.

Under the Build Marina Alternative, dredge material would be deposited in the identified disposal area. Because the existing vegetation of the main tract and the disposal area is relatively abundant in the vicinity and no uncommon communities occur on the tract, no significant impacts to state or regional flora are expected. Because no federally or state-listed species occur on the tracts, no impacts to such species are expected.

### **3.2.3 Fauna**

Fauna was previously discussed in Section 3.2.3 of the 2000 FEA, and the discussion remains accurate. A 2006 review of the TVA Natural Heritage database indicated no new listed animal species. The proposed project area consists of riparian shoreline and open water habitat. Wildlife in this habitat is abundant locally and regionally. The proposed spoil area has been highly modified and offers little wildlife habitat. Under the No Action Alternative, the proposed marina would not be built, property would remain in its current condition, and there would be no impacts to wildlife on the parcel for the time period. Under the Build Marina Alternative, portions of forested areas on the riparian zone would be removed and the terrain modified. Because of the regional abundance of the wildlife found on this parcel, impacts from the proposed project would not result in significant adverse impacts to terrestrial animal communities. There would be no impacts to threatened or endangered species of wildlife.

## **3.3 Aquatic Environment**

### **3.3.1 Water Quality**

Water quality was previously discussed in Section 3.3.1 of the 2000 FEA and remains accurate; however, it is supplemented with the addition of the following information from the 2004 TVA reservoir monitoring results (TVA 2004b) and the *Water Quality Assessment 2004 305(b) Report Addendum* (MDEQ 2004). Both reaffirmed the determination in the 2000 FEA that overall ecological conditions in Pickwick Reservoir are good, and the TVA

report stated that it had the highest score to date. Most indicators used to evaluate ecological conditions rated good or fair at all locations. Fecal coliform samples collected at 10 locations in the reservoir were within the state water quality criteria. The screening assessment conducted in 1999 in the Yellow Creek embayment has not been updated. In 1999, the assessed embayment sites were highly productive and could be considered eutrophic as indicated by high chlorophyll concentrations.

The addition of dredging and disposal of the dredged material at an off-site location was not previously discussed in the 2000 FEA. The lake bottom material generally consists of mud/sediment and gravel. The proposed activity would remove the existing bottom substrate from about 18,950 square feet in front of the tract, which would expose new substrate of likely the same composition. Approximately 3,000 cubic yards of accumulated lake bottom material would be removed and then placed and stabilized in an upland disposal site. The proposed dredge disposal area is an excavated site, which is more than 90 percent bare dirt. This area is not located adjacent to any stream or water body.

Under the No Action Alternative, the proposed marina would not be built and, therefore, there would be no impacts to water quality at this time. Under the Build Marina Alternative, the proposed Pickwick Pines Marina would be built adjacent to Tract XPR-460RE on Yellow Creek embayment. The marina structures and subsequent boating activity would have no adverse effects to circulation in this section of the embayment. Soil disturbances associated with access roads or other construction activities can cause erosion and sedimentation, and removal of the tree canopy along the shoreline can result in increased water temperatures and adverse impacts to water quality. The improper use of herbicides to control vegetation could also result in runoff and subsequent aquatic impacts. Impacts to water quality may also result in potential impacts to the aquatic biota. Appropriate precautions (see Section 6.0, Commitments) would be taken to minimize these potential impacts.

Fueling and sewage pump-out facilities at the marina can potentially result in leaks or spills into the lake. In addition to state and federal regulations to control potential receiving water impacts, TVA would require that all sewage pump-out facilities and appurtenances have spillproof connections, no overflow piping, and failure alarms. TVA would require that underground storage tanks containing regulated substances such as petroleum products have secondary containment, anchorage to prevent floating during flooding, and a Spill Prevention, Control, and Countermeasures plan. Aboveground storage tanks would be required to be installed and maintained in compliance with applicable requirements. The proposed dredging would be done in the dry behind cofferdams in accordance with commitments listed in Section 6.0. All appropriate BMPs to minimize erosion or runoff of contaminated water would be utilized at both the dredge site and the disposal site. With the application of the measures identified in Section 6.0, potential effects to water quality would be insignificant. Based on the pollution controls to be employed and the anticipated level of recreational activity, no significant change in existing water quality conditions is expected.

### **3.3.2 Aquatic Ecology**

Aquatic ecology was previously discussed in Section 3.3.2 of the 2000 FEA, and the discussion remains accurate. A 2006 review of the TVA Natural Heritage database indicated no new listed aquatic species. Under the No Action Alternative, the proposed marina would not be built and, therefore, there would be no impacts to the aquatic ecology at this time. Under the Build Marina Alternative, the Pickwick Pines Marina would be constructed with the associated shoreline alterations to accommodate the 228-slip marina.

As previously discussed in Section 3.3.1, development activities have a potential to impact the local receiving water body's water quality in the area and therefore also may potentially impact the aquatic biota and ecology. Because TVA would require the use of BMPs as described in TVA's standard 26a permit conditions (see Section 6.0, Commitments), potential impacts to the aquatic community would be insignificant.

The dredge excavation work would have temporary impacts on the aquatic resources with the resulting disturbances of benthic organisms within the work area. However, over a period of time, benthic organisms would invade the excavated area and may provide a more diverse population as a result of removal of silt material. Benthic recruitment into the area would come from adjacent undisturbed areas and from larval drift.

### **3.3.3 Wetlands**

Wetlands were previously discussed in Section 3.3.3 of the 2000 FEA. A review of the 2000 FEA indicates there would be no change in the initial wetlands analysis included in the Affected Environment and Environmental Consequences Section. The dredge disposal area has been previously disturbed and contains no wetlands.

### **3.3.4 Floodplains**

Floodplains were previously discussed in Section 3.3.4 of the 2000 FEA, and the discussion remains accurate. Under the No Action Alternative, there would be no construction within the 100-year floodplain at this time and, therefore, no floodplain impacts. Under the Build Marina Alternative, the following facilities would be constructed: a dry boat storage building, floating villa dock, floating boat slips, floating fuel dock, fuel storage tanks, fixed dock, boat launching ramp, riprap, and bulkhead. Two reservoir areas would also be dredged to maintain water depth at low-pool elevations.

The floating boat slips, floating fuel dock, fixed dock, boat launching ramp, bulkhead, riprap, and dredging would be located within the 100-year floodplain. Consistent with Executive Order 11988, these are considered repetitive actions in the floodplain that should result in minor impacts provided the excavated material is spoiled outside of the floodplain. According to the plans, all excavated material would be spoiled on private land above the TVA flood risk profile (FRP) elevation. The fuel storage tanks would be located on existing ground outside of the 100-year floodplain and above the FRP elevation. The project would be consistent with the TVA Flood Control Storage Loss Guideline because there would be less than 1 acre-foot of displaced flood control storage.

To help ensure the Build Marina Alternative action would have no adverse effect on floodplains and flood control, the permit conditions and mitigation measures listed in Chapter 6 would be implemented.

## **3.4 Human Environment**

### **3.4.1 Socioeconomic Environment**

The socioeconomic environment was previously discussed in Section 3.4.1 of the 2000 FEA and remains accurate. However, more recent data are available and are discussed in this section. Tishomingo County is a rural county located in the northeast corner of Mississippi near the Alabama and Tennessee borders. The county population is estimated by the U.S. Census Bureau to be 19,202 as of 2005. Tishomingo County has been growing

slowly since 1990, after experiencing a decline in population during the 1980s. In 2005, the county had a labor force of 8,330, with average unemployment of 730 or 8.8 percent of the labor force; this rate is higher than both the state rate of 7.8 percent and the national rate of 5.1 percent. This follows a pattern of recent years, with Tishomingo County having higher rates than the state, which in turn has had higher rates than the nation. The county is much more dependent on manufacturing than the state as a whole or the nation with 28.7 percent of its workers employed in manufacturing in 2003, compared to 12.5 percent in the state and 9.0 percent in the nation. It is less dependent on government and on services and similar activities such as transportation, finance, and real estate. Government employment in the county in 2003 was 12.7 percent of the total, compared to 19.1 percent in the state and 14.2 percent nationally. Services and similar activities accounted for slightly more than one-third of employment in the county, but 44 percent in the state and 54 percent nationally. Per capita personal income in 2003 was \$19,236, about 82 percent of the state average of \$23,466 and only 61 percent of the national average of \$31,472.

According to 2004 estimates by the U.S. Census Bureau, 6.6 percent of the county's population is minority (nonwhite or white Hispanic), which is well below the state's 40.1 percent and the nation's 32.6 percent minority. The proposed project would be located in Census Tract 9501, Block Group 1, Blocks 1052 and 1053. The census tract had an estimated minority population in 2000 of 48 persons, 1.5 percent of the total population. Block 1052 had no inhabitants. The population of Block 1053 was 8, none of whom were minorities. The poverty rate in the census tract, according to the 2000 Census of Population, is 9.4 percent, lower than the county level of 14.1 percent, the state level of 19.9 percent, and the national level of 12.4. In Block Group 1, the poverty level was 10.2 percent, slightly higher than in the census tract, but lower than the county, state, and national levels. Poverty data are not available at the block level.

The dredge spoil area is located in Tishomingo County, Census Tract 9501, Block 2033, near Blocks 2012 and 2013. Population is very sparse in these areas; according to the 2000 Census of Population, Block 2033 had a total population of 18; Block 2012, north of the site, had no population; and Block 2013, west of the site, had a population of 16. There were no minorities living in these areas. Block Group 2, which includes Blocks 2033, 2012, and 2013, along with a number of others, had a poverty rate of 16.1 percent, lower than the state average but higher than the national average.

Under the No Action Alternative, the proposed marina would not be built and, therefore, there would be no socioeconomic or environmental justice impacts at this time. Under the Build Marina Alternative, commercial recreational facilities would be developed including a 228-slip commercial marina and related facilities. This development would result in positive effects on the local economy both during construction and in operation by increasing employment and income in the local area. Facilities of this nature, if well developed and properly maintained, could enhance the attractiveness of the area and be an important element in economic development for the area.

Facilities of this type, developed and operated following the appropriate standards and guidelines, would be likely to increase property values in the area. The overall impact is likely to be small, although some individual properties could increase more in value if additional recreation-related development is stimulated by this action.

### Environmental Justice

As discussed above, the project area has a very small minority population and a relatively low poverty rate. No residences would be directly affected by the proposal, and there is no indication that any of the actions would disproportionately impact any specific population group. Therefore, there would be no disproportionate impacts to minority or low-income populations.

### 3.4.2 Land Use

Land use was previously discussed in Section 3.4.2 of the 2000 FEA and remains accurate.

In June 2001, the TVA Board of Directors approved a 40-year term recreational easement to TCDF over TVA Tract XPR-460RE. This tract was also consequently allocated for Developed Recreation in the TVA 2002 *Pickwick Reservoir Land Management Plan*. Under the easement, TCDF is required to develop the tract for public commercial recreational purposes, including a marina, restaurant, hotel, lodge, cabins, and convention center. TCDF has leased the property to Pickwick Pines Resort for development of the property and the marina.

Existing allocated uses of TVA lands for Yellow Creek embayment area and the associated shoreline miles are presented in Table 3-1 below.

<b>Table 3-1. Existing Shoreline Land Uses for Yellow Creek Embayment</b>		
<b>Land Use</b>	<b>Acres of TVA Land</b>	<b>Miles of Shoreline</b>
Zone 3 – Sensitive Resource Management	67.77	2.6
Zone 4 – Natural Resource Conservation	456.65	16.1
Zone 5 – Industrial/Commercial	319.67	7.9
Zone 6 – Developed Recreation	91.72	2.4
Zone 7 – Residential Access	100.91	11.7

Under the No Action Alternative, the proposed marina would not be built and, therefore, there would be no change to the existing environment at this time. As discussed above, a commercial recreational easement was granted over the tract, and there would be no change to the current land-use allocation. The easement permits commercial recreation facilities on the tract including construction of a convention center, rental cabins, and marina. Under the Build Marina Alternative, the proposed 228-slip marina would be built, and a marina is consistent with the current land-use allocation of the tract. The proposed Pickwick Pines Marina would also be compatible with local land uses in Yellow Creek embayment. The current use of the site identified as the location for the dredge spoil is consistent with using the site for this purpose. In light of the above, impacts are expected to be insignificant.

### 3.4.3 Cultural/Historic Resources

Cultural/historic resources were previously discussed in Section 3.4.3 of the 2000 FEA, and that analysis remains accurate. The marina proposal would not affect any archeological/historic properties listed on or eligible for listing on the National Register of Historic Places. The identified dredge disposal area has been highly disturbed already and any cultural resources that may have been located would have already been destroyed.

### 3.4.4 Visual Resources

Visual resources were previously discussed in Section 3.4.4 of the 2000 FEA. The following provides additional information.

Visual resources are evaluated based on existing landscape character, distances of available views, sensitivity of viewing points, human perceptions of landscape beauty/sense of place (scenic attractiveness), and the degree of visual unity and wholeness of the natural landscape in the course of human alteration (scenic integrity).

The proposed marina development area is predominantly rural in character, with small town centers in Iuka, Mississippi, to the south along Mississippi State Route (SR) 25 and Counce, Tennessee, to the north along Tennessee SR 57. The area landward of the proposed marina location rises steeply above the reservoir over eroded shoreline and maintained turf banks where mature hardwoods provide overstory shade to two hills divided by a ravine with steeply sloping sides. Vegetation thickens toward the perimeter of the property to the north and south, while the majority of understory vegetation has been cleared from the center of the property and along the shoreline. The land is bounded to the west by SR 25/SR 57, which is a primary north/south travel way. The steeply sloping topography continues upland and across SR 25, where several small cabins are set about the length of the roadway fronting the resort property.

Motorists traveling SR 25 have brief views through the site to the reservoir and the opposing shoreline beyond. Views of the site from the west and south are generally restricted to the foreground-viewing distance (within 0.5 mile from the observer) due to existing topography and vegetation. Residents along the southern portion of the Yellow Creek cabin sites, located immediately to the north, have direct views of the property across a shallow embayment.

Views from the north and east over the body of the embayment extend to the middleground-viewing distance (0.5 mile to 4 miles from the observer). From positions along the northeastern shoreline, residents in the State Line, Red Sulphur Springs, and Tishomingo Lakeside residential developments, as well as recreational lake users, have views of the site amid the Aqua Yacht Harbor. This is one of the nation's largest inland marinas, with over 350 berths located slightly downstream, and a barge terminal, storage tanks, and personnel and equipment buildings operated by companies located in the Yellow Creek State Inland Port, which is slightly upstream.

The landscape character within this section of Pickwick Reservoir is predominated by shoreline development, including facilities for private water use, public water use, marinas, and industry. The existing scenic attractiveness is common, and the scenic integrity ranges from moderate to low.

Consequences of the impacts to visual resources are examined based on changes between the existing landscape and the landscape character after alteration, identifying

changes in the landscape character based on commonly held perceptions of landscape beauty and the aesthetic sense of place. The impacts to visual resources are described in the same manner as the existing visual resources, from south to north along the proposed route.

Under the No Action Alternative, the proposed marina facilities would not be developed, and the shoreline would remain in its present condition at this time. Development landward of the shoreline would continue as described in the 2000 FEA (Appendix B). Erosion of the shoreline area would continue at a similar or increased rate, depending on the activities occurring to the interior of the property. However, it is probable that this shoreline area would be stabilized at some point in the future to prevent bank failure, either through vegetative or mechanical means. This stabilization activity would likely occur during the winter drawdown period when the number and duration of views would generally be quite low. The scenic attractiveness would remain common, and the scenic integrity would remain moderate to low.

Under the Build Marina Alternative, TVA would approve the request for construction of marina facilities based on the proposed 228-slip marina design provided by the applicant. TVA would require the design of the proposed water-use facilities to be open on all sides and their colors to be dark and unobtrusive.

Motorists traveling SR 25 would have views of the proposed marina facilities briefly and through the existing mature vegetation on the site. These views would change and portions of the marina would likely be screened from view by land-based structures and amenities to be constructed in the future. These structures and amenities would remain subject to the commitments included in Section 6.0. Residents in the Yellow Creek cabin sites would have views of the proposed marina facilities in the foreground-viewing distance and in context with the existing barge terminal and industrial operations of the Yellow Creek State Inland Port, which are currently visible to the southeast.

Residents to the north and east along the opposing shoreline and reservoir users would have views of the proposed marina from the middleground- and foreground-viewing distances. From positions in the middleground-viewing distance, the proposed marina would be viewed in context with facilities at both the Yellow Creek State Inland Port and the Aqua Yacht Harbor. As proposed, the marina facilities to be constructed would be similar in design and construction to those currently visible less than a mile away to the north. The addition of an approximately 228-slip marina and ancillary facilities, including dry storage and a launching ramp, would result in an incremental addition in the discernable number of watercraft in the Yellow Creek embayment. This area of Pickwick Reservoir is home to two additional marinas, as well as the northernmost access point for the Tenn-Tom Waterway, connecting the Gulf of Mexico with America's inland waterways and reservoirs; therefore, the increase in the discernable amount of boating traffic would remain in context with the surrounding usage patterns and existing landscape character.

As a future element of the proposed resort and marina development, land-based structures and amenities would be constructed to the interior of the property. The potential impacts to existing visual resources would depend to a great extent on the proper integration of development with the natural environment through proper site planning and context-sensitive architectural design. Commitments shown in Section 6.0 would be included to reduce the discernable impacts to a level of insignificance.

Overall, the impacts to visual resources associated with the development, construction, and operation of the proposed marina facilities would be insignificant provided the permit conditions listed in Chapter 6 are followed.

### **3.4.5 Navigation**

Navigation was previously discussed in Section 3.4.5 of the 2000 FEA based on conceptual development plans. This section addresses the potential navigation impacts associated with the proposed Pickwick Pines Marina as designed. To provide context, background information is also provided.

The location for the proposed marina is adjacent to TVA Tract XPR-460RE on the western shoreline of the Yellow Creek embayment. The embayment was created by the impoundment of the Tennessee River to create Pickwick Reservoir. Yellow Creek is a tributary of the Tennessee River and enters the system at Tennessee River Mile (TRM) 215. Yellow Creek also serves as the northern terminus of the Tenn-Tom Waterway, a man-made waterway connecting the Tennessee River and the Tombigbee River, links the Port of Mobile and the Gulf of Mexico with the National Inland Waterway System, and provides an alternative to the Mississippi River for waterborne commerce. The proposed Pickwick Pines Marina would be associated with Tenn-Tom Waterway Mile 448.4 on the right descending bank.

Both the Tennessee Waterway (authorized by the TVA Act of 1933) and the Tenn-Tom Waterway (authorized by the River and Harbor Act of 1948) were developed by the federal government for the purpose of facilitating interstate commerce and are important segments of the 12,000 mile National Inland Waterway System. According to the USACE Waterborne Commerce Statistics Center electronic database, the Tennessee River Waterway supports about 50 million tons of commodity traffic each year, about 90 percent of which either originates or terminates on other river systems. Almost 7 million tons of commodities are moved on the Tenn-Tom Waterway annually, roughly 4 million tons of which pass through Yellow Creek to or from the Tennessee River.

Depths of the Yellow Creek embayment are sufficient to support commercial navigation averaging 20-30 feet at normal summer pool elevation of 414 feet above mean sea level. Daybeacons mark the upper (Tenn-Tom Waterway Mile 448.7) and lower (Tenn-Tom Waterway Mile 448.4) ends of the island at the entrance to the embayment. There are no aids to navigation in the Yellow Creek embayment.

Strategically located at the confluence of these two waterways, the Yellow Creek embayment is the home of the Yellow Creek State Inland Port, a public, general commodities terminal, and the private Ergon Inc. asphalt terminal. The Ergon terminal is immediately to the south of Tract XPR-460RE, the site of the proposed Pickwick Pines Marina. Yellow Creek State Inland Port terminal facilities are adjacent to the Ergon terminal. Yellow Creek State Inland Port and the Ergon terminal handled a combined total of about 300,000 tons of commodities on some 200 barges in 2004.

Like most terminals on the Tennessee River system, Ergon and Yellow Creek State Inland Port are outside of the actual navigation channel, or shipping lane. Towboats approaching the Yellow Creek State Inland Port docks either from the south (Tenn-Tom Waterway) or the north (Tennessee River) do so by turning westward at Tenn-Tom Waterway Mile 448.2 on the south side of the island and do not enter the large embayment area. Fleeting

facilities for Yellow Creek State Inland Port are located on the south side of the large island, which separates the Tenn-Tom Waterway from the Yellow Creek embayment.

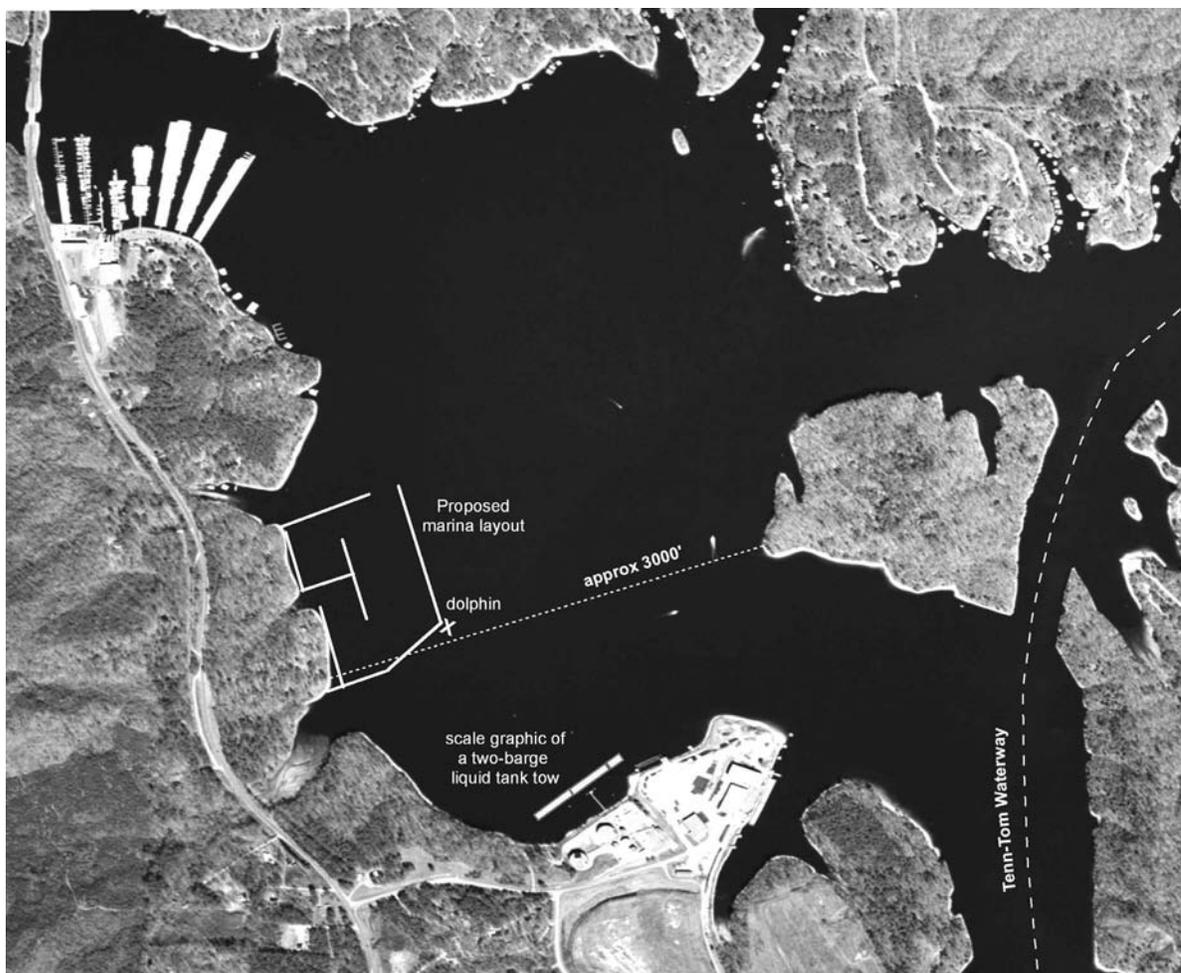
Towboats approaching the Ergon terminal typically come from the Tennessee River heading south on the Tenn-Tom Waterway and enter the large embayment from the north side of the island. Entering the embayment from the north side of the island rather than from the south side allows these longer tows (a group of barges pushed by a towboat) to avoid both a sharp right turn and any fleeting activities for the Yellow Creek State Inland Port facilities. Liquid tank barges, such as those delivering products to the Ergon terminal, are typically 295 feet long and 55 feet wide. Tows serving this terminal are usually one or two barges in length (with towboat, 400 feet to 700 feet long), but there have been as many as three barges delivered to Ergon at one time (with towboat, 1,000 feet long).

Because of its location immediately adjacent to the proposed development site and the size and shape of the liquid tank barge tows, the Ergon terminal is the most likely commercial navigation operation to be impacted by proximity to the marina. The lakeward extent of the marina (distance from the shoreline that the marina extends into the embayment) and the distance to the Ergon dock from the marina structure are key components to ensuring safe navigation operations on the approach with a full barge (or barges) and leaving the terminal with an empty barge (or barges).

Under the No Action Alternative, the proposed Pickwick Pines Marina would not be constructed in its current configuration and, therefore, there would be no impact to existing navigation condition at this time.

Under the Build Marina Alternative, the proposed marina and associated facilities would be built. The marina would extend 772 feet into the embayment on the south end, the side adjacent to the Ergon terminal. The embayment is about 3,000 feet wide as measured from the shoreline of Tract XPR-460RE to the island (see Figure 3-1.). With the marina in place, there would be roughly 2,200 feet between the marina and the island, and there would be a minimum of 1,620 feet between the marina and the Ergon terminal. This is sufficient room for a loaded, inbound tow to maneuver safely to the terminal from the main channel via either the north or south side of the island.

The large, open embayment at Yellow Creek is known for windy conditions. Liquid tank barges sit about 13 feet out of the water when empty and can act like sails in windy conditions. Under the right conditions, the wind may catch the end of the empty tow while it is pulling away from the terminal and blow it several hundreds of feet sideways before the pilot is able to gain enough forward momentum to regain control. (The windblown tow scenario typically happens when towboats are slowing to or accelerating from a dead stop. Because of the flow of water when at speed and the design of the hull, towboat pilots have the greatest control over their tows when they are underway.) Under the proposed marina design, if a windblown tow swings away from the Ergon terminal on departure, it is unlikely to strike the marina. TVA would also require that the marina construct and maintain a lighted dolphin structure on the outside of the southeast corner of the marina (see Appendix D). Dolphins are often used to protect marine structures that are not designed to accommodate the weight of a barge or tow. (The dolphin would also provide some measure of protection in the event of a break-away barge.) Thus, there is sufficient room and sufficient additional protection to the marina for the safe departure of empty tows from the terminal.



**Figure 3-1. Proposed Marina Layout (Scale Drawing)**

The entrance to the marina and fuel dock as proposed are to be located on the north side of the marina to help reduce the volume of recreational traffic in the vicinity of terminal operations. This location would limit the potential for an accident involving a tow and a recreation vessel or a tow impacting the fuel dock. Site security is a serious concern for the navigation industry in the post-9/11 environment (the Maritime Transportation Security Act of 2002 requires that all terminals have a USCG-approved facility security plan and that all towboats have a vessel security plan).

In any marine environment, commercial and private dock facilities (and other shoreline) will be subjected to potential wave damage from the wakes of passing vessels. In this particular case, proximity to the Ergon terminal means that in addition to the waves generated by passing vessels, some turbulence in the water near the marina may be generated by the towboats moored at the terminal. It is standard practice for both TVA and the USACE to advise permit recipients in writing that any structure built on a waterway used by recreation or commercial vessels (or any boat moored at that structure) may be subject to wave damage from passing vessels. In addition, TVA would require that a wave

attenuator, or breakwater, be incorporated into the marina structure to mitigate the effect of wakes from passing vessels and propeller wash from the adjacent commercial terminal.

Approved harbor limits are established by TVA permit for a defined area that surrounds a marina. This is a permitted activity because harbor limits are usually defined by buoys anchored to the reservoir bottom. Typically, harbor limits are used to establish a no-wake zone in the vicinity of a marina, which helps to reduce the problems associated with wave wash. They are also used to define an area into which expansion of a marina may later occur. TVA would restrict the harbor limits of the proposed Pickwick Pines Marina to the extent of the marina structure, with the exception of a 50-foot buffer around the fuel dock for the purpose of establishing a no-wake zone. There would not be a no-wake zone around the rest of the marina, nor would there be any expansion of harbor limits.

If the marina is constructed as proposed, there would be no significant impacts to Navigation. To ensure this outcome, the applicant would be required to implement the permit conditions listed in Chapter 6.

### **3.4.6 Recreation**

Recreation was previously discussed in Section 3.4.6 of the 2000 FEA. The following analysis provides an updated review.

Recreation demand is driven by population growth and demographics. Recreation demand for the proposed Pickwick Pines Marina covers a service radius of 50 miles and is also influenced by three metropolitan areas that are in easy driving distance to the proposed site. The 50-mile service area for the proposed Pickwick Pines Marina includes the counties of Colbert, Franklin, and Lauderdale in Alabama; Alcorn, Itawamba, Prentiss, Tippah, and Tishomingo in Mississippi; and Chester, Decatur, Hardeman, Hardin, Henderson, McNairy, Lawrence, Perry, and Wayne in Tennessee. Total population in this area is estimated at 514,708 for 2006 and is projected to grow to 533,312 by 2011 and to 550,172 by 2016, an increase of more than 35,000 in 10 years, for a total growth rate of 6.9 percent or an annual average growth rate of 0.67 percent. Pickwick Reservoir also serves as a recreation destination for residents of three additional metropolitan areas: Tupelo, Mississippi; Jackson, Tennessee; and Memphis, Tennessee. Residents from these three metropolitan areas visit Pickwick Reservoir in large numbers for recreation opportunities because the existing road network makes it more accessible than other alternatives and because the quality of water-related recreation opportunities are greater than on the Mississippi River and other smaller inland reservoirs. This unique visitor pattern results in Pickwick Reservoir being more of a regional recreation area that currently draws on an additional 1.5 million area residents from outside the 50-mile radius around the proposed project. These areas outside the 50-mile radius are projected to add over 154,000 residents over the next 10 years.

The trend data from *The National Survey on Recreation and the Environment*, (1982-2001) place motor boating in the second fastest-growing group of sports, with a growth rate of 62 percent for that period or about 2.57 percent per year. More recently (2001-2004), the growth rate for motor boating has risen only slightly (about 1 percent nationally) with a slight decline in the Southeast. Motor boating in Alabama, Mississippi, and Tennessee has participation rates ranging from 23 to 25 percent of the population.

Alabama has a motor boating participation rate of 25.4 percent; among water-based recreation activities, "fishing from boat" ranks 4th and "power boating" ranks 12th. Alabama

ranks 17th among all states in number of registered boats with 264,006 in 2004; Alabama's boating registrations peaked at 267,868 in 1999 and declined during the recession of 2000-2003.

Mississippi has a motor boating participation rate of around 23.2 percent, which ranks 5th in water-based recreation activities in the state with an estimated 673,000 participants. Nationally, Mississippi ranks around 23rd in number of registered boats with 209,216 as of 2004.

Tennessee has a motor boating participation rate of 23 to 24 percent, with motor boating ranking 6th among water-based recreation activities with an estimated 1.05 million participants. In Tennessee, boating registrations peaked at 314,624 in 1999 and declined during the recession of 2000-2003 with an increase for 2004 to 264,000.

Based on the 10-year population projection of over 189,000 additional individuals, this would place the population base in 2016 at over 2.2 million for boating demand at Pickwick Reservoir. With participation rates ranging from 23 to 25.4 percent, the estimated total market would be about 506,900 to 559,000 total boating participants with around 43,700 to 48,000 additional boaters, reflecting the overall population increase from 2006-2016. Only a portion of the additional boaters will own their own boats, as many of these participants will boat with family and/or friends, and some of these new boats will be trailer boats for launch at ramps.

The impact on boating from the 2004-05 increase in fuel prices has yet to be studied, though analysts anticipate an overall reduction in boat sales and boating-related recreation activity.

The applicant proposes to sell and rent larger houseboats, which are common on some other inland reservoirs such as Lake Cumberland. This would supplement the recreational opportunity on Pickwick Reservoir, as some area marinas report providing this service.

Nearby marinas are located on Yellow Creek embayment at Tenn-Tom Waterway Mile Markers 448.9R (Aqua Yacht Harbor) and 449.8R (Grand Harbor Marina). Other nearby marinas are located at TRM 207.6L (Pickwick Landing State Park), TRM 220.0L (J. P. Coleman State Park), and TRM 224.8L (Eastport Marina), see Table 3-2. The area from Pickwick Landing State Park to Coleman State Park, including the mouth of the Tenn-Tom Waterway downstream to Aqua Yacht Harbor, is somewhat congested area during the summer weekend afternoons of the recreational boating season. However, the attached Appendix E, *Yellow Creek Embayment Recreational Boating Capacity Study*, reflects that the Yellow Creek embayment serve area has not reached the critical threshold for boating capacity and only approaches that threshold on the afternoons of holiday weekends.

Public boat launching ramps are located on both sides of the proposed marina site at Tenn-Tom Waterway Miles 448.9R and 446.8R. In addition to these existing access areas, a growing number of vessels transit this waterway on the north-south route connecting the Gulf of Mexico with the Midwest. This route is preferred by recreational boaters making the seasonal trips because it is shorter, less expensive, and less hazardous than the route along the Mississippi River. The majority of the transiting traffic occurs in the fall and spring.

**Table 3-2. Existing Marina Facilities**

Facility	Location	No. of Wet Slips	Fuel	Repairs	Rentals	Occupancy	Waiting List	Pump-Out
Aqua Yacht Harbor	448.9R Tenn-Tom*	500	Yes	Yes	Yes	30-Foot Slips**	No	Yes
Grand Harbor Marina	449.8R Tenn-Tom*	325	Yes	No	No	80 Percent	No	Yes
Pickwick Landing State Park	207.6L Tennessee River	282	Yes	No	Johnboats	100 Percent	Yes	Yes
J. P. Coleman State Park	220.0L Tennessee River	52	Gas only	No	No	100 Percent	Yes	Yes
Eastport Marina	224.8L Tennessee River	59	Yes	Yes	No	30-Foot Slips**	No	No

\* The Tenn-Tom Waterway intersects the Tennessee River at Tenn-Tom Waterway Mile 450.4 and TRM 215.2L.

\*\* All slips were fully occupied except for a few 30-foot slips.

The marina is proposed for an embayment that is only partially sheltered and approximately 0.75 mile from the Tenn-Tom Waterway channel. Wind and wave protection will be necessary for a marina development.

Under the No Action Alternative, the proposed Pickwick Pines Marina would not be built. Under the Build Marina Alternative, a commercial public marina and related facilities would be built and maintained on the site. New marina services, including moorage, fuel, and related services would be offered to the boating public. The proposed site is over 0.75 mile from the main channel, approximately 0.5 mile from Aqua Yacht Harbor, and 2 miles from Grand Harbor Marina. The area within an approximately 0.5-mile radius from the marina is sparsely traveled compared to the main channel and the route from Aqua Yacht Harbor to the main channel. This area is able to accommodate additional boating without significant cumulative impact. The main channel from Goat Island to the mouth of Yellow Creek is congested during peak periods of weekends and holidays. It is assumed that boaters using the proposed marina would merely transit this area en route to other parts of the reservoir where they would be more dispersed.

Based upon the data contained in Table 3-2, there is an apparent market for additional marina facilities. The proposed new marina would likely increase boating and vehicle traffic in the immediate area during the summer recreation season. A survey of Tennessee River marinas conducted in 1999 (TVA 2000b) showed estimated usage rates of 33 percent on the busiest (holiday) summer weekend days, with 20-25 percent usage for typical summer weekend days (Appendix E) and less than 10 percent on summer weekdays. The requested action proposes a 228-slip marina with 14 100-foot; 21 80-foot; 15 70-foot; 26 60-foot; 36 50-foot; 24 40-foot; and 92 30-foot slips and dry storage for 75-100 boats (depending on size). Assuming that the boats using the marina are all new to the area and not already using the local waterfront by other access means, a conservative assumption, the increase in number of boats would average 66-82 per normal summer weekend day, with about 108 on the busiest (holiday) weekend days and less than 33 on weekdays in the summer. Such an increase would not constitute a significant impact (Appendix E). Vessel operators would have another option regarding fueling, dry stack storage, and related

services. Increases in vehicle counts and annual average daily traffic (AADT) to the marina are discussed in Section 3.4.7, Transportation. A review of this section and the associated estimates for traffic counts are supported by the “friends and family phenomenon” typical of levels of traffic generated by resorts and recreation facilities like marinas, where numbers of additional vehicles are required for guests participating in outings with friends and family. These counts when reviewed will generate traffic counts ranging from around 675 per day for weekdays and around 1460 per busiest weekend days. New development could be beneficial to the site in that it may minimize the vandalism that has occurred at the roadside park in the past.

Given this estimated population base and the estimated increase in boating demand and current slip occupancy rates, along with the opportunity to provide the diverse recreation activity of houseboating through a commercial proposal, the data and trends reflect that a new marina could provide these opportunities with little or no adverse impact to the existing area marinas.

Boating congestion and associated boating safety concerns are important public concerns. If the Pickwick Pines Marina is constructed as proposed, additional boaters can be expected to use the embayment, or at least pass through the embayment to points on the Tenn-Tom Waterway or Tennessee River. There would also be a little less room on the embayment, since the marina would occupy about 21 surface acres (the embayment itself is about 2,678 acres at summer pool elevation 414 feet above mean sea level) leaving a balance of 2,657 surface acres for recreational boating and water sports.

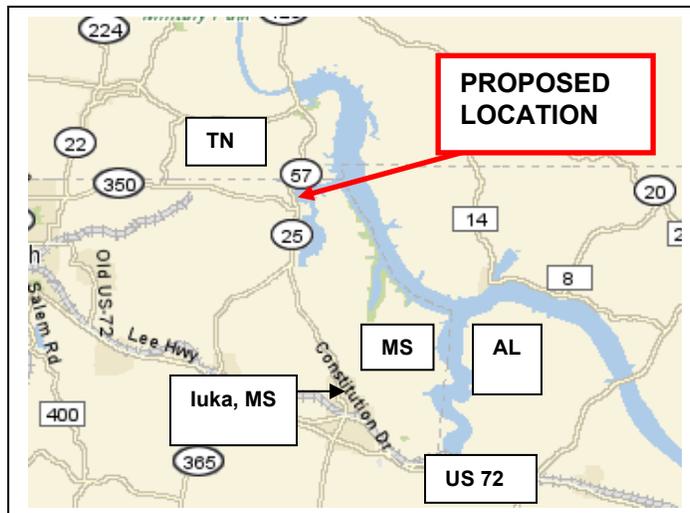
Boating safety is primarily the responsibility of the boating public, particularly since law enforcement agencies responsible for marine safety (TVA, the USCG, and the Mississippi Department of Wildlife, Fisheries, and Parks) are not able to patrol all of the waters in their jurisdictions all the time. These agencies rely heavily on public involvement. Users of Pickwick Reservoir are fortunate in that members of the concerned public have formed a Lake Watch Program with the assistance of the TVA Police Western Division. Those concerned with boating safety in the Yellow Creek embayment or the general vicinity are urged to join the Pickwick Reservoir Lake Watch Program (more information is available at <http://www.tva.gov/abouttva/tvap/lakewatch.htm>). If someone observes a boater operating in an unsafe or suspicious manner, the observer should write down the boat registration number and report the activity to the TVA Police at 256-386-2444. The state of Mississippi is attempting to address growing boating safety concerns with its mandatory boating safety program for those born in 1980 or later.

Law enforcement agencies are required to report boating accidents with injury, death, or property damage of \$500 or more to the USCG. A review of the USCG Boating Incident database for the years 1995–2004 reveals that 17 incidents were reported to the USCG for that time period for the Yellow Creek embayment. There were no reported incidents involving a commercial tow. In addition, a review of TVA police and Mississippi Department of Wildlife, Fisheries, and Parks’ records reveal a decrease in recreational boating accidents and incidents from 2003-2005 for the Yellow Creek embayment area (Appendix E). Most incidents involved open motor boats or personal watercraft; some involved cabin cruisers. Collisions as a result of driver inexperience or inattention predominate among these incidents, and there were several reports of striking debris, obstructions, or mechanical failures.

### 3.4.7 Transportation

Transportation was previously discussed in Section 3.4.7 of the 2000 FEA. The following provides an updated discussion.

The proposed marina site is located approximately 12 miles north of luka, Mississippi, and approximately 1 mile south of the Tennessee-Mississippi state line directly off Mississippi SR 25. Primary access to the site is via SR 25 from U. S. Highway (US) 72 through Mississippi. SR 25 becomes Tennessee SR 57 north of the state line in Hardin County, Tennessee (see Figure 3-2).



**Figure 3-2. Transportation Network Near the Proposed Development**

US 72, which runs in an east to west direction across northern Alabama and Mississippi is primarily a principal four-lane divided highway. US 72 and SR 25 intersect near luka, Mississippi. Traveling north from luka, SR 25 is a four-lane divided highway for 4.5 miles. Then, the road becomes two lanes and ranges from a high- to mid-quality roadway, with generally good speed limits, shoulder widths, passing zones, and sight distance. SR 25 is of fairly rolling terrain and curvy alignment in the vicinity of the tract under consideration. The developer has funds appropriated for the construction of a dedicated left turn lane from SR 25 onto the development. SR 57 in Tennessee is very similar to SR 25 in Mississippi.

The latest available AADT counts show from 7,100 to 12,000 vehicles per day on US 72 near its intersection with SR 25 and approximately 2,900 vehicles per day on SR 25 near the site (Mississippi Department of Transportation [MDOT] 2004). SR 57 has approximately 4,230 vehicles per day near the Tennessee/Mississippi border (Tennessee Department of Transportation [TDOT] 2004). There are also several marine storage, service, and sales businesses along SRs 25 and 57, as well as gasoline stations, small strip malls, private residences, and hotels.

The land use for the tract adjacent to the proposed marina is allocated for Commercial Recreation. Plans are for the development of commercial recreational facilities and would include a restaurant, rental cabins, and related facilities, and a commercial marina

consisting of 228 boat slips. This type of development would result in the generation of additional traffic on the adjacent roadway network. Increases in traffic would be primarily observed in close vicinity to the site on the two-lane SRs 25 and 57. Additional traffic would become dispersed on adjacent roadways further from the site and increases would tend to be less noticeable on major multilane highways, i.e., US 72, which provide higher capacity levels. Daily trip ends were estimated for this proposed development using the methods published by the Institute of Transportation Engineers (ITE) in 1998. The models contained in ITE 1998 are a compilation of data collected nationwide and are typically conservative estimates. The governing criteria for this analysis were the number of boat slips in the development. The data collected and used for the generation rates were taken on the Pacific Coast in large cities. Some of the marinas surveyed had social and club activities, limited retail, and restaurants in addition to docks and berths. The additional traffic due to the proposal would result in an increase in AADT of approximately 807 vehicles per day. Based on the nature and location of the ITE generation data in comparison to the location of the proposed development, this estimate is likely to be very conservative and a worst-case scenario.

The assessment of traffic effects for this proposed action is based on the transportation planning and engineering concept of level of service (LOS) found in the *Highway Capacity Manual* (Transportation Research Board 1994 and 2000). The LOS concept addresses the quality of service, or operating conditions, provided by the roadway network, as perceived by motorists. LOS is a qualitative measure, expressed as one of six levels (A through F), which is described in terms of travel time, comfort, safety, and maneuvering freedom, and incorporates various measurable factors associated with a particular segment of a roadway into the analysis. The six levels of service vary as differing qualities of service provided by a roadway. LOS A is defined as the highest quality of service that a particular class of highway can provide. It is a condition of free flow in which there is little or no restriction on speed or maneuverability caused by the presence of other vehicles. LOS F indicates forced-flow operations at low speeds. The level of density increases to the effect of a traffic “jam.” This is the worst condition possible.

Table 3-3 outlines the 2004 and projected AADT counts and *Highway Capacity Manual* (HCM) LOS for the primary routes affected by the development.

<b>Table 3-3. 2004 and Projected AADT Counts for the Primary Routes Surrounding the Proposed Project</b>					
<b>State Route</b>	<b>2004 AADT</b>	<b>Projected AADT</b>	<b>Percent Increase</b>	<b>Current LOS</b>	<b>Projected LOS</b>
25	2,900	3,707	28	A	A
57	4,230	5,037	19	B	B

This projected increase in traffic due to the proposed development would not result in a change to the existing LOS for SRs 25 and 57 and is very conservative. It should also be recognized that this type of traffic is highly seasonal, and traffic increases would be lower during off-season times. The traffic flow would, though, be susceptible to sudden variation in operating speeds due to turning traffic and slow-moving vehicles, i.e., boat trailers, etc.

Care should be taken in the placement of any entrance and exit roads for the recreational facility off of SR 25. Sight distances and warning signs and turning lane lengths should be sufficient to allow for safe turning maneuvers into and out of the facility and to minimize the number of accidents.

The 2000 *Highway Capacity Manual* projects a capacity of 3,200 vehicles per hour for both directions of two-lane, rural highways. Table 3-4 illustrates what the two-way, peak-hour volumes (14 percent of AADT) would be for the two state routes using the projected AADTs and compares them to the HCM projected capacities.

<b>Table 3-4. Two-Way, Peak-Hour Traffic Volumes and Projection Comparisons for State Routes 25 and 57</b>		
State Route	Peak-Hour Volume (Vehicles per hour, BOTH Directions)	HCM Capacity (Vehicles per hour, BOTH Directions)
25	519	3,200
57	705	3,200

The developer proposes to dredge approximately 3,000 cubic yards of material from the lake bottom area and haul this to a disposal site to the southwest of the proposed marina location. The plan also calls for bringing in 1,155 cubic yards of clean rock and fill material to be used in the construction of the proposed marina. This total of approximately 4,200 cubic yards of material to and from the site is equivalent to 420 round trips for a truck, assuming a 10 cubic yard truck is used for removal and delivery during the construction process. It is assumed that these trucks would be operating during normal working hours Monday through Friday. This schedule would avoid the peak weekend days of travel and not significantly impact the area, since the trucks would be distributed throughout the construction phases and would be for a temporary period of time.

The proposed Pickwick Pines Marina development would generate and distribute additional traffic to the existing transportation network but would not create any significant changes or overloading to the network. The current and projected traffic volumes in the area appear to be at levels well below what the facilities can manage.

### **3.4.8 Noise**

Noise was previously discussed in Section 3.4.8. of the 2000 FEA. Changes to the acoustic environment since the issuance of the FEA in December 2000 reflect the increased industrial, commercial, and residential growth and their supporting transportation services in the area. The ambient noise level goes up with increase in human activity.

Industrial growth at Yellow Creek State Inland Port includes the expanding steel roll and coil industry. The growing and new steel companies at the port receive and ship rolls and coils by barge and heavy truck, and the movement of the rolls and coils on site is done with extremely large forklift equipment. The noise from the barge towboats, heavy trucks, and

forklift equipment is plainly heard at the Pickwick Pines Marina site and at the adjacent residences.

Commercial activities serving the recreational boating and vacation home industries have increased substantially since the 2000 FEA. Aqua Yacht Harbor and Marina has grown with more boat slips and resulting boat usage. Nearby boat sales and service vendors have grown, and retail storefronts have increased within short distances from the site. Rental and for-purchase vacation homes also have substantially increased, including a new development directly across SR 25 from the site, Tishomingo Cabins.

Waterfront residential growth has been moderate since the 2000 FEA. The number of boathouses and docks visible from the picnic shelter on site has increased from 39 to 46, and there are at least three additional, visible residences recently built.

The contribution to the ambient noise environment from the traffic on SR 25 was estimated using a simple Federal Highway Administration noise model and the AADT data in Section 3.4.7, Transportation, Table 3-4. The mix of vehicle types was obtained from a midday traffic survey (1140 to 1300 hours, February 24, 2006) at the site. The vehicle mix was 194 light vehicles, 10 medium trucks, and 46 heavy trucks per hour. For modeling purposes, it was assumed that the light vehicles and medium trucks were traveling at 50 miles per hour and the heavy trucks at 45 miles per hour with the noise receiver about 100 feet from the centerline of the highway. The result was a 63.3 decibel (dB) hourly equivalent sound level at the receiver for current two-way peak-hour traffic volume.

In general, the proposed 228-slip marina has a potential, small environmental noise contribution to the incremental change in the total noise environment. For example, in the 2000 FEA, it was estimated that an additional 33 power boats (about one-third) would be in use during the busiest weekends, and this was insignificant when compared to the one-third (406) of the potential 1,218 just from the marina facilities given in Table 3.4-1. The comparison did not include the many day-launched and residential-launched boats that would be in use also. The proposed 228-slip marina for this SEA and a one-third use rate would average 66-82 per normal summer weekend day, with about 108 on the busiest (holiday) weekend days and less than 33 on weekdays in the summer. The potential change in local, hourly-average noise levels from the 2000 FEA would be 3 – 4 dB for a normal summer weekend days and about 5 dB for busiest weekend day per year. During a summer weekday there would be less than 1dB increase. These increases could be noticed locally as the boats leave moorage and disperse for fishing and other activities. The overall impact on the environmental noise of the area would be insignificant because of the few days per year that it occurs and the nearby receptors are usually participating, or do participate, in similar boating recreation.

The increase in traffic from the operation of Pickwick Pines Marina would have very little potential effect on the traffic noise in the immediate area. Using the projected two-way, peak-hour volume (Table 3-4) of traffic and the same Federal Highway Administration noise model and vehicle mix, the estimated effect is small. The hourly equivalent sound level goes from 63.3 dB to 64.2 dB. An increase of 1 dB for an hour equivalent sound level is not noticed by most people.

The potential increase in noise from the operation of the proposed marina would be insignificant within the current ambient noise environment; and its relative contribution to the total acoustic environment would become smaller as the area's industry, commerce, and residential populations continue to grow.

### 3.5 Natural and Managed Areas

A review of data from the TVA Natural Heritage database indicated that the proposed marina is not within or adjacent to any managed areas and/or ecologically significant sites; however, three of these features are within 3 miles of the proposed marina.

- **Mississippi Wildlife and Recreation Land** is approximately 0.9 mile east of the proposed action and lies on the southern and eastern shore of Yellow Creek. This large, undeveloped shoreline tract is managed by Mississippi Wildlife, Fisheries, and Parks for J.P. Coleman State Park.
- **Cooper Falls TVA Habitat Protection Area** is approximately 2.6 miles east of the proposed action on the western shore of the main channel of the Tennessee River (Pickwick Reservoir). This 73-acre area occupies a small portion of the sandstone outcrops along Pickwick Reservoir and is in the southern extent of the Highland Rim region. It provides habitat for many species that have very limited distribution in Mississippi and also provides winter habitat for the bald eagle. A sheer bluff along Pickwick Reservoir includes scenic Cooper Falls.
- A larger portion of the scenic sandstone bluffs along Pickwick Reservoir, also approximately 2.6 miles east of the proposed action on the western shore of the main channel of the Tennessee River (Pickwick Reservoir), is the **Sandstone Outcrops/Pickwick Lake Bluffs Protection Planning Site**. The Mississippi Protection Planning Commission recognizes this bluffed shoreline for its scenic quality, its recreational uses, and its flora characteristic of the Tennessee Valley that is rare in Mississippi.

The proposed dredge spoils area is adjacent to one privately managed area and within 3 miles of one additional managed area. The spoils disposal area is less than 0.1 mile west of Tishomingo County Game Refuge, a three-tract area of 18,845-acres located in Mississippi and Tennessee and managed by a private company for the growth and sale of wood products and the lease of hunting rights. This tract is privately managed and has never been a state wildlife management area, government preserve, or refuge. A 1,600-acre forested tract owned and managed by Mississippi State University, Sharp Forest, is approximately 2.0 miles northwest of the proposed spoils area. Mississippi State University leases the majority of this land to a timber company. The land is also used for forestry research and education.

Under the No Action Alternative, the proposed marina would not be built. Under the Build Marina Alternative, no impacts are anticipated to natural areas within 3 miles of the proposed marina. Additionally, because the proposed dredge spoils area is outside the boundaries of privately managed Tishomingo County Game Refuge, no impacts to this area are anticipated. No Nationwide Rivers Inventory streams or wild and scenic rivers are within 3 miles of the proposed activity.

## CHAPTER 4

### 4.0 LIST OF PREPARERS

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Jon C. Riley	Visual
Timothy J. Smith II	Cultural Resources
Jan K. Thomas	Natural Areas
Stephen E. Williams	Land Use

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## CHAPTER 5

### 5.0 LIST OF AGENCIES AND PERSONS TO WHOM THE EA WAS SENT

#### Federal Agencies

U.S. Army Corps of Engineers, Nashville  
U.S. Fish and Wildlife Service

#### State Agencies

State of Mississippi  
Department of Environmental Quality  
Department of Wildlife, Fisheries and Parks  
Department of Finance and Administration  
Office of Budget and Fund Management – State Clearinghouse  
Department of Archives and History

#### Organization

Mississippi Wildlife Federation  
Northeast Mississippi Planning and Development District  
Tombigbee River Valley Water Management District

#### Tribes

The Chickasaw Nation

U.S. Senate, Trett Lott and Thad Cochran  
U.S. House of Representatives, Roger Wicker  
Mississippi State Senate, Travis Little  
Mississippi House of Representatives, Ricky Cummings  
Mayor, City of Iuka  
Mayor, Town of Burnsville

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Cowan, William C.	Collierville, TN 38017

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Dalton, Frank T.	Corinth, MS 38834
Dalton, Kathleen Bourland	Corinth, MS 38834
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Davis, Ethel	Corinth, MS 38834
Davis, Frank & Amy	Corinth, MS 38834
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Heflin, John & Mary Ben	Memphis, TN 38111
Heflin, James	Tuscaloosa, AL 35486
Hodges, Hugh & Carolyn	Counce, TN 38326
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Huie, Martha	Memphis, TN 38177
Humphries, David - Ergon & Magnolia	Jackson, MS 39225-3546
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Young, Dan	
Young, Betsy	Memphis, TN 38111

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## CHAPTER 6

### 6.0 PERMIT CONDITIONS AND MITIGATION MEASURES

The applicant would be required to implement the following mitigation measures:

1. Incorporate an acceptable method of wave attenuation in the marine design.
2. Spoil material would be disposed of and contained on land above the 419.6-foot contour. Every precaution would be made to prevent the reentry of the spoil material into the reservoir.

The following special and routine permit conditions, which are conditions in the easement agreement for the marina property and/or incorporated in the applicant's proposal, would be established as conditions in TVA's Section 26a permit in order to reduce the potential for adverse environmental effects.

#### **Special Conditions**

1. The architectural color scheme would be visually compatible with natural background colors and would provide dark roofs on all structures. The color scheme applies to the lodge, cabins, dry storage, water-use facilities, and miscellaneous structures. It also applies to the signage, where a compatible contrasting color may be added for message readability.
2. No enclosed boathouses would be permitted, and covered boat slips would be open on all sides. Roofs and the structural framing would be a dark selection from the color scheme.
3. All requests for proposals from developers would require that the proposals follow TVA's *Tennessee Valley Clean Marina Guidebook* for ensuring properly installed, operated, and maintained facilities. Additionally, guidelines would be established to ensure proper and complete usage of sewage disposal by occupants of the marina.
4. TVA would require that all sewage pump-out facilities and appurtenances have spillproof connections, failure alarms, and no overflow piping. TVA would require that underground storage tanks containing regulated substances, such as petroleum products, have secondary containment, anchorage to prevent floating during flooding, and a Spill Prevention, Control, and Countermeasures plan. Aboveground storage tanks would be required to be installed and maintained in compliance with applicable aboveground storage tank requirements.
5. The applicant would be required, through deed restrictions, to maintain a 50-foot undisturbed buffer to be managed as a shoreline management zone. Undisturbed forested buffers at least 50 feet wide would be maintained and enhanced around the site with 100-foot minimum width along the cove at the north end. Minimum openings are acceptable for water access on the south end.
6. TVA requires the placement of a single dolphin at the southeast corner of the marina, which may be either incorporated into the marina or free standing. The dolphin would be constructed to meet American Association of State Highway

Transportation Officials (ASHTO) Load and Resistance Factor Design (LRFD) Specifications. The design would be certified by a licensed professional engineer and submitted to TVA for approval prior to construction. The dolphin structure must be lit in accordance with USCG requirements. Pickwick Pines Marina Inc. would be responsible for inspecting and maintaining the dolphin, markings, and lighting.

7. Harbor limits would be confined to the interior of the marina structure with the exception of a 50-foot buffer around the fuel dock for a no-wake zone as shown in PN No. 05-87A, sheet 3.
8. Pickwick Pines Marina Inc. would be responsible for installing and maintaining the no-wake buoys no further than 50 feet from the fuel dock. They must be legible to the boating public.

### **Routine Conditions**

1. Applicant agrees to anchor all floating facilities securely to prevent them from floating free during major floods.
2. The floor elevation of the fixed dock would be a minimum of 1.5 feet above the normal summer pool elevation 414.0.
3. No items/equipment subject to flood damage would be located on the dock.
4. Applicant understands that TVA retains the right to flood this area and that TVA would not be liable for damages resulting from flooding.
5. For purposes of shoreline bank stabilization (retaining wall and riprap), all portions would be constructed or placed, on average, no more than 2 feet from the existing shoreline at normal summer pool elevation.
6. Shoreline stabilization and erosion control would use bioengineering methods to the extent practical and other applicable methods as required.
7. Employ and implement all appropriate construction BMPs. These BMPs include:
  - (a) Disturbance and removal of riparian vegetation shall be kept to a minimum during construction, particularly any woody vegetation providing shoreline/stream bank stabilization.
  - (b) Installation of cofferdams and/or silt control structures between construction areas and surface waters prior to any soil-disturbing construction activity. Clarification of all water that accumulates behind these devices must meet state water-quality criteria at the stream mile where activity occurs before it is returned to the unaffected portion of the stream. Cofferdams must be used wherever construction activity is at or below water elevation.
  - (c) Must keep equipment out of the reservoir or stream and off reservoir or stream banks to the extent practicable (i.e., performing work "in the dry").
  - (d) Must avoid contact of wet concrete with the stream or reservoir and avoid disposing of concrete washings or other substances or materials in those waters.

- (e) Must agree to use erosion-control structures around any material stockpile areas.
  - (f) Must agree to apply clean/shaken riprap or shot rock (where needed at water/bank interface) over a water permeable/soil impermeable fabric or geotextile and in such a manner as to avoid stream sedimentation or disturbance, or that any rock used for cover and stabilization would be large enough to prevent washout and provide good aquatic habitat.
  - (g) Must agree to remove, redistribute, and stabilize (with vegetation) all sediment that accumulates behind cofferdams or silt control structures.
  - (h) Must agree to use vegetation (versus riprap) wherever practicable and sustainable to stabilize stream bank, shorelines, and adjacent areas. These areas would be stabilized as soon as practicable, using either an appropriate seed mixture that includes an annual (quick cover) as well as one or two perennial legumes and one or two perennial grasses or sod. In winter or summer, this would require initial planting of a quick cover annual only to be followed by subsequent establishment of the perennials. Seed and soil would be protected as appropriate with erosion control netting and/or mulch and provided adequate moisture. Stream bank and shoreline areas would also be permanently stabilized with native woody plants to include trees wherever practicable and sustainable (this vegetative prescription may be altered if dictated by geologic condition or landowner requirements). Must also agree to install or perform additional erosion control structure/techniques deemed necessary by TVA.
8. Use only U.S. Environmental Protection Agency-registered chemicals (i.e., pesticides, including herbicides) in accordance with label directions.

Additional ***Special Conditions*** would be included in the DA permit in order to further minimize and/or avoid environmental impacts. The following conditions are necessary to comply with federal law while affording appropriate and practicable environmental protection:

1. The work must be in accordance with any plans attached to this permit. The permittee must have a copy of this permit available on the site and ensure that all contractors are aware of its conditions and abide by them.
2. The permitted activity must not interfere with the public's right to free navigation on all navigable waters of the U.S.
3. The permittee shall recognize the possibility that any permitted structures may be subject to damage by wave wash from passing vessels and the applicant shall not hold the U.S. liable for any such damage.
4. The permittee must install and maintain, at their expense, any safety lights and signals prescribed by the USCG, through regulations or otherwise, on the authorized facilities.

Pickwick Pines Marina Inc.

5. The permittee shall institute and maintain a strict erosion and sediment control program for the life of the project. All disturbed areas shall be properly stabilized as soon as practicable to prevent erosion.
6. Pickwick Pines will submit written notice to the Yellow Creek State Inland Port and the Ergon terminal at least five days prior to the waterborne transportation of any marina structures across the Yellow Creek embayment from the port to the marina site.

## CHAPTER 7

### 7.0 REFERENCES

- Cordell, et al. 2004. *Outdoor Recreation in the 21<sup>st</sup> Century America. A Report to the Nation: The National Survey on Recreation and the Environment*. State College, Pennsylvania. Venture Publishing Inc.
- Institute of Transportation Engineers. 1998. *Trip Generation*, 6th edition. Washington Institute of Transportation Engineers.
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## CHAPTER 8

### 8.0 COMMENTS RECEIVED ON THE DRAFT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT AND TVA RESPONSES

TVA received 32 comment responses during the public review period on the draft SEA in June and July 2006. TVA responses to the comments follow. TVA has considered all of the substantive comments it received. As appropriate, the SEA was changed in response to some of the comments. Due to the frequent similarity of comments, TVA has summarized them below when possible. TVA has tried to identify after each comment, those individual(s) that made the comment. Because the comments were summarized, the precise wording of comments was not always used. However, TVA tried to retain all important differences among similar comments. All original comments are available for review upon request from TVA.

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#### Need for a Marina

**1. Comment:** Original project discussed and reviewed in 2000 including a convention center, hotel, and restaurant and 100-slip marina was favorable to most. Few attended public meeting held at that time because most were in favor of the project. Most were excited about the project and benefits it would bring to the area. The project has drastically changed and has the potential to negatively affect the area. The area has reached the saturation point and that it is time to stop! (Comment by Betsy Hamilton)

This is not the same concept the TVA Board had in mind when they approved the change of use in 2000/2001. The focus at that time was a destination area with a convention and meeting facilities, hotels and cabins, and restaurant and dining. The marina was only a small part (50-100 boat slips) to accommodate the former. The developer has reoriented the concept to suit his needs, not the County's. TVA has not held him to the original 2000/2001 concept. As a result, the Yellow Creek and Tishomingo County will be harmed. (Comment by Dave Davis)

(In Appendix C) Response to concerns of Yellow Creek Property Owners Association (YCPOA) – the finding of “No Significant Impact” in 2000 was based on a proposed marina of 100 slips, no dry storage facility, and a very different profile of water activity in the Yellow Creek area. Rodney/Pickwick Pines Marina’s belief that the “Concerns of the homeowners” in the area “have always been considered” is not shared by the homeowners. (Comment by Nancy and Lynn Magill)

**TVA Response:** *The original FEA examined a conceptual plan of what might be done with the property if commercial recreation facilities were located at this site. This SEA addresses a specific proposal requesting approval of water-use facilities that are consistent with the actions contemplated by that conceptual plan. The conceptual plan had as a component a 100-slip marina, and the marina initially proposed here was for 400 slips. Because of navigation concerns, TVA and U.S. Army Corps of Engineers (USACE) worked with the applicant to scale this down to 228 slips. This still is larger than the earlier conceptual marina, but associated impacts are similar and have been determined to be insignificant.*

**2. Comment:** I am very opposed to putting a marina at this location and ask that this project be reevaluated beginning with its purpose. The responsibility of TVA is to act as a steward of our natural resources and at the same time promote sustainable economic development through the management of these resources. This project does not accomplish these objectives. It compromises our natural resources and creates limited economic development for the benefit of a few at the expense of many. Once any development is established, it will be permanent and will not be subject to removal if found to be a safety issue. Pickwick Pines Marina and Tishomingo County Development Foundation want to convince the public and government entities that there is a need for a new marina at this location. There is no need. (Comment by Michael Reddoch)

This is the only cove left on Yellow Creek where my grandchildren can safely tube and ski. I am very much against the proposed "location" of this marina. (Comment by Anne Phillipy)

**TVA Response:** *Comment noted. Based on the 2000 FEA, TVA has already concluded that this is an appropriate location for a marina and associated facilities and conveyed an easement to the Tishomingo County Development Foundation for this purpose in 2001. This is fully consistent with TVA's responsibilities under the TVA Act.*

**3. Comment:** Why is TVA so persistent to allow the construction of the new Pickwick Pines Marina? (Comment by Larry Nolan)

**TVA Response:** *See response to Comment 2. The requested action here is to approve water-use facilities that were contemplated by an earlier TVA decision. That earlier decision based on the associated environmental review (the original 2000 FEA) concluded the benefits of locating a marina and associated facilities at this location outweighed any potential environmental impacts.*

**4. Comment:** With two other marinas, not to full capacity and within eyesight of the Pickwick Pines Marina location – you have not proven a need for this additional marina to be built in this area of Yellow Creek. (Comment by Anne Phillipy)

**TVA Response:** *See response to Comment 2. During the review, the other marinas in the area were at approximately 80 percent capacity, with the majority of remaining available boat slips being 30 feet or less. Grand Harbor is now at full capacity. The majority of Pickwick Pines Marina's slips would be longer than 30 feet. This confirms TVA's determination in the 2000 FEA about the merits of locating a marina and associated facilities at this location.*

**5. Comment:** In Appendix C, Table 3-4, Pickwick Pines Marina's (PPM) figures show that three of the area's five marinas have no waiting list. How can Rodney contradict the figures published by his own company? And how many transients can PPM serve? The number is not mentioned in the proposal. (Comment by Nancy and Lynn Magill)

**TVA Response:** *See response to Comment 4. There will be room for approximately 20 (50-foot) transient boats.*

**6. Comment:** (Section 3.4.6) I am having trouble understanding how building a marina housing expensive boats with expensive equipment could possibly have less vandalism than a roadside park that has been abandoned for many years. What is the basis for this assumption? (Comment by Nancy and Lynn Magill)

**TVA Response:** *The roadside park had no one on site to prevent vandalism and other illegal activity; whereas, the marina will have personnel and security on staff.*

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## **Alternative Marina Location**

**7. Comment:** Move the marina to another area that needs one (is more suitable). Why can't another location be found for a new marina? Other alternative locations have apparently not even been considered. (Comments by John Lichterman, Larry Nolan)

Have alternative locations been thoroughly studied? What about on the other side of the (Yellow Creek) port away from a portion of the right-of-way. Avoid the safety problem by locating the project elsewhere on the lake towards Goat Island. The proposed location suits Pickwick Pines because it benefits their off-site property. (Comment by Michael Reddoch)

"The EA states there are 500 miles of shoreline on Pickwick Lake. If that is the case, why can't this (Pickwick Pines Marina) development move to a less congested location?" (Comment by Mary Ben Heflin, Tupelo News, 6/28/06)

"We are not against development. We just want the marina moved to a less congested area so boat traffic will be spread out." No analysis of alternative sites on Pickwick Lake and in Tishomingo County. (Comments by John Heflin, *Wheeler Water News*, 7/11/06, and Dave Davis)

Adding the proposed Pickwick Pines Marina to the currently proposed location on Yellow Creek is dangerous. One only needs to sit on our dock and try to take the boat out on a weekend to understand. You have alternate sites available where marinas do not currently exist. I urge you to avail yourself of one of those sites instead of burdening us with yet a third marina in the area that is already congested. (Comment by Chris and Mark Norris)

We love boating and understand there is a desire for a new marina, but this is not the right place. (Comment by Jeanne and Richard Hollis)

Alternate sites where there is less congestion of existing marinas and boat traffic are nowhere considered. (Comment by John Heflin, et al.)

Pickwick Pines Marina (PPM) manager Rodney Lucas has stated that other areas (an alternate marina location) are too hard to get to and the land too expensive because of property values. These challenges should be solved by PPM and Tishomingo County Development Foundation and not a reason to permanently compress and alter this part of the lake. (Comment by Michael Reddoch)

Table 3-2 (Existing Marina Facilities) indicated that Pickwick Landing State Park and J. P. Coleman State Park are the only local marinas with a waiting lists for slips. Wouldn't it make more sense to locate any new marinas where there is an existing need rather than near two marinas with unfilled slips? And don't forget the added advantage of non-congested water near those other locations. (Comment by Nancy and Lynn Magill)

I traveled down towards Eastport Marina/Bear Creek area last week and noticed how calm and open and easy to navigate it was. Please admit that this area would be a much better

and safer location to add more boating activity. If the area does not suit all, look for others, anywhere else but Yellow Creek (YC) where I already fear for my family's life. In fact I won't let my wife and kids to be on YC during its rush hour. (Comment by Drew Renshaw)

I am not against good smart development; in fact I use both marinas now in place in Yellow Creek. However we already have plenty of service available. There are lots of other places on the lake people would love to have a large facility such as this. Make the developer find one. (Comment by Drew Renshaw)

Our objection is not development of the Pickwick Lake area. It is a development of this magnitude in close proximity to two other large marinas with a capacity of over a 1,000 boats combined. (Comment by Frank and Amy Davis)

***TVA Response:*** *Based on the 2000 EA, TVA earlier decided that this location is suitable for a marina and associated facilities and transferred a long-term easement to the TCDF in 2001. The location has been identified as suitable for commercial recreation in the Pickwick Reservoir Land Management Plan. That planning process examined the feasibility of alternative uses for lands on Pickwick Reservoir that were under TVA's control. The decisions before TVA now involve approval of water-use facilities that are consistent with TVA's earlier decision and actions. The SEA addresses congestion effects.*

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## Review Process

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**8. Comment:** Would like a public hearing on the Pickwick Pines Marina (PPM) proposal (Comment by Martha Huie, Mary Ben Heflin, John Heflin, Larry Nolan, Michael Reddoch, Patricia McHughes, Nancy and Lynn Magill). A well publicized public hearing would do a lot toward convincing the public that our (Yellow Creek Property Owners Association) concerns are important to TVA, the Corps of Engineers and PPM. (Comment by Nancy and Lynn Magill)

***TVA Response:*** *A public hearing is not necessary nor expected to contribute meaningfully to the public discourse that has already occurred here. Ample opportunities have been provided to the public for review of and comment on this proposed action. Three separate comment periods totaling approximately 90 days were provided, including a 30-day comment period for the draft SEA. In addition, TVA provided approximately 60 days for comment on the scope and draft of the original EA.*

**9. Comment:** Has a Notice of Intent (NOI) application been filed? (Comment by Mary Ben Heflin)

***TVA Response:*** *No. A Notice of Intent (NOI) to prepare an EA is not required by the National Environmental Policy Act (NEPA), its implementing regulations or by TVA's procedures for implementing NEPA. TVA and USACE did advertise opportunities for public involvement in the joint public notice and draft SEA review processes.*

**10. Comment:** Concerned about the length of the draft SEA comment period. Comment stated that time taken to mail hard copy of document subtracts from the 30-day comment period. She would like a 60-day review period. States that the electronic document available online is lengthy, hard to read, and hard to print. (Comment by Mary Ben Heflin)

**TVA Response:** *See response to Comment 8. Public comment periods for this proposed action already total approximately 90 days, including a 30-day comment period on the draft SEA. The draft SEA was and is available in hard copy by request from TVA.*

**11. Comment:** Is the issuance of the Final SEA the “Decision approving or disapproving an application for construction” as contemplated in 18 CFR 1304.6 from which an appeal lies? If not, what constitutes that decision from which an appeal lies? (Comment by John Heflin, et al.)

**TVA Response:** *The issuance of the final SEA does not constitute a decision approving or disapproving an application for construction of Pickwick Pines Marina. The SEA supplements the EA issued in 2000 and provides a detailed evaluation of environmental impacts of approving the current Pickwick Pines Marina proposal. The decision to issue the 26a permit is a separate decision by TVA and can be appealed under the criteria in 18 CFR 1304.6.*

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### **Suggest Additional Study Needed**

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**12. Comment:** Believes additional time should be spent to study proposal before constructing the Pickwick Pines Marina (PPM) or TVA and the lake homeowners will suffer the consequences. Feels that more response is due to the lake homeowners. (Comment by Larry Nolan)

Insufficient or non-existent responses from TVA, USACE, Pickwick Pines Marina, Tishomingo County Development Foundation (TCDF) and Yellow Creek (YC) Port Authority are numerous and the concerned citizens and property owners deserve complete and accurate assessments before the development should progress. (Comment by Vince and Marsha Marascuilo)

Feels that all the problems associated with the proposed location have not been addressed and, as a matter of public concern and safety, should be. (Comment by Tom Burkett)

More study must be done in order to make a prudent long-term decision that serves all on the lake not just PPM and its developer. (Comment by Michael Reddoch)

We are asking you to please consider doing a real study of the impact this marina will have on YC and the surrounding area. (Comment by Jeanne and Richard Hollis)

**TVA Response:** *See response to Comment 8. TVA originally prepared an environmental review for use of the property as a commercial recreation facility in 2000. There were several opportunities for public input during the 2000 review and subsequent grant of the property for long-term easement to TCDF. The current review of the proposed marina has had two public reviews through the USACE public notice process and a third for comment on the draft SEA. TVA and USACE have considered the comments made during these review processes and have responded to all substantive comments, including those comments that identified specific analytical deficiencies.*

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## **Environmental Assessment Not Sufficient**

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**13. Comment:** “The title “Environmental Assessment” is an oxymoron as applied to this document as TVA did little assessment of current data”. (Comment by Mary Ben Heflin, Tupelo News, 6/28/06)

**TVA Response:** *Comment noted. See response to Comment 14.*

**14. Comment:** Would like that an Environmental Impact Statement (EIS) level of review instead of an Environmental Assessment (EA). States that Pickwick Pines Marina project is publicly controversial and meets the definition of when an EIS is warranted. Also believes that the draft 2006 SEA to be deficient. (Comment by Martha Huie)

I am requesting that the Pickwick Pines Marina (PPM) application be escalated from and EA to an EIS. The project has been publicly controversial, there has not been a Public Hearing even though this project is dramatically different then the one approved in the 2000 FEA and data submitted by Yellow Creek Property Owners Association indicates that inadequate review and responses have been provided. (Comment by Mary Ben Heflin)

**TVA Response:** *The purpose of an EA or SEA process is to determine if preparation of an Environmental Impact Statement is necessary for a proposed action. The analyses done for the EA and SEA here do not indicate that the proposed approval of a marina at this location, after it was reduced in scale, will result in significant environmental impacts.*

**15. Comment:** The published report (draft SEA) did not address most of the concerns that everyone (property owners) has with the construction of the Pickwick Pines Marina. (Comment by Larry Nolan, Michael Reddoch)

The report does not discuss the implications of restaurant, rental or personal watercraft (PWC) traffic. (Comment by Michael Reddoch)

What was proposed in 2000 was a facility with a much smaller marina and impact on water usage: a 50 to 100 boat slip marina with no dry storage or access ramp versus a 228-slip facility with significant dry storage and unlimited traffic from the boat ramp. The 2000 concept of a convention center/restaurant facility with a 50 to 100 boat slip marina would have a substantial number of those slips reserved for persons coming by water to that facility whereas the current proposal contemplates all slips (other than for villas and fuel dock) being rented. There are vast differences in what was proposed and reviewed in the 2000 FEA and the current proposal that renders reliance on the 2000 FEA untenable. (Comment by John Heflin, et al.)

**TVA Response:** *See response to Comment 1. The 2000 FEA review evaluated a marina as part of the overall conceptual plan to develop the property for commercial recreation. The 2006 SEA addresses the marina proposed for development by Pickwick Pines and potential environmental impact due to the construction of a 228-slip marina and associated facilities. While Pickwick Pines Marina is larger than what was discussed conceptually, the various analyses in the SEA do not identify any likely significant impact. The issues and concerns identified during the public review process have been appropriately considered and addressed.*

**16. Comment:** The 2000 FEA touted the benefits a convention center and restaurant would bring to the area including providing a facility where 200 or more people could

gather, and employment opportunities for persons who would work there. The existing proposal offers no such facility or benefits: a marina facility alone offers dramatically fewer jobs than a convention center, hotel and restaurant. No contractor in Tishomingo County is capable of constructing a marina facility of this size. (Comment by John Heflin et al.)

The 2000 FEA was for a convention center that could seat at least 200 people and a 100-room hotel. It was not opposed because of the number of people it would employ in the county. Why isn't a convention center and hotel included in the current proposal? (Comment by Mary Ben Heflin)

**TVA Response:** *Commercial recreation development for the upland area, including features identified by these comments, was previously approved after the 2000 EA when the TVA Board approved granting a long-term easement to TCDF. This supplemental review focuses on and responds to a request that the agencies approve a marina that would be part of this overall development. This marina is not in lieu of or a substitute for development of other features.*

**17. Comment:** In what little secondary and tertiary data was offered, there were errors, it was aged, and was questionable regarding its statistical application on YC. (Comment by Dave Davis)

**TVA Response:** *TVA utilized the most recent available information and accepted analysis techniques in assembling this SEA. It also offered opportunities for other agencies and individuals to provide additional information.*

**18. Comment:** Many people did not oppose the December 2000 EA because it was much smaller than the current proposal. There has been tremendous growth in Yellow Creek since 2000. How can statistics from the 2000 EA be used to justify a project significantly larger in an area that has had explosive growth over the last five years? (Comment by Mary Ben Heflin)

**TVA Response:** *The 2006 SEA evaluates the proposed 228-slip Pickwick Pines Marina and associated facilities and is based on the most recent available information, including the recent developments in the Yellow Creek area. The 2000 EA evaluated use of the TVA property for a long-term use for a recreational easement by Tishomingo County which included a conceptual plan for a 100-slip marina.*

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### **Needs More Agency/Industry Coordination**

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**19. Comment:** Mississippi and Tennessee share the burden of safety responsibilities in the area. Even though this development will have a physical address in Mississippi, all interested organizations in Tennessee should not have been eliminated from discussions. Additional review time to include these groups should be allowed. (Comment by Vince and Marsha Marascuilo)

Nowhere in the information we have read have TVA Police, Tennessee Wildlife Resources Agency (TWRA), or the State of Mississippi Coast Guard been contacted about the possibility of the marina and the impact it will have. (Comment by Jeanne and Richard Hollis)

At a meeting with TVA on July 10, 2006, a group of homeowners expressed a number of concerns regarding safety. We were told that safety is not TVA's responsibility. If safety is not TVA's responsibility, why don't you include safety-related information from the agencies that are responsible such as TWRA, MS Wildlife, and the TVA Police? They have never been contacted by the Pickwick Pines Marina proposal. All local (water) law enforcement agencies in Mississippi (MS) and Tennessee (TN) should be contacted. Boats that enter the water at the state line TWRA boat ramp immediately enter MS water. The MS and TN state lines cross this area of Yellow Creek. Therefore both TN and MS agencies should be contacted. (Comment by May Ben Heflin)

**TVA Response:** *The project location is located in Mississippi and therefore falls under the jurisdictional responsibility of the State of Mississippi. Accordingly, TVA specifically coordinated this proposal directly with the State of Mississippi, Department of Wildlife, Fisheries, and Parks. TVA did not send the SEA for review to Tennessee Wildlife Resources Agency, but the public notices published by TVA/USACE/MS for this for this proposal would serve to alert other interested agencies. See response to Comment 22 below.*

**20. Comment:** (In the EA) "... there was no mention of the marine accidents, which have occurred in the area. I see no reports from the U.S. Coast Guard, Coast Guard Auxiliary, which regularly patrols this area on summer and holiday weekends. I see no reports from Hardin County, Tennessee, Sheriff's Office, Tishomingo County, or the Mississippi State Police addressing the traffic on the highway or the boating/marine accidents which have occurred on YC." (Comment by Tom Burkett)

**TVA Response:** *Boating incidents recorded in the Yellow Creek area by the Coast Guard for the period of 1995-2004 are described in Section 3.4.6.*

**21. Comment:** States that Ergon is frequently mentioned in SEA but is not the only company using the area for navigation. Commenter has observed as many as 30 barges moored on the shoreline as well as the port. Requests a new discussion with all (navigation) groups that might be impacted by the construction of Pickwick Pines Marina. (Comment by Vince and Marsha Marascuilo)

**TVA Response:** *In response to USACE's initial Public Notice 05-87 for the 400-slip marina, several different navigational interests voiced concerns. TVA and USACE met with various towing companies, the Coast Guard, and the applicant on December 6, 2005 to discuss these concerns. As a result, the applicant re-designed the proposed marina, reducing it to 228 slips and producing an overall smaller marina footprint and shorter lakeward extension of facilities.*

**22. Comment:** Why weren't people and organizations such as the Tennessee Conservation League who commented on the December 2000 EA contacted about the Pickwick Pines Marina proposal? Most received no notice of the PPM proposal. (Comment by Mary Ben Heflin)

**TVA Response:** *There was only limited interest in the 2000 EA and the action it assessed (locating commercial recreational facilities at this location). In addition to the Tennessee Conservation League (now the Tennessee Wildlife Federation), TVA received comments only from the U.S. Fish and Wildlife Service, USACE, and four individuals. The League's comments primarily focused on issues related to preservation of land resources under*

*TVA's control and interest in TVA's land management policies. The issues and concerns raised in this earlier public comment process were fully considered and addressed in the original 2000 EA. The decision to devote this site to commercial recreation interests was made shortly after the EA was completed. The current review is for a proposed marina facility only and does not involve any changes in the land use. Regardless, the opportunities for public review were provided through the USACE/TVA/MS Public Notice process and the draft of this SEA was posted on TVA's public website.*

**23. Comment:** I am requesting that further review be given to the environmental impact of this development. On October 19, 2000, the USFWS wrote Jon Loney regarding the 2000 FEA for the Tishomingo County Development Foundation stating "the EA does not adequately support the Finding of No Significant Impact." It was rejected by U.S. Fish and Wildlife Service (USFWS) at that time because of the impact on wildlife, vegetation and water quality. The USACE was sent a letter March 20, 2006, by the USFWS stating they would not object to issuance of a permit for the Pickwick Pines Marina (PPM) based on the data available to them. TVA and the USACE have not provided complete information to USFWS. Surveys should be conducted on the PPM proposed location so USFWS has sufficient data to make a valid evaluation. The June 2006 SEA does not note a single environmental survey for this site, so I must assume that no surveys or studies have been conducted. TVA should inform USFWS on this information and provide a current study that will allow USFWS to make a true evaluation. (Comment by Mary Ben Heflin)

**TVA Response:** *As this commenter recognizes, USFWS did respond to the USACE that available information was sufficient for them to conclude that permitting the requested facilities would be acceptable. Additional analyses, including site surveys, were conducted during the preparation of this SEA.*

**24. Comment:** It has come to our attention that TVA is considering another sale or transfer of public property for the benefit of private development. The Mississippi Wildlife Federation along with citizens throughout the county are concerned about the continuing loss of public lands. In addition, we are concerned with ever increasing encroachment on important Natural Resource Conservation areas. At slightly over 5 acres, the area affected by this project can become vulnerable to increased traffic and pollution. (Comment Cathy Shropshire, Mississippi Wildlife Federation)

**TVA Response:** *The land rights necessary for the construction of the proposed Pickwick Pines Marina were granted to the Tishomingo County Development Foundation in 2001. No additional sale or transfer of public property is being considered as part of this currently proposed action.*

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## Public Notification

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**25. Comment:** The notification given to all affected property owners was insufficient. Access to addresses of all affected property owners was not utilized to explain the nature of this project until late in the process. All property owners in the affected area are a matter of public record. No effort was made by Tishomingo County Development Foundation and Pickwick Pines Marina (PPM) to contact the affected parties explaining the proposed marina. TVA should rescind the PPM application and require a more thorough notification. (Comment by Michael Reddoch)

TVA failed to adequately publicize the current proposal. When the concept reflected in the 2000 FEA was under discussion, TVA ran ads in local and regional newspapers including the *Memphis Commercial Appeal*. The TN Conservation League (now the TN Wildlife Federation) was consulted in 2000 and expressed opposition to the project including concern over the absence of data collected on boat traffic. TVA failed to notify or seek comment from this important entity regarding the current proposal. TVA also failed to contact or seek comment from the Mississippi Wildlife Federation. TVA also failed to contact or seek comment from the Pickwick Reservoir Lake Watch Program, even though it references that entity in the SEA. TVA failed to contact or solicit information from the local office of the TWRA. Now, when a dramatically larger project is under consideration, TVA has failed to provide comparable notice and run comparable ads. (Comment by John Heflin, et al.)

**TVA Response:** *Information about Pickwick Pine Marina's proposal was provided and comments sought in two TVA/USACE/MS Public Notice review periods in December 2005 and in February 2006. The proposal was again submitted for public comment during the TVA draft SEA review in June 2006. In addition, the draft SEA was mailed directly to a list of 185 Yellow Creek property owners provided by the Yellow Creek Homeowners Association for review and comment. It was also available on TVA's public internet web site.*

**26. Comment:** "One hundred and fourteen wrote letters to TVA during the last public comment period or signed petitions objecting to all or part of the development. Only three people wrote letters supporting the development ..." (Comment by Mary Ben Heflin, Tupelo News, 6/28/06)

**TVA Response:** *Comment noted. These comments have been considered in development of this SEA.*

**27. Comment:** Is TVA afraid of the media coverage? (Comment by Patricia McHughes)

**TVA Response:** *Several news articles have appeared in local newspapers and lake users publications about this proposal.*

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## **Marina Design**

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**28. Comment:** Under "Additional *Special Conditions*," Paragraph 1, SEA requires that the marina be constructed in accordance with the plans attached to the permit. Ergon and Magnolia Marine are concerned about the lack of specificity and engineering in the existing plans. Ergon and Magnolia Marine request the SEA and eventual permit, if any, require Pickwick Pines Marina (PPM) to submit more detailed marina plans as they develop to give TVA, the Corps, and Ergon and Magnolia Marine an opportunity to ensure PPM's compliance with the SEA and permit. (Comment by Watson and Jernigan, Ergon and Magnolia Marine)

TVA should require PPM to submit a more detailed and professional marina design. The marina drawings in the June 2006 SEA are very simplistic and not professionally prepared. The drawing on pg. A-9 is not even to scale. Check to dimensions listed on pg. A-9 for the docks and you will see that the drawing of the marina does not match the measurements listed. There is no indication that a qualified engineer has prepared the marina documents

that are a core piece of the PPM proposal which TVA must evaluate. How can TVA evaluate a marina without accurate detailed drawings to scale? (Comment by Mary Ben Heflin)

**TVA Response:** *If TVA approves the proposed marina, its approval will include a condition requiring the applicant to submit final engineering drawings to TVA before construction is commenced. TVA and USACE will ensure Pickwick Pines Marina's compliance with the SEA and permit. The initial plans were prepared by an engineer.*

**29. Comment:** No analysis to support why a lesser offset of 1,675 feet from the Ergon terminal was sufficient than a previously discussed 2,000 feet. The photo showed a 4 barge tow and not a 6 barge tow superimposed – this is important in the discussion of the need for a minimum of a 2000 foot offset from Ergon's facility and not the compromised 1675. (Comment by Dave Davis)

**TVA Response:** *In the original concept plan for the commercial recreation easement on this tract of land, the location for the 50- to 100-slip marina was determined to be 2000 feet from the Ergon terminal. TVA navigation specialists have also determined that this distance would create no conflict with commercial navigation. TVA navigation specialists have also determined that the currently proposed 1625 feet distance is acceptable given the configuration of the marina, its location relative to the Ergon terminal, and the requirement to install a dolphin. At no time had TVA, the USACE, Ergon, or the navigation industry decided that 2000 feet should be a minimum distance between the marina and the terminal. See also the response to Comment 33 below.*

**30. Comment:** (In Appendix C) Rodney Lucas' first statement that "132 of the 228 slips" are "over 30 feet" does not match slip breakdown in Section 3.4.6. (According to Section 3.4.6, there would be 136 slips over 30 feet). His lack of concern for accuracy does not reflect well on his professionalism or his concern. (Comment by Nancy and Lynn Magill)

**TVA Response:** *There will be 136 slips over 30 feet in length.*

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## **Marina Expansion**

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**31. Comment:** What assurance do homeowners have that this marina will not be increased in size after it has been in operation for a period of time – further contributing to the traffic congestion and safety problems already extant? (Comment by John Heflin, et al.)

What restrictions are put on future growth and expansion of the marina? (Comment by Mary Ben Heflin)

The marina operator should agree never to seek expansion of the harbor limits discussed in Paragraph 8 of the Chapter 6 conditions. (Comment by Watson and Jernigan, Ergon and Magnolia Marine)

**TVA Response:** *TVA is unaware of any plans for such an expansion and it would be difficult to technically justify this. The proposed harbor limits are the "maximum allowable" at this location.*

**32. Comment:** Near the end of Section 3.4.5 in explanation of the use of no-wake areas around marinas, it is mentioned that “they are also used to define an area into which expansion of a marina may later occur.” Is such expansion already being considered? (Comment by Nancy and Lynn Magill)

**TVA Response:** *See response to Comment 31. The identified section also states that for Pickwick Pines Marina, the harbor limits will not exceed the extent of the proposed dock structure itself, with the exception of a 50-foot area around the gas pump for the purpose of a no-wake zone for safety in the refueling area. The final sentence of that paragraph recites that there will be no expansion and no other wake zones will be permitted.*

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### **Dolphin Design**

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**33. Comment:** A single dolphin structure could not possibly provide sufficient protection for the marina. (Comment by Vince and Marsha Marascuilo)

The dolphin required in Paragraph 7 of Chapter 6’s conditions and further described in Appendix D is clearly inadequate for its intended purpose. The marina’s protection system should, at a minimum, meet the vessel collision requirements of the AASHTO LRFD Specifications, Paragraph 7, Appendix D, and the related text in Section 3.4.5 should be amended accordingly (Sec 3.4.5’s reference to “Section 6.1f” should also be changed to refer to “Section 6.0”). (Comment by Watson and Jernigan, Ergon and Magnolia Marine)

Significant design flaws in the marina’s proposed structure: our discussions with other knowledgeable sources indicated a need for a minimum of three dolphins. There are noticeable “to scale” problems with the drawing. (Comment by Dave Davis)

**TVA Response:** *Section 3.4.5 of the SEA, paragraph 11, describes the context in which the decision to require a dolphin for the southeast corner of the marina structure was made. In the original marina proposal from Pickwick Pines, the marina structure was to be constructed perpendicular to the shoreline creating a much larger profile in the embayment. The combination of the marina configuration, the propensity for windblown tows in this embayment, and a distance of less than 2,000 feet between the terminal and the marina were deemed unacceptable to navigation safety.*

*The redesign of the marina so that it lies parallel to the shoreline allows for more room in the center of the embayment where windblown tows are likely to travel. The 1625-foot distance from the terminal to the marina is acceptable to TVA because this configuration places the closet corner to the terminal farther west than the terminal, allowing room for the front of an empty tow to swing away from the Ergon terminal without striking the marina structure if caught by the wind, whether it is moored nose in or nose out at the terminal (see Figure 3.1)*

*The dolphin is intended to provide an additional safeguard, which would allow a wind blown tow a structure to “lean” against in the event the tow operator was blown back to the west rather than out into the middle of the embayment. This would provide the tow operator the opportunity to get enough engine power to regain control of the tow.*

*The dolphin is not meant to protect the marina from every potential marine incident, but to provide a reasonable mitigation, in combination with the location and design of the marina itself, against the likeliest foreseeable safety issues.*

*This has been explained more clearly in the SEA. TVA has also added a permit condition to Chapter 6 requiring Pickwick Pines Marina to construct a dolphin that meets AASHTO Load and Resistance Factor Design (LRFD) Specifications. The design would also be required to be certified by a licensed Professional Engineer (PE) and submitted to TVA for approval prior to construction.*

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### **Other Design**

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**34. Comment:** Where are the details of the 24-hour security mentioned? (Comment by Vince and Marsha Marascuilo)

**TVA Response:** *The applicant has stated that there will be security services at the marina.*

**35. Comment:** Where are the pump-out tanks to be located? (Comment by Vince and Marsha Marascuilo)

**TVA Response:** *The location of the pump out tanks is still being discussed; however all of the current options are off of the TCDF easement property and TVA would require approval of any location. MDEQ will require connection to an Office of Pollution Control approved wastewater collection and treatment system.*

**36. Comment:** Where are the fuel storage tanks to be located? (Comment by Vince and Marsha Marascuilo)

**TVA Response:** *The fuel storage tanks would be located on the west side of the property.*

**37. Comment:** Why would the trail need to be 12 feet wide (emergency vehicles do not need that much room)? (Comment by Vince and Marsha Marascuilo)

**TVA Response:** *Twelve feet would give any vehicle including an emergency vehicle adequate room to maneuver.*

**38. Comment:** Portions of the conditions in Chapter 6 in the SEA are too vague and others are inadequate. Paragraph 6 (Chapter 6) condition requires an “Acceptable method of wave attenuation.” This should be amended to require specific wave attenuation measures adequate to withstand the wake and wheel wash created by Ergon and Magnolia Marine’s commercial barge operations (Comment by Watson and Jernigan, Ergon and Magnolia Marine)

**TVA Response:** *There are a number of commonly used wave attenuation designs the Pickwick Pines Marina might choose from. TVA would expect PPM to pick a design that is effective, since their marina structure is susceptible to damage and this would be to their benefit. We do not feel that it is necessary to require specific measures for wake and wheel wash from Magnolia/Ergon tows since there are others both industrial/commercial vessels as well as recreational vessels which contribute to the wake and wheel wash.*

**39. Comment:** The marina operator and its users should agree not to hold Ergon and Magnolia Marine liable for any damage caused by wake and wheel wash caused by Ergon and Magnolia Marine's commercial port operations, and the marina operator should be required to place signs warning marina users about the wake and wheel wash from Ergon and Magnolia Marine's port operations. (Comment by Watson and Jernigan, Ergon and Magnolia Marine)

**TVA Response:** *USACE and TVA worked with the applicant to address potential navigation risks and the applicant redesigned the proposed marina. Imposing the conditions requested here, even if the first condition is within the agencies' authority would not materially increase the safeguards that have been built into the redesigned facility.*

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### Houseboat Rentals

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**40. Comment:** The SEA asserts that the applicant's intention to rent and sell houseboats "offers a new recreational opportunity on Pickwick Reservoir" is simply incorrect. Attached are photographs showing rental of houseboats by Aqua Yacht Harbor, which has been ongoing for years. (Comment by John Heflin et al.)

There is a statement (3.4.6) that the "applicant proposes to sell and rent houseboats which are common on some other inland reservoirs." What does it matter what's common on other reservoirs? Aqua already has rental houseboats that sit at their dock most weekends. Why do we need more? (Comment by Nancy and Lynn Magill)

**TVA Response:** *The Final SEA has been revised to note that houseboat rentals currently available on Pickwick Reservoir.*

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### Access / Views / Parcel 143

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**41. Comment:** What assurance do homeowners have that Parcel No. 143, located immediately to the north of the proposed Pickwick Pines Marina site (present allocation as Natural Resource Conservation-Important Wildlife Habitat and Shoreline Vegetation) will not be reclassified in the future as expansion land for this marina? (Comment by John Heflin et al.)

**TVA Response:** *TVA is not aware of any proposals for development or reallocation of Parcel 143. Should such a request be made in the future, it would be subject to appropriate environmental review and require a change in the Pickwick Reservoir Land Management Plan.*

**42. Comment:** Pickwick Pines Marina (PPM) would be located adjacent to property (TVA Parcel 143) that is Zone 4 (Natural Resource Conservation). This adjacent property is described (April 2002 Draft EIS and Land Management Plan) as "important wildlife habitat and shoreline vegetation." The entrance to the 228-slip marina and a fuel dock should not be located in front of a Natural Resource Conservation property. Why are they being allowed to build in front of property not leased to PPM? (Comment by Mary Ben Heflin)

The drawing of PPM boat slips on page A-9 of the June 2006 SEA shows the marina protruding in front of Parcel 143. Why can a private developer build in front of land they do not own and land that is important to wildlife habitat and shoreline vegetation? Why are they being allowed to build in front of property not leased to PPM? (Comment by Mary Ben Heflin)

Why should PPM be allowed to build in front of a cove used by existing property owners? PPM not only would block the view of adjacent property owners, but the property owners would also have to go around the marina to exit their own cove. (Comment by Mary Ben Heflin)

The design of the proposed structure poaches upon the egress and ingress of the adjacent private property owners on the north side of the proposed marina. (Comment by Dave Davis)

**TVA Response:** *The design of the marina will not restrict access or interfere with Parcel 143 or the cove to the north of the development.*

**43. Comment:** The concern of the nearness of the fueling dock to TVA protected land on the north side. (Comment by Dave Davis)

**TVA Response:** *Parcel 143 should not be affected by the fuel dock. A Spill Prevention, Control and Countermeasure Plan (SPCC) will be required of the applicant prior to permitting the fuel facility. Clean Marina Guidelines require use of spill cleanup kits for fuel and oil spills rather than chemicals for dispersal. Clean Marina Guidelines also require emergency shut off valves to minimize effects of fuel leaks.*

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### **Applicant Qualifications**

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**44. Comment:** What assurance do homeowners of nearby property have that PPM has the financial resources to pay compensation for lowering property value to existing homeowners? (Comment by Mary Ben Heflin)

**TVA Response:** *Because the proposed developments would not have significant impacts on resource areas such as noise, visual, road traffic, boat traffic, etc., no significant impacts to property values would be likely. See also the response to Comment 90.*

**45. Comment:** What financial guarantees have been provided to Tishomingo County Development Foundation (TCDF) and ultimately the property owners on Yellow Creek in the event that the developers are not able to perform during the life of the lease? (Comment by Mary Ben Heflin)

**TVA Response:** *The lease agreement between TCDF and Pickwick Pines Marina includes a performance requirement.*

**46. Comment:** Are the financial statements of the developers available for public review and vetting to allow a fair analysis by third parties to determine solvency and sufficiency? (Comment by Mary Ben Heflin)

**TVA Response:** *Both TVA and TCDF have reviewed the applicant's financial statements. Private financial information is not generally available to third parties.*

**47. Comment:** What are the qualifications of the contractor to perform the proposed work? What specific experience do the developers of PPM have in marine management? (Comment by Mary Ben Heflin)

**TVA Response:** *If approved, the docks will be built by Galva-Foam/Shoremaster. Rodney Lucas was the former Harbormaster of Grand Harbor Marina.*

**48. Comment:** Owners of property at Pickwick Pines Resort wrote that David and Brett McMeans have “demonstrated to us that they do not keep their financial promises.” Is there protection if they fail to honor their covenants or abandon the marina or do not complete it? Is TVA going to rely upon the YC Port Authority (on whose Board McMeans sits) to watchdog PPM's adherence to its obligations? (Comment by Mary Ben Heflin)

What rights do surrounding property owners have if PPM's promised are not fulfilled? (Comment by Mary Ben Heflin)

**TVA Response:** *TVA will ensure compliance with the commitments identified in the easement and the SEA. See the response to Comment 45.*

**49. Comment:** What due diligence exercised in issuing the RFP (Request for Proposal) by TCDF? (Comment by Mary Ben Heflin)

**TVA Response:** *The RFPs issued by Tishomingo County Development Foundation (TCDF) were publicly available. TCDF, not TVA nor USACE, selected Pickwick Pines Marina.*

**50. Comment:** Isn't there a conflict of interest for a McMeans' family member to serve on the Yellow Creek Port Authority while personally involved in a major marina proposal adjacent to that property? (Comment by Mary Ben Heflin)

**TVA Response:** *Comment noted.*

**51. Comment:** Should a PEER (Performance Evaluation and Expenditure Review) inquiry be performed and an opinion of counsel from the State of Mississippi's Attorney General's office be requested? (Comment by Mary Ben Heflin)

**TVA Response:** *Neither TVA nor USACE processes require this.*

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## **Environmental Resources**

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### **Shoreline Erosion/Boat Wake**

**52. Comment:** The SEA did not attempt to measure variables (wake depth and frequency) that could contribute to shoreline erosion and destruction of private property. No attempt to estimate the cost to the current property owners for replacement of docks, boathouses, and retaining walls due to the expected incremental increase in watercraft traffic. (Comment by Dave Davis)

**TVA Response:** *Construction of the proposed marina would concentrate boat traffic which could increase local wave energy levels. Shoreline stabilization would protect the immediate harbor area from erosion. The higher concentration of watercraft around the proposed marina is expected to contribute to an insignificant acceleration of erosion of surrounding areas of unprotected shoreline which would diminish with increasing distance from the marina.*

**53. Comment:** Smaller boats do not produce enough boat wake to damage lake property. Large boat wakes are primarily responsible for property damage and have damaged his lake home property. A new marina will add to the damage to existing boat houses and shoreline from large boat wakes. (Comment by Larry Nolan)

More boats (particularly big boats) and continuous traffic perpetuate the problem (shoreline erosion) with no right to offset by those affected. Shoreline, boathouses, docks, and the alike are all negatively affected. What study has been done to protect existing interests? (Comment by Michael Reddoch)

The report (SEA) does not adequately address the long-term implications of shoreline erosion. Existing shorelines in adjacent areas will have accelerated erosion. This includes the small island across from the proposed development near the Cheerio property. Current wave action is substantial and adding more traffic will exacerbate the problem—the heavier the traffic, the more erosion. Wave action is shrinking and pounding the current area islands. (Comment by Michael Reddoch)

The draft SEA appears to acknowledge the problems of shoreline and bulkhead damage and erosion, but offers no solution. It recognizes that additional boat traffic will cause additional damage, but TVA's response to that situation appears to be indifference to the plight of those homeowners and business damaged by the combating of erosion. (Comment by John Heflin et al.)

What will Pickwick Pines Marina be required to do to protect shorelines and the one remaining island from erosion caused by wakes from larger boats and the addition of potentially hundreds of more boats in this area. (Comment by Mary Ben Heflin)

A companion study measured the impact of wake from large boats. It found a single large boat would create a boat wake height of 10-14 inches even after the wake had traveled 400 to 500 yards. The effects of multiple boats at one time did increase the height but measurements were widely varied – measurements beyond 24 inches were common. (Comment by Dave Davis)

I have concerns about the damages (to sea walls, boathouses, docks, boats, and most importantly our shorelines) this development will cause due to increases in boat traffic in the area. (Comment by Frank and Amy Davis)

(In Appendix C) Response to concern of damaging boat wakes to private property – once again Rodney is very wrong in his assessment of the boating habits of larger boats. (Comment by Nancy and Lynn Magill)

**TVA Response:** *See response to Comment 52. Wave action can significantly contribute to shoreline erosion. However, the erosion effect of increased boating associated with the proposed marina is small relative to the natural effects of wind-driven waves and existing*

*boating traffic in the project area. Information about actions that owners can take to address erosion affecting their property can be obtained from the Pickwick-Wheeler Watershed Team, Willie Buchanan, Manager, e-mail: [wbuchanan@tva.gov](mailto:wbuchanan@tva.gov) or P.O. Box 1010, SB 1H-M, Muscle Shoals, AL 35662-1010 (256-386-2560). TVA uses the following guidelines for shoreline stabilization on TVA-owned residential access shore land.*

*(a) Biostabilization of eroded shorelines*

- (1) Moderate contouring of the bank may be allowed to provide conditions suitable for planting of vegetation.*
- (2) Tightly bound bundles of coconut fiber, logs, or other natural materials may be placed at the base of the eroded site to deflect waves.*
- (3) Willow stakes and bundles and live cuttings of suitable native plant materials may be planted along the surface of the eroded area.*
- (4) Native vegetation may be planted within the shoreline management zone to help minimize further erosion.*
- (5) Riprap may be allowed along the base of the eroded area to prevent further undercutting of the bank.*

*(b) Use of gabions and riprap to stabilize eroded shorelines*

- (1) The riprap material must be quarry-run stone, natural stone, or other material approved by TVA.*
- (2) Rubber tires, concrete rubble, or other debris salvaged from construction sites shall not be used to stabilize shorelines.*
- (3) Gabions (rock wrapped with wire mesh) that are commercially manufactured for erosion control may be used.*
- (4) Riprap material must be placed so as to follow the existing contour of the bank.*
- (5) Site preparation must be limited to the work necessary to obtain adequate slope and stability of the riprap material.*

*(c) Use of retaining walls for shoreline stabilization*

- (1) Retaining walls shall be allowed only where the erosion process is severe and TVA determines that a retaining wall is the most effective erosion control option or where the proposed wall would connect to an existing TVA-approved wall on the lot or to an adjacent owner's TVA-approved wall.*
- (2) The retaining wall must be constructed of stone, concrete blocks, poured concrete, gabions, or other materials acceptable to TVA. Railroad ties, rubber tires, broken concrete (unless determined by TVA to be of adequate size and integrity), brick, creosote timbers, and asphalt are not allowed.*

*Additional information may be found at:*

*[http://www.tva.gov/river/26apermits/regs\\_c.htm#1304208](http://www.tva.gov/river/26apermits/regs_c.htm#1304208).*

**54. Comment:** I already have major shoreline problems (stone retaining walls collapsing on two separate occasions in the last three years. It is time for TVA to call a halt to the overuse of this area of Pickwick Lake. (Comment by Drew Renshaw)

**TVA Response:** TVA experience with retaining walls is that over time they fail and TVA advises the use of riprap as a preferred method of shoreline stabilization. See responses to Comments 52 and 53.

**55. Comment:** The closing paragraph of this section (3.4.1) states that facilities of this type “would be likely to increase property values in the area.” What is the basis of this assumption? My property is between Pickwick Pines Marina’s proposed site and Aqua Yacht. My husband and I most definite do not feel that our property value will increase with this project- our visitors already notice increasing wave action over the past few years, the increased difficulty swimming and docking boats at our dock, the increased noise from the greater number of boats leaving Aqua’s no-wake zone and the increased damage (now repaired) to our sea wall. I can’t see possibly how exacerbating these problems could possibly increase our property value. (Comment by Nancy and Lynn Magill)

**TVA Response:** *See response to comment 90. While it is likely that property values in general will ultimately increase due to the planned developments, the impacts would not be uniform and some properties might not increase in value due to the development.*

**56. Comment:** The authors of the SEA fail to require controls that are sufficient to protect area homeowners from “wave wash” damage. The “no-wake” zone that is proposed does not even remotely address the property damage that area property owners will face. On the other hand, expanding it to cover all of Yellow Creek (YC) embayment would unfairly hinder small pleasure boats. I suggest that a speed limit or no-wake zone be imposed for all of the YC embayment on watercraft having LOAs in excess of 25 feet as these are the watercraft that are responsible for the majority of the “wave wash” problem. Alternatively, the government could impose it on all watercraft powered by one or more engines totaling more than 300 hp. (Comment by Mark Field)

**TVA Response:** *Construction of the proposed marina would concentrate boat traffic, which could increase local wave energy levels. Shoreline stabilization would protect the immediate harbor area from erosion. Homeowners in the vicinity of the marina may also apply for a permit to stabilize shoreline fronting their property. The higher concentration of watercraft around a proposed marina is expected to contribute to an insignificant acceleration of erosion of surrounding areas of unprotected shoreline, which would diminish with increasing distance from the marina. The suggested speed limit, no-wake zone, or other boating laws fall under the jurisdiction of the Mississippi Boating Law Administrator.*

**57. Comment:** (In Appendix C) Response to concern of loss of public shoreline – 1300 feet of shoreline is “significant” to the YC area. And this is the area being discussed here – not the 500 mile shoreline of Pickwick Lake. (Comment by Nancy and Lynn Magill)

**TVA Response:** *The 2000 EA previously considered the benefits and impacts associated with siting a commercial recreation complex at this location with the loss of shoreline under TVA’s control that this would entail. In 2001, TVA conveyed a long-term easement to the Tishomingo County Development Foundation for this purpose. The decision to be made here and assessed by the SEA is whether to approve the proposed marina.*

### **Boating Data, Traffic Studies, and Congestion**

**58. Comment:** Omission of any actual surveys or data regarding current boat traffic in this area of Yellow Creek. Reliance on information that is over 6 years old. SEA based on old data. The current Pickwick Pines Marina (PPM) proposal is drastically different than the 2000 FEA. Why are you not making decisions based on current data that specifically measures the impact of the proposed PPM development? (Comment by: Martha Huie, Larry Nolan)

**TVA Response:** *The SEA includes current data on boat traffic and other topics. See Appendix E for the results of a boating capacity study conducted in Yellow Creek in August and September 2006.*

**59. Comment:** We are gravely concerned with the lack of any traffic studies conducted on Yellow Creek (YC) by TVA or the Corps of Engineers. A near universal concern of area property homeowners is that the level of recreational boat traffic in YC is frequently at dangerous levels (most prevalent on summer weekends). The 2000 FEA indicates TVA conducted a 1999 survey of Tennessee River marinas. There is no indication that the marinas surveyed were in YC or Pickwick resort areas which are among the heaviest areas of concentration of boat traffic on the TN River. There is no indication that any measurement of traffic on YC from boat ramps has ever been measured. There has been a tremendous development in and around YC since 1999, and traffic levels have greatly increased during the past 7 years. TVA should make a decision based upon current information and assess both peaks and troughs of boat traffic congestion – not based on outdated information that fails to consider extremely heavy summer and holiday weekends, and traffic from boat ramps. (Comment by John Heflin, et.al.)

**TVA Response:** *See response to Comment 58.*

**60. Comment:** In 2000, the USACE requested more information on the issue of boat traffic congestion and resulting erosion (reference to 2000 TVA FONSI discussion). TVA never responded with concrete data or anything more than speculation (comment by John Heflin et al.)

**TVA Response:** *See response to Comment 58.*

**61. Comment:** States that the lake homeowners have conducted a study to measure the waterway traffic and create a database, something none of the public agencies have done. “Without data any conclusions are simply conjecture-intuition-conjuring” (Comment by Dave Davis, 6/20/06, *Daily Journal*)

We are providing you with our observations of recreational boat traffic levels experienced this year. We know of no data that TVA or the Corps of Engineers has that is as detailed or revealing as what we are providing. Our data indicates there is already a serious problem with boat traffic congestion. There is no countervailing data. (Comment by John Heflin, et al.)

Several homeowners presented evidence of increasing recreational boat congestion in the Yellow Creek (YC) area. In response TVA stated that boat traffic and safety concerns fell under the purview of the local and state law enforcement agencies and the Coast Guard. Ergon and Magnolia Marine disagree insofar as increased boat traffic impedes and increases the risks to commercial navigation and therefore clearly falls within the scope of the Human Environment sections of the SEA. The SEA should also be amended to consider the evidence recently presented by Pickwick Lake homeowners of increasing recreational congestion in the YC area. (Comment by Watson and Jernigan, Ergon and Magnolia Marina Transport)

The YC homeowners stated that TVA has not consulted the local and state authorities as the marina design has expanded. TVA, the Corps, and/or the Coast Guard should evaluate the evidence presented by the YC homeowners, conduct their own additional vessel traffic

impact studies, consult the local and state law enforcement agencies and revise the SEA and its finding accordingly. (Comment by Watson and Jernigan, Ergon and Magnolia Marine)

Why must we place another high traffic development in this area? A study of this needs to be conducted at current year lake usage during peak season on a weekend and shared with the entire area before a development is considered. (Comment by Michael Reddoch)

“Citizens pleaded with TVA to conduct current boat traffic surveys during the summer weekends to obtain an accurate assessment of the current conditions and the impact PPM would have on this area. Why doesn’t TVA want conduct a current traffic study?”  
(Comment by Mary Ben Heflin, *Tupelo News*, 6/28/06)

TVA considered data from Tennessee in assessing automobile traffic and recreational demand but failed to consider boat traffic from Tennessee. (Comment by John Heflin, et al.)

How can you use a study conducted in 1999 to determine the lake usage in 2006? The developers offer no current studies about the number of boats currently using YC during the peak summer vacation season, about the noise pollution or the safety hazards posed by the close proximity of the barge traffic. They fail to mention the dry storage they will offer in addition to the 228 wet boat slips. They seem to think because traffic is going to increase anyway, it doesn’t matter that they are adding to the existing problem. (Comment by Patricia McHughes)

The draft SEA is inconsistent and contradictory on its assessment of how much additional boat traffic would result from the construction of PPM. The 2000 FEA estimated that “the increased number of boats would be about 33 on the busiest weekend days and less than 10 on weekdays in the summer.” The draft SEA considers a proposal for a 228 slip marina, plus a dry storage facility and a boat ramp. The draft SEA ignores the dry storage and boat ramp and estimates “an increase in boat traffic of 75 boats per day on the busiest weekend days and 23 per day on weekdays in the summer.” There is no logical basis for ignoring the dry storage or ramp facilities. (Comment by John Heflin, et al.)

I feel very strongly that a study measuring watercraft traffic in Yellow Creek area should have been conducted. Before adding to the area’s congestion there should be some scientifically derived numbers that can be analyzed and compared to existing models to scientifically determine whether or not the addition of PPM would be “significant.”  
(Comment by Nancy and Lynn Magill)

The SEA did not include any analysis pertaining to key outside variables like boat storage and public dock. It did not indicate the use of modeling techniques to forecast impact for 2010 and 2015. (Comment by Dave Davis)

The additional congestion and dangerous conditions caused by boats fueling, boats launching, and boats tying up as transients at Pickwick Pines Marina have not been included in this assessment. How many dry storage units will be on site? How many trailer boats will be launched from the ramp? How many boats are anticipated to be fueled at PPM? (Comment by Nancy and Lynn Magill)

Quoting from Jon Loney letter dated June 13, 2006, “the marina facility would be part of a larger commercial recreation resort.” How will other facilities that are to be part of this resort impact the boating situation (i.e., restaurants will attract customers by water as well as by land, hotel services will attract patrons with boats, etc.)? Why are these impacts not included in this assessment? When and by what process would these facilities be approved? (Comment by Nancy and Lynn Magill)

The draft SEA fails entirely to consider the growth in boat storage facilities in the YC area. There has been a tremendous increase over the past 7 years in the number and capacity of boat storage facilities feeding into Yellow Creek (Pier 57 boat storage, the recent tear down of the State Line Club to construct a new boat storage facility, and numerous additional storage facilities). (Group has provided a list of boat storage facilities in the immediate vicinity). Indicative of the substantial growth in off-lake boat storage as well as utilization of the lake by transient boaters is the impending doubling of the size of Hardin County, Tennessee, boat ramp on the west of YC opposite the Aqua Yacht Harbor facility. The 2000 FEA references a shoreline count of 39 multi-craft boathouses visible from the site. It is nonsense for TVA to rely upon an informal count of visible boathouses when aerial photographs are readily available showing more than twice the number of multi-craft boathouses in the area, not to mention the additional boathouses constructed since 2000. TVA failed entirely to consider and assess the impact of these facilities. (Comment by John Heflin et al.)

The report (SEA) does not quantify the impact of an additional “no-wake” zone on traffic compression. The report does not take into effect the traffic levels at the two public launches: across from Aqua Yacht or at the entrance to the Tombigbee Waterway. It does not address the increase in boat traffic spurred by additional development of private launch facilities near these public launches (Sportsman’s One-Stop and Pier 57). Both have increased the number of off-lake storage units. (Comment by Michael Reddoch)

No considerations have been given to all of the outside factors of this part of the lake including additional dry storage and public ramp. We have had increased boat traffic and decreased safety in YC area. (No current statistical data was included in the most recent SEA that was sent to me by TVA). (Comment by Frank and Amy Davis)

Discussions of increased boat traffic in the SEA only mention the number of boats in relationship to the numbers of slips in the marina. How many boats can be stored in a dry stack facility (100’ X 200’)? How many boats per hour can be launched at the ramp? How many boats will come for fuel? How many boats will come for meals, drinks, and snacks? How many boats will this increase to in 2010? (Comment by Vince and Marsha Marascuilo, Larry Nolan, Michael Reddoch)

“TVA’s assessment acknowledges only the 228 boat slips planned for the new marina. It does not include the number of boats in PPM’s dry stack storage or the unlimited number of boats that could use the proposed PPM boat ramp. It ignores the public boat ramp less than one mile from the (proposed) new marina is being doubled in size because of current demand or the facts that many slips contain more than one boat”. (Comment by Mary Ben Heflin, *Tupelo News*, 6/28/06)

The SEA fails to assess what level of boat traffic is safe and what level is unsafe and hazardous. The 2000 FEA states the area from Pickwick Landing State Park to Coleman State Park, including the mouth of the Tombigbee Waterway downstream of Aqua Yacht

Harbor is very congested during the summer recreation season and that YC is congested during peak periods of weekends and holidays. However there is no effort to quantify or assess what levels of congestion are safe and unsafe. There is no basis for TVA's conclusion that the additional traffic which would result from PPM would not create an unsafe condition. No assessment has been made regarding whether current conditions are unsafe, and if not, what additional boat traffic added to the current levels would be unsafe. The analysis TVA has applied would support an unlimited increase in boat traffic despite the recognition that congestion already exists. (Comment by John Heflin, et al.)

No metrics were designed for the SEA to determine the correlation (or lack of correlation) between the congestion of watercraft and risk. No attempt in the SEA to measure watercraft traffic on YC. (Comment by Dave Davis)

Section 3.3.4 refers to Aqua Yacht Harbor as "one of the largest inland marinas with over 350 berths" while Section 3.4.6 states that boats from PPM's 228 berth (approximately 82 percent of Aqua Yacht's berths) will not "constitute a significant impact." The implication that a marina 82 percent the size of "one of the largest inland marinas" will have no "significant impact" is not a logical conclusion. (Comment by Nancy and Lynn Magill)

States that TVA has not thoroughly and objectively studied the PPM proposal's impact on an area that is already congested (Comment by Martha Huie)

**TVA Response:** See response to Comment 58.

**62. Comment:** YC area is a statistical "outlier." The use of national averages from trade publications to attempt to forecast events on YC are meaningless. The YC Property Owners Association have collected boating traffic data, it is current, is reproducible and the methodology can be challenged. The YCPOA analysis estimates current traffic count on YC between 3500 to 3700 watercraft on busy weekend days – the peak was 396/hour, the low was 178/hour. (Comment by Dave Davis)

**TVA Response:** See response to Comment 58.

**63. Comment:** "The principle concern expressed to TVA by citizens who frequent this area of YC was boat congestion and boater safety." (Comment by Mary Ben Heflin, *Tupelo News*, 6/28/06, Michael Reddoch)

**TVA Response:** See response to Comment 58.

**64. Comment:** State that another marina on the lake will create enormous congestion and raise safety issues (Comment by Dave Davis, 6/20/06, *Daily Journal*)

If the marina is built, lives could and would be lost by forcing thousands of families to use the main channels for their water activities. To take this area away will eliminate just about all the safe places in YC. The area is far too congested already. (Comment by John Lichterman)

My main concern is the additional boating congestion that this marina will cause. Your proposal does not successfully address the safety and congestion problems that will occur. (Comment by Anne Phillipy)

In reading your letter and quickly reading through the referenced report (SEA), I find a fault in the area of safety ... The question I proposed was the diminished water area in YC for the use of boaters and how that would effect their use of the area in a safe manner.”  
(Comment by Tom Burkett)

“YC is an anomaly on the river. There is no other place like it. It has five times the amount of boat traffic as Ross Barnett-the largest lake in Mississippi.” (Comment by Dave Davis, *Wheeler Lake News*, 7/11/06)

The SEA reflects a misunderstanding of the usage patterns of the YC embayment. The SEA notes that YC is home to “one of the nation’s largest inland marinas – that the area from Pickwick Landing State Park to Coleman State Park, including the mouth of the Tombigbee Waterway downstream of Aqua Yacht Harbor is very congested during the summer recreation season and that boating congestion and associated safety concerns are important public concerns.” The EA concludes that “this area is able to accommodate additional boating without significant cumulative impact ... It is assumed that boaters using the proposed marina would merely transit his area en route to other parts of the reservoir where they would be more dispersed.” The conclusion ignores the usage of this part of the lake by skiers, fishermen, and other recreational boaters who don’t wish to venture miles from their launch point. This group’s size will likely increase as gas prices increase.  
(Comment by Mark Field)

With all the development and increased traffic most of the waterways of the lake have become unsafe for recreational use during many of the spring and summer months.  
(Comment by Frank and Amy Davis)

We strongly believe that the proposed development is entirely too large, poorly designed and a hindrance to commercial boating and recreational water traffic, and that it will create an undue safety risk for those that use Pickwick Lake (Comment by Marvin H. and Ann Ward Palmer)

With the Pickwick Coves Marina, Greenwater Marina, and Goat Island Marina, boat traffic on YC was tolerable. When Aqua Yacht Harbor rebuilt Greenwater Marina, there was a big increase in boat traffic. Then comes along Grand Harbor that purchases Pickwick Coves Marina and adds more boats to YC. With all this boating traffic on weekends, passage between Aqua Yacht Harbor and the main river channel is next to impossible and is especially bad passing Grand Harbor Marina. Your report does not account for additional boat traffic that would result of the new marina. There are entirely too many boats on YC.  
(Comment by Larry Nolan)

I understand the economics of the proposed new marina. What I don’t understand is the apparent consideration in handling the increased traffic that comes with the new marina.  
(Comment by William Ingram)

I am still very concerned that attention is not being given to safety, water quality, tremendous usage of YC, and the lack of current data of the area. I feel it (decision) needs to be made by a panel that personally experienced the summertime usage and has current data of the impact that will be brought to the area. Traffic today, on a weekend is almost impossible. The SEA puts this decision in a perspective of the whole Pickwick Lake-when the impact is on a smaller area of YC. (Comment by Frank Dalton)

The traffic in YC over the past few years has increased so much that we worry about the safety of our children navigating through this area. There is no way this marina would be approved if anyone has monitored the traffic in YC on a summer weekend. (Comment by Jeanne and Richard Hollis)

Boats from Aqua Yacht (the largest freshwater marina in the U.S.), Grand Harbor Marina, a large public boat ramp, multiple dry storage units along TN Hgwy 57, and homeowners, already make this area of YC the heaviest concentration of boats between Chicago and Mobile.” (Comment by Mary Ben Heflin, *Tupelo News*, 6/28/06)

We already have the highest concentration of inland marinas between Chicago and Mobile. Moreover, these marinas are built out into public waterways that compress traffic and increase congestion and cause safety problems. The development will put another 200+ boats and uncounted PWC in the most congested area of the lake. Dry storage, fuel and launch facilities will add to congestion and safety. (Comment by Michael Reddoch)

Recommends a visit to area on a major weekend like the 4<sup>th</sup> of July. Recommends that a visit to area on a summer weekend will convince TVA that there are too many boats on YC. Believes a new marina will cause impossible congestion on YC on summer weekends, especially holiday weekends. Suggest taking a boat ride from proposed PPM location out to main Tennessee River channel on a weekend to observe traffic. (Comment by Larry Nolan)

According to the report (SEA) and response from PPM (which has no factual statistical backup), there are 43,000 acres at Pickwick Lake and the proposed marina will only affect 22 acres, a small percentage of the lake. This issue is not what percentage of the lake but the concentration of boaters in this area of YC. If boats were spread out equally over the whole lake there would be no accidents, but this is not the case. This area of YC is already the busiest traffic area on the lake. PPM relocation should be a requirement because it will spread traffic out and make the lake more accessible to all. (Comment by Michael Reddoch)

On a summer weekend, try navigating your way back into YC around supertime in a small fishing boat ... it is a scary ride. (Comment by Patricia McHughes)

The proposed marina and no-wake zone will extend 274 yards out into the lake and cover a width of more than 460 yards. This pushes the current boat traffic into a more confined area and eliminates areas where people ski, fish, sail and ride PWCs. On top of traffic compression, more people, more boats, PWC, waves, noise, pollution will affect the area. It seems simple that this is too much for one area of the lake. (Comment by Michael Reddoch)

The development of two marinas that are already there and the Yacht traffic has already forced us to go to Bear Creek or to the Alabama side of the lake to fish. One of the best spots for bass fishing, Zippy Creek, is impossible to navigate on summer weekends. The party boats tie up together in the creek and create so much noise and pollution that a person would have to be crazy to even enter there. (Comment by Patricia McHughes)

The area of the proposed marina and the YC connector between the main channel of the Tennessee River and Aqua Harbor is one of the busiest, if not the busiest, area of Pickwick Lake in terms of boat traffic. Over the years, there have been numerous accidents and

near accidents within the area located at the west of the YC corridor, and existing property owners are already encountering problems due to the enormous wakes being generated by the existing boat traffic (Comment by Marvin H. Palmer and Ann Ward Palmer)

(In Appendix C) Response to the concern of increased boat traffic – “To me this is not large increase in boat traffic” is nothing more than Rodney’s opinion. My opinion is that he is wrong. How about some substantial facts? (Comment by Nancy and Lynn Magill)

Applicant statement that YC overcrowding caused by the increase each year in trailer boats unloading at the two ramps close by. If the YC area is already overcrowded then the additional boats from the proposed marina would make it worse? (Comment by Larry Nolan)

**TVA Response:** *See response to Comment 58.*

**65. Comment:** The draft SEA inconsistently states on one page that additional boaters would be “assumed” merely to transit the area to reach less congested areas (largely because of the congestion TVA would be permitting) but on the very next page says additional boaters can be expected to use the embayment. (Comment by John Heflin, et al.)

**TVA Response:** *It is expected that some boaters will seek to find less crowded areas of the embayment/reservoir, while others will continue to use the embayment.*

**66. Comment:** A trend line from secondary data (Mississippi Department of Wildlife, Fisheries, and Parks and a survey of retail storage facilities) going back 5 years should cause grave concern for watercraft traffic forecast in 2010 and 2015. Annual growth rates of 15 percent and 20 percent are likely. (Comment by Dave Davis)

**TVA Response:** *See response to Comment 58.*

### **Boating Safety/Accidents**

**67. Comment:** I have witnessed several boating accidents and a tremendous amount of boats mainly from the marinas and the already private homes in the area. The additional boat traffic is going to cause accidents and I am sure will result in the death of several people. (Comment by Larry Nolan)

Cove area in Yellow Creek only safe area available for water activities while staying out of the main channels. (Comment by John Lichterman)

**TVA Response:** *See response to Comment 58. TVA has coordinated review of the proposed marina with the Mississippi Department of Wildlife, Fisheries, and Parks (Boating Law Administrator) which includes a review of recreational boating accidents and boating safety issues in the area. They have indicated that they do not object to the proposal.*

**68. Comment:** Most of the large boat owners (are uninformed) leave very large wakes when heading to and from the river channel. Large wakes cause safety concerns. “I have seen my mother thrown from chair sitting on swim platform next to boathouse due to large boat wake.” (Comment by Larry Nolan)

I am terribly concerned for the safety of my children and their friends on a summer weekend. With the tremendous increase in traffic on this portion of the lake, even the most cautious boat operator is at risk on a summer weekend. Not all operators understand the dangers involved with boat operation. Please observe the area on a holiday weekend and you will better understand the seriousness of my statement. (Comment by Katie Dalton)

The authors of the SEA have not personally observed boating traffic on this portion of Pickwick, had their boat nearly swamped by wakes from large boats, had SeaDoos pass blindly within feet of their bow, or had to face the relatives of persons injured or killed by careless boaters. (Comment by Mark Field)

The authors of the SEA assign too little weight to safety concerns raised by the development. While noting that boating safety is an important concern, the SEA authors shift the burden for that to the boating public. Why? They shift the burden to the public because the government doesn't have the resource "to patrol all of the waters in their jurisdiction all the time." The SEA solution is to add to the problem by increasing congestion further and taxing citizen groups with the responsibility of chasing down even more "unsafe and suspicious" boaters to write down particulars. I submit that if the proper solution, if the government doesn't have the resources to police this section of the lake, is to ... reject this development. Doing so will prevent the undue increase in safety issues that will result from adding hundreds of additional boats to this already highly congested area. (Comment by Mark Field)

The statement (in 3.4.6) that "boating congestion and boating safety are important public concerns" is meant to convey the PPM developers are acting in a concerned way. The following paragraph stating that "boating safety is primarily the responsibility of the boating public" seems a more truthful view of what PPM considers to be their responsibility to public safety. Encouraging congestion with the proposed marina is indicating the developer's financial concerns while ignoring the concerns for public safety. (Comment by Nancy and Lynn Magill)

(In Appendix C) Response to concern of safety/accidents – On what does Rodney base his opinion that "operators of larger boats are usually more educated on proper boating techniques"? As a long time boater my experience is that operators of larger boats have less regard for smaller boats, are less aware of their own size and power (especially in regard to their wake) and are often boaters who take their boats out very infrequently and for very short distances - in other words they are inexperienced. (Comment by Nancy and Lynn Magill)

I am very disturbed by the apparent lack of concern for the safety of all boater's attracted to Pickwick and by the lack of concern for the future of the Pickwick area. (Comment by Nancy and Lynn Magill)

**TVA Response:** *See response to Comment 58.*

**69. Comment:** There is little validity in SEA regarding the discussion relating to Lake Watch Program. (Comment by Dave Davis)

**TVA Response:** *The Lake Watch Program has had great success on many reservoirs but is dependent upon local residents' and lake-user participation. Law enforcement agencies do not have the resources to maintain a constant presence on all water bodies and they*

*rely heavily upon information from the boating public to help maintain safe conditions on the region's lakes and waterways.*

## **Navigation Safety**

**70. Comment:** Refers to a run away barge episode belonging to Ergon in 2001. Also refers to a second barge episode on 3/12/06 in which difficulty maneuvering in the wind resulting in the barge ending up in the area in which the proposed marina would be located. States that towboat operators must have sufficient room to operate. (Comment by Vince and Marsha Marascuilo)

Familiar thru friends and pictures with two boating/marine accidents, one which involved damages over \$500. Another which involved an empty barge which became unattached from its mooring and ended up aground in the cove immediately north of the PPM's proposed fuel dock. If the PPM marina had been there at the time, the barge would have caused severe property damage and as well as environmental. (Comment by Tom Burkett)

The draft SEA acknowledges that "the large open embayment at YC is known for windy conditions. Liquid tank barges sit about 13 feet out of the water when empty and can act like sails in windy conditions. Under the right conditions, the wind may catch the end of an empty tow while it is pulling away from the terminal and blow it several hundred feet sideways before the pilot is able to gain enough forward momentum to gain control." Attached are photos showing barges which have broke loose recently in the precise area of the proposed PPM. Communications with representatives of Ergon reveal continued concern over navigation and liability issues. (Comment by John Heflin, et al.)

Strong concerns over navigation and safety from the largest tenet at the YC Port seemed to have been discounted. It would appear from the SEA that their objections questioning the engineering and method of analysis risk were not being given a proper review. (Comment by Dave Davis)

**TVA Response:** *The wind blown tow scenario was the issue that prompted the rejection of the first marina design submitted by Pickwick Pines. The alternate design was created after TVA held discussions with Ergon and their carrier, other members of the towing industry, USACE navigation specialists, and the U.S. Coast Guard. Ergon's comments in response to the draft SEA dated July 14, 2006, indicate that they feel that TVA and the USACE, through the revised design, have adequately resolved the safety issue associated with wind blown tows.*

*TVA recognizes that several events have occurred in the recent past under conditions in which there was no marina present. Without the marina, tow operators are free to utilize all of the space in the embayment to bring their tows under control. With the redesign of the marina so that it lies parallel to the shoreline, TVA and USACE and members of the towing industry have determined that there is sufficient room for a tow operator to regain control with a minimal risk to the marina. In the event that the tow is blown due west, the dolphin will reduce the risk of a barge striking the marina (see TVA response to Comment 33).*

*Breakaway barges may occur at any location where barges are fleeted or moored although it is a rare occurrence. The Yellow Creek embayment is no more susceptible to this than any other location on the inland waterway.*

## Water Pollution

**71. Comment:** Believes construction of a new marina will cause more water pollution from boats dumping waste into YC. Boaters do not use the (waste) pump-out facilities. Ninety percent of the large boats flush their toilets directly into the river. Another 228 toilets has to add more (water) pollution to the water. (Comment by Larry Nolan)

**TVA Response:** *SEA Chapter 6, Permit Conditions, Special Condition No. 3 states that “All requests for proposals from developers would require that proposals follow TVA’s Tennessee Valley Clean Marina Guidebook for ensuring properly installed, operated, and maintained facilities. Additionally, guidelines would be established to ensure proper and complete usage of sewage disposal by the occupants of the marina.” Yellow Creek embayment has been designated as a no discharge area by MDEQ. Therefore, no boats are supposed to discharge any sewage into the waters of this embayment. Enforcement would be done by MDEQ or their designee. There are three other marinas on Pickwick Reservoir that have received TVA’s Clean Marina Certification during the period 2003-2005. If approved, Pickwick Pines Marina has also agreed to comply with TVA’s Clean Marina standards as stated above.*

**72. Comment:** The monitoring of water quality is not thoroughly detailed. Who will be checking this and how often? (Comment by Vince and Marsha Marascuilo)

**TVA Response:** *Mississippi DEQ and TVA both assess water quality in Pickwick Reservoir and streams in this area.*

**73. Comment:** Water quality tests that are 6 to 7 years old cannot be in the ball park. (Comment by Frank Dalton)

The draft EA fails to address water quality. The draft SEA indicates water quality assessments have not been updated since 1999 (7 years ago). (Comment by John Heflin, et al.)

**TVA Response:** *The SEA includes results of water quality assessments conducted by TVA in 2004 and by MDEQ for their 305(b) Water Quality Assessment program in 2004 and again in 2006. None of these assessments showed impairment of the water quality of Pickwick Reservoir. TVA’s report stated that Pickwick had the highest score to date based on their overall water quality index. Both Mississippi 305(b) reports indicated that Pickwick Reservoir is meeting all of its designated uses, including aquatic life support, contact recreation, and public water supply.*

## Visual Resources

**74. Comment:** The draft SEA gauges scenic integrity in the YC area as ranging “from moderate to low.” The 2000 FEA assessed scenic integrity as “moderate,” so TVA documents reflect degradation over the past 6 years. Presumably, the scenic integrity of the area is deserving of protection from further deterioration. Why then would TVA support a project that would cause further deterioration of the scenic integrity to the detriment of all homeowners and business in the area? (Comment by John Heflin, et al.)

**TVA Response:** *The 2000 FEA does not use the term “scenic integrity,” rather, it used “scenic coherence.” These terms are similar in context and reference the influence of human or natural alteration in the viewshed in varying degrees. Scenic integrity is a*

*measure of scenic importance based on the degree of visual unity and wholeness of the natural landscape character. Scenic attractiveness is a measure of scenic quality based on human perceptions of intrinsic beauty as expressed in forms, colors, textures, and visual composition of each landscape. These elements are considered together with scenic visibility to describe a scenic value.*

*It is stated in the Affected Environment section of Visual Resources in the 2000 FEA that “Visual coherence is moderate.” The document further states that if no action is taken “Shoreline erosion would likely continue, thereby, increasing the exposed bank height and probably dislodging trees from the steep slopes. This would increase visual discord over time, further reducing the scenic attractiveness and visual coherence.” This has occurred as the process of shoreline erosion has further undercut the exposed bank along the property. The 2000 FEA continues in the section for Alternative B: “Activities, equipment, and materials seen during the construction period would add temporary visual discord until project cleanup was complete.” The preliminary work that has begun on the landward portion of the development has increased the visual discord visible from positions described in the FEA and SEA. This temporary visual discord would have an incremental effect on the scenic integrity at the time of the field assessment for the SEA.*

*The parcel was allocated to Commercial Recreation during the 2000 Pickwick Reservoir Land Management Plan (Plan). A management strategy relative to visual resources was not developed due to the fact that no significant resources were determined to be present at the time data were collected for the Plan. Impacts to visual resources in this situation would be evaluated on a case-by-case basis as land-use requests were received.*

*TVA reviewed the conceptual design for the commercial recreation development in 2000 and determined that the impacts associated with construction and operation would not result in a net change of the scenic value to exceed the threshold for significance. TVA has again reviewed the impacts associated with the proposed marina in this supplement to the original environmental assessment during 2006. It was determined, based on the applicant’s proposed concept for development of the marina and shoreline features, that the existing scenic value would not be significantly impacted.*

*A copy of TVA’s visual resources assessment criteria is included in Appendix F to the SEA.*

**75. Comment:** The SEA states that the proposed PPM would be similar in design and construction to Aqua Yacht Harbor’s marina facilities. The draft SEA also references a color scheme applicable to all land and water-based facilities and even signage that will be “visually compatible with natural background colors” with “dark roofs on all structures.” The roofs at Aqua Yacht Harbor are off-white. So which of these inconsistent provisions control? (Comment by John Heflin, et al.)

**TVA Response:** *The reference to the similarity in design and construction was not intended to include colors or material finishes. Rather, the layout and juxtaposition of marina features would be similar to those at Aqua Yacht Harbor, and the construction; e.g., the berths, docks, and fueling facilities would be constructed similar to those at Aqua Yacht Harbor. The material finishes and facades would be left to the discretion of the developer, with the commitment that those facades and finishes would be compatible with the natural background colors.*

**76. Comment:** The 2000 FEA commitment requiring that buildings shall not exceed three stories above grade and shall use natural material is omitted from the draft SEA. (Comment by John Heflin, et al.)

**TVA Response:** *The draft SEA addresses potential impacts relative to request that the agencies approve the proposed marina. The land based features were addressed in the 2000 FEA and the commitments and conditions established for these features remain in effect.*

## **Traffic**

**77. Comment:** Also familiar with several fatal accidents which have occurred on the adjoining highway north of the area. Those accidents occurred on an almost blind, hill curve as exists in front of the proposed PPM. (Comment by Tom Burkett)

**TVA Response:** *Warning signs for the entrance/intersection, in addition to an adequate roadway design, should minimize accidents due to turning movements.*

**78. Comment:** Section 3.4.7 addresses transportation concerns regarding SR 25/57. What about traffic making left turns from SR 350 onto SR 25? This is already a difficult turn due to speed and frequency of traffic on SR 25. This turn is also at the end of the trip to the lake therefore drivers tend to be more anxious to get through this intersection and are less cautious regarding cross traffic. Increasing cross traffic will only worsen this situation. Why has this not been addressed? (Comment by Nancy and Lynn Magill)

**TVA Response:** *The SEA contains data that show even with the projected development, traffic levels on SR 25 are far below the HCM capacity of the facility (16.2 percent). Therefore ample spacing between successive vehicles in the traffic flow on SR 25 should be available to allow vehicles from secondary streets to gain access. SR 25 is an interrupted-flow facility (i.e., it has external devices that periodically interrupt traffic flow such as driveways and side streets), and there will be constant stopping and restarting of the traffic stream. This variation in the traffic flow should assist in speed regulation of the individual vehicles in the traffic stream.*

**79. Comment:** In the 2000 FEA, TVA estimated a 30 percent increase in vehicular traffic resulting from a convention center facility with a 100-slip marina. The draft SEA, considers a facility which would involve a much greater flow of traffic in and out of the facility, yet this issue of increased vehicular traffic is largely ignored. (Comment by John Heflin et al.)

**TVA Response:** *These issues were not ignored. The SEA discusses the percent increases in traffic and also discussed/compared the projected peak-hour rates with the HCM capacity of a similar roadway. Clarification was added to the SEA table.*

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## **Other Environmental**

**80. Comment:** Pollution concerns focus on four areas: noise, sewage, water, and litter. At this time shore owners have to manage all of these items at the current traffic levels. Adding more boats, PWC, and people will escalate this problem. (Comment by Michael Reddoch)

Believes the PPM project will impact the wildlife, environment, safety and the public.  
(Comment by Martha Huie)

**TVA Response:** *Chapter 3 of the 2000 FEA and the 2006 SEA address the environmental consequences of locating a proposed commercial marina in Yellow Creek embayment. Each resource area is evaluated independently to determine potential impacts from a proposed action. No significant impacts were identified in any of the resource areas.*

**81. Comment:** (In Appendix C) Response to concern of noise pollution – I’m very glad that a nighttime “curfew” is planned, but I’m also concerned about engine noises during the daytime from these additional boats. (Comment by Nancy and Lynn Magill)

**TVA Response:** *Comment noted. Section 3.4.8 of the SEA addresses potential noise impacts.*

**82. Comment:** (In Appendix C) Response to concern of loss of wildlife habitat – fish congregating around marinas are not usually the fish attractive to fishermen. And yes, “squirrel, beaver, waterfowl, and an occasional eagle” will be visible after construction of PPM but they will no longer be “abundant” as Rodney insists. (Comment by Nancy and Lynn Magill)

**83. Comment:** I know you have a large amount of data and concerns from several people. Please keep in mind all the thoughts on water quality, loss of recreational usage, high density boat storage, scenic views, increased traffic on a small corridor of the lake, land values, erosion of the shoreline, noise pollution, and more. (Comment by Katie Dalton)

**TVA Response:** *Comment noted.*

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## **Socioeconomic**

**84. Comment:** Is it true that this land was taken through Eminent Domain? If true, If so, how can private developer use it for personal gain? (Comment by Martha Huie, Mary Ben Heflin)

**TVA Response:** *The lands TVA has granted by easement to Tishomingo County Development Foundation were acquired through voluntary acquisition.*

**85. Comment:** Your report mentions work and new jobs for people in the area. I am sure a minimum of people will be employed at the PPM and outside contractors will likely be responsible for its construction. (Comment by Larry Nolan)

Does TCDF understand that the local economy will not benefit from this? (Comment by Vince and Marsha Marascuilo)

The development is about revenue for the county and property tax revenue for off-lake property. This development benefits a few select people at the expense of others that use the lake. (Comment by Michael Reddoch)

Conclusions like “significant economic advantages to the area” are not supported by any time series data from which one might infer or extrapolate—just a subjective opinion. (Comment from Dave Davis)

Our modeling indicates that the marina would employ a maximum of 12 (FTEs) and as few as 6. If 12 are employed, 8 to 10 are minimum wage type jobs. Construction should take 180 days and likely come from out-of-state firms. This is hardly a “significant economic impact” to the county or the region. (Comment by Dave Davis, Nancy and Lynn Magill)

The authors of the SEA fail to take into account the existence of other forms of commercial development would offer similar economic benefits with less harm. Another form of development that demands less surface acreage and generate less boat traffic, such as a hotel, an on shore boat storage facility and launch, or restaurant, would have the potential to generate just as much economic benefit with significantly less harm. (Comment by Mark Field)

**TVA Response:** *Employment in construction or in operation of the marina would be small compared to employment in the area; however, this would provide a small but positive impact on the local economy and to local government revenues. The SEA describes these as positive effects on the local economy, but not as significant.*

**86. Comment:** What are the financial benefits that accrue to the TCDF and are they at fair market value? (Comment by Mary Ben Heflin)

In reading the SEA, it seems that the TVA is looking for method to accommodate the Tishomingo County Development Authority for more tax revenue. (Comment by Michael Reddoch)

**TVA Response:** *The proposed development is expected to modestly increase tax revenues of the county government. Whether these revenues would be made available to the TCDF is something to be decided by the local government.*

**87. Comment:** The 2000 FEA was for a convention center that could seat at least 200 people and a 100 room hotel. It was not opposed because the number of people it would employ in the county. How many people would it employ full time? (Comment by Mary Ben Heflin)

**TVA Response:** *Total full-time employment for the originally proposed commercial recreational facilities, including the convention center and hotel, would depend on a number of factors including the types and lengths of meetings utilizing the facilities, the sizes of the groups involved, and to what extent users were from the local area. However, for a convention center, hotel, and marina as in the 2000 FEA, TVA estimates that total full-time employment likely would be in the range of 40 to 60 people. In addition, some part-time employment would be likely during special events.*

**88. Comment:** Being a banker for 10 years, I have grown to appreciate the wonderful economic benefits of recreational development. However this development if built as planned has the potential to devastate YC’s recreational opportunities. While this development may make money for the developer and potentially for the county, it will cost the environment, homeowners, and TVA more. (Comment by Frank and Amy Davis)

The people who are on this committee obviously have no stake in what happens to our beautiful Tennessee River. I cannot believe you are willing to trade the safety and welfare of this wonderful area of the state for such questionable economic good. (Comment by Patricia McHughes)

**TVA Response:** *Analysis of recreation impacts (see Section 3.4.6) does not indicate that the new development would have any significant impact on existing recreation opportunities or on the natural and human environment (various sections in Chapter 3).*

**89. Comment:** What is the public bidding process for all construction work? It is also our understanding that there is no local construction company qualified to build a public marina. (Comment by Vince and Marsha Marascuilo)

**TVA Response:** *Neither TVA nor USACE would construct the proposed marina. It is a private development. The agencies' roles are to respond to the applicant's request for approval of the marina. The process used to retain a construction firm and who that construction firm might be are up to the applicant and not the agencies.*

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## Property Values

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**90. Comment:** States that the Pickwick Pines Marina development will adversely affect property values of lake front property owners. (Comment by Dave Davis, 6/20/06, *Daily Journal*)

There is no basis for the claim in the SEA that the facilities of this type (marina) are likely to increase property values in the area. More congested shoreline conditions detract from the attractiveness of surrounding property, greater boat congestions detracts from the appeal of the area, and thus detracts from property values. The 2000 FEA recognizes that property values would be negatively affected by noise, inadequate security, or poor maintenance and upkeep of the proposed facility. The SEA ignores these facts and provides no safeguards to prevent these detrimental impacts from occurring. (Comment by John Heflin, et al.)

There will be a decrease in property values due to an increase in noise and traffic. (Comment by Michael Reddoch)

**TVA Response:** *Development of the type proposed could increase property values by increasing the demand for the property in the area, either for residential use by persons attracted to the area by the recreation opportunities available in the area or for further commercial development in the general area. Changes that inhibit or limit potential uses of the property or nuisance factors that decrease its desirability for current uses can have negative impacts on property values. Such impacts could arise due to increased noise, allowing undesirable nearby land uses, negative impacts to visual resources, increases in road traffic, or overcrowding of boat traffic, and other recreational activities. As discussed in Chapter 3 of the DSEA, the proposed development would not be likely to have significant negative impacts on any of these resources. Nevertheless, these nuisance factors could have some effect on property values in the area.*

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## Regulatory

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**91. Comment:** Who will provide enforcement of water quality permits and construction observation? (Comment by Mary Ben Heflin)

**TVA Response:** *Mississippi Department of Environmental Quality is responsible for enforcing water quality permits. TVA and USACE are responsible for enforcing the conditions in their approvals/permits.*

**92. Comment:** Request for detailed information concerning the MDEQ Storm Water Pollution Prevention Plan (SWPPP) and how sediments from dredged areas and proposed backfilling of the lake is to be handled. (Comment by Mary Ben Heflin)

The plans call for dredging of a cove and shoreline I have fished all my life. (Comment by Frank and Amy Davis)

**TVA Response:** *Information about MDEQ programs may be found at [www.deq.state.ms.us](http://www.deq.state.ms.us) All dredge spoils would be disposed of at the location on the map on page A-13 of the SEA. Any backfill used would be required to be from an upland source.*

**93. Comment:** Why are the “Special Conditions” on page 35 of the draft SEA “Recommended” rather than “Required” (Comment by John Heflin, et al.)

**TVA Response:** *They are not “recommended special conditions for the applicant,” rather, they are recommended to be included in the DA permit or TVA’s Section 26a approval. If they are established as conditions, the applicant would have to meet them. Chapter 6 lists required permit conditions.*

**94. Comment:** Does the Coast Guard (law enforcement) have the manpower and budget to police this area and insure the marina is operating safely and complying with regulations? (Comment by Mary Ben Heflin)

**TVA Response:** *TVA met with the Coast Guard on December 6, 2005, about this proposal, and they did not express any concern about carrying out their responsibilities.*

**95. Comment:** What criteria does the District Engineer (COE) use to determine if the proposal is “contrary to public interest?” (Comment by Mary Ben Heflin)

**TVA Response:** *The USACE criteria are contained in the U.S. Army Corps of Engineers Part 320 – General Regulatory Criteria..*

**96. Comment:** Due to the increase in recreational boating traffic mixing with the nearby barge activity at YC Port, has a contingency plan been developed to contain a potential hazardous materials spill? (Comment by Mary Ben Heflin)

**TVA Response:** *Regarding potential spills from that could possibly occur at the proposed marina, a Spill Prevention Control and Countermeasure (SPCC) Plan would be required of the applicant prior to permitting of the fuel facility. Contingency plans for emergency response to hazardous material spills associated with the Yellow Creek State Inland Port would be under the authority of the Yellow Creek State Inland Port or the carrier of the hazardous material.*

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## Compliance

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**97. Comment:** The dock on the south side was built without a prior permit. Even though the permit was subsequently pulled - Was TVA giving preferential treatment? Also is the cruiser moored on the dock being used as a residence for the harbormaster? (Reference 5.R in the Grant of Term Recreational Easement, TCDF which states “No vessels shall be used for human habitation”). Where is the owner of this cruiser pumping out the waste? (Comment by Vince and Marsha Marascuilo)

**TVA Response:** *TVA granted permission for the dock to be located on site during planning of the marina and development. The dock will be incorporated into the final approved structure. The harbormaster also has a residence in a nearby subdivision. He has a 30 gallon portable storage unit which is pumped out at Pickwick Pines Resort on Highway 350.*

**98. Comment:** Pickwick Pines Marina (PPM) has already cleared trees from the land and added run off into the lake. They have erected a fence, building and signage in an effort to push this project through. (Comment by Michael Reddoch).

States that there were trees cleared on the property in 2005 and asks if the appropriate permits were issued prior to tree clearing. Cites SEA, Chapter 6 reference “The applicant would be required, though deed restrictions, to maintain a 50 foot undisturbed buffer to be managed as a shoreline management zone...Minimum openings are acceptable for water access on the south end.” States that this is one example of developer not abiding by the commitments in SEA. (Comment by Vince and Marsha Marascuilo)

Section 6.0 (Commitments), No. 5 states that “undisturbed forest buffers at least 50 feet wide would be maintained and enhanced around the site.” The hill ending at the water’s edge has already been cleared. How does that fit into the Commitments? And how did PPM have authority to clear that land before obtaining all the necessary approvals for construction of this project? And what of all the erosion that has already taken place on this bare hillside during the rainy spring and summer? Is this an indication of PPM’s commitment? (Comment by Nancy and Lynn Magill)

Why was PPM allowed to build a dock before their permit was issued? Why was PPM allowed to bulldoze hundreds of trees without a final EA? (Comment by Mary Ben Heflin)

**TVA Response:** *See response to Comment 97. In 2000, TVA completed a FEA and a Finding of No Significant Impact (FONSI) for a 40-year commercial recreation easement over this tract to Tishomingo County Development Foundation (TCDF). The easement was approved by the TVA Board in 2001. TVA also approved the lease from TCDF to PPM. The ongoing environmental review is for the TVA/USACE permit(s) for the marina portion of the development. TVA has approved all the land disturbances that have taken place. Tree removal along the shoreline was allowed for development and construction of the cart path on the property. TVA will continue to work with PPM once construction is complete to develop a manageable riparian zone along the shoreline.*

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### Supportive Comments

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**99. Comment:** Pickwick Pines Marina (PPM) is needed because other facilities are full. The ramp across from Aqua on the Tennessee side is often full and needs improvement. (Comment by Ron Smith)

PPM marina will bring economic progress to the area and provide the best use for the area (Comment by Ron Smith).

I think the project would boost the economy in our area. We need this in Tishomingo County. (Comment by Danny Kennedy)

PPM marina can't help but improve property values (comment by Ron Smith)

Safety is not an issue and that safety concerns are due to irresponsible actions by the public. (Comment by Ron Smith).

**TVA Response:** *The above comments have been reviewed and noted.*

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### General Comments Opposing

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**100. Comment:** The Pickwick Pines Marina (PPM) developer has been very unresponsive to our concerns, and it is quite obvious that he does not care. I am disappointed in TVA, their weak reports, their apparent lack of knowledge regarding the outcome if the marina is constructed. If you allow the PPM construction, I am going to e-mail you with regards to injuries, deaths, property damage, water pollution, etc. (Comment by Larry Nolan)

There needs to be a formal inquiry into the relationship between the developer and the Yellow Creek Port Authority. (Comment by Vince and Marsha Marascuilo)

I feel like responding to the PPM proposal once again is a total waste of time. The committees that are supposed to be protecting the homeowners and the welfare of the public property have obviously already decided that this marina will happen. Mr. McMeans has already promised that this marina will be available to the residents of his resort and he will stop at nothing to make it happen. (Comment by Patricia McHughes)

Given all the corruption scandals currently floating around the State of Tennessee, maybe these Land Use Representatives don't want their business dealing studied too closely. How many of the decision makers are friends or relatives of Mr. McMeans? (Comment by Patricia McHughes)

I feel confident that if you read the developer's response to the homeowners' concerns, you too will see how inadequate the responses are. I think Mr. McMeans should have his marina ... just not in YC on this site. (Comment by Patricia McHughes)

**TVA Response:** *Comments noted.*

**101. Comment:** PPM letter responding to issues of concern is comprised entirely of unsupported opinion by a person having a direct financial interest in the outcome of TVA's decision. Why would TVA give credence to the interested and unsupported opinions of the

GM of the proposed PPM? What support does he have for his statements such as “I do not believe that boat traffic will be greatly increased?” He makes reference to what “statistics show” but never cites any supporting statistics. (Comment by John Heflin, et al.)

The applicant’s response to public comment (Appendix C to SEA) during the COE Public Notice reviews – can only be described as shallow, inadequate, and without authentication. If this is acceptable to TVA and COE, then there seems to be a clear desire to not hold the developer accountable. (Comment by Dave Davis)

**TVA Response:** *The applicant’s responses have been considered, but TVA and USACE have independently examined the issues raised by the public.*

**102. Comment:** “We feel that TVA’s role is custodian of the river. If TVA allows Yellow Creek to become a garage for Pickwick Lake, then it’s not being a good custodian.” (Comment by John Heflin, *Wheeler Lake News*, 7/11/06)

**TVA Response:** *TVA takes its responsibilities for managing the Tennessee River system very seriously. The issues raised by the public have been carefully considered and appropriately evaluated partly in furtherance of those responsibilities.*

**103. Comment:** The fact that Rodney is boasting of having “75 slips spoken for” leads me to ask if he is undercutting prices at the existing marinas or is he referring to residents of Pickwick Pines who were promised water slips when they purchased their condo? And the boaters affected by the hurricanes are temporary tenants. (Comment by Nancy and Lynn Magill)

**TVA Response:** *See response to Comment 4. TVA does not know the motivation for those planning to use the proposed marina, but TVA analyses indicate a need for additional dock and storage space.*

**104. Comment:** Seems that TVA is “hell bent” to allow construction of the marina regardless of what the people on YC want and what is right for the area. “Allowing the construction of PPM over all the objections that approximately 300 families have is staggering for me to believe.” (Comment by Larry Nolan)

**TVA Response:** *Comments have been received both supporting and opposing the proposed marina.*

**105. Comment:** Please do not cave in to the pressures of money, especially since you are voted in/hired body in charge of protecting the lake from short sighted people only interested in making a profit. (Comment by Drew Renshaw)

**TVA Response:** *TVA and USACE have been requested to approve plans for the proposed marina. Other than application fees and the recovery of administrative review costs, the agencies have no financial stake in the outcomes of their permitting processes. Commercial recreation facilities necessarily have a profit-making objective, but they still provide important benefits to the areas in which they are located.*

**106. Comment:** Why does the PPM proposal directly contradict the 2001 Pickwick Reservoir Land Management Plan that reported 83 percent of respondents indicated a

need for more natural resource conservation, protection of water, shoreline, and public land? (Comment by Mary Ben Heflin)

**TVA Response:** *Use of the parcel for commercial recreation, including the proposed marina, is consistent with the Pickwick Reservoir Land Management Plan. Significant acreage has been allocated to the identified uses under the plan.*

**107. Comment:** There is an apparent lack of concern for property owners who are a major reason the area has thrived – our property taxes, food purchases, fuel purchases, boat purchases, boat license, fishing licenses, many services including boat maintenance, yard maintenance, fishing guides and everything else that goes into maintaining a second/vacation home have all been instrumental in development of the area. I can't tell you how disappointed we are that we cannot count on our government agencies to be our advocates and that this beautiful area is being overtaken by unfettered commercialism. (Comment by Nancy and Lynn Magill)

How is it that a development can be built taking away a publicly used common natural resource without compensating the public for the loss? The public has a right to keep these areas public. The TVA is the public's only protection. (Comment by Michael Reddoch)

Taking away a portion of the right-of-way, adding more boats, personal watercraft, and on-lake amenities here is a permanent mistake. Permanent, irreversible effect on quality of this area of the lake. (Comment by Michael Reddoch)

**TVA Response:** *TVA fully appreciates and is grateful that existing reservoir users, property owners, and commercial interests want to protect their lifestyles. It is TVA's responsibility to try to achieve a balance among all of the existing and proposed uses of TVA's reservoirs. Public review processes such as this one help us do that.*

**108. Comment:** No substantive response to the challenge that the marina would largely eliminate a key recreational skiing area. (Comment by Dave Davis)

The authors of the SEA assign too little weight to the disruption of the existing recreational use of the lake surface area where the marina will be located. The SEA notes that this facility will only create "a little less room on the embayment as the marina would occupy about 21 surface acres" (the embayment itself is about 500). This assessment is off track. The problem is the faulty assumption that all 500 surface acres of the embayment are equally useful for recreation. Most of the 500 acres is devoted to ingress and egress to the main river, the Tenn-Tom Waterway, marinas, and various other commercial facilities. Vast other portions of the 500 acres are too shallow for skiing and tubing. The area where the marina's footprint will be is the most popular area in the embayment for waterskiing and tubing. It is relatively sheltered and outside of the traffic flow, which makes it safe for kids. I believe that the proposed marina will eliminate ½ of the YC embayment suitable area for skiing and tubing. Believes that SEA authors should reexamine this factor after taking proper measurements of the surface area that is suitable for skiing and tubing now, and the area that will be suitable if the PPM is built. (Comment by Mark Field)

There is plenty of "open" water everywhere on Pickwick Lake except on Yellow Creek. (Comment by Larry Nolan)

Pickwick Pines Marina Inc.

Development of PPM at the proposed location will impact uses by current residents regarding recreational use: waterskiing, boating, jet skiing, relaxing and fishing. Currently used by homeowners in YC and the local area and visitors. (Comment by John Lichterman)

**TVA Response** *The data and findings in the attached Appendix E, Yellow Creek Embayment Boating Capacity Study, reflect actual boat counts and estimated recreational boat impacts from the proposed Pickwick Pines Marina and the actual surface at summer pool (414 feet) of 2,678 acres with 43.7 miles of shoreline. In addition, the data show the capacity for all types of recreational boating activities should not be congested on weekdays and weekends prior to noon with boat counts increasing during Saturday and Sunday afternoons.*

**APPENDIX A – JOINT PUBLIC NOTICE 05-87-A**

**U.S. ARMY CORPS OF ENGINEERS  
TENNESSEE VALLEY AUTHORITY  
AND  
STATE OF MISSISSIPPI**

**PICKWICK PINES MARINA INC.  
IUKA, MISSISSIPPI**

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US Army Corps  
of Engineers.

Nashville District

# Public Notice

Public Notice No. 05-87-A

Date: 17 February 2006

Application No. 2005-02082

Expires: 18 March 2006

Please address all comments to:  
Nashville District Corps of Engineers, Regulatory Branch  
(Attn: Kathleen J. Kuna)  
3701 Bell Road, Nashville, TN 37214  
kathleen.j.kuna@uscce.army.mil

**JOINT PUBLIC NOTICE  
US ARMY CORPS OF ENGINEERS  
TENNESSEE VALLEY AUTHORITY  
AND  
STATE OF MISSISSIPPI**

**SUBJECT:** Proposed Public Marina with Harbor Limits, 228 Boat Slips with Floating Wave Breaks, Fuel Dock, Villa Mooring Dock, Boat Ramp, Dredging, Retaining Wall and Bulkhead for a Boat Lift Dry Stack Storage Facility, one Dolphin; and Associated Upland Development (Pickwick Pines Resort & Marina) at Tennessee-Tombigbee Waterway (TTW) Mile 448.4LB, (Yellow Creek) at Tennessee River Mile 215LB, Pickwick Lake, Tishomingo County, Mississippi. TVA RLR# 169384.

This proposed action was originally advertised by Public Notice 05-87 on October 19, 2005. The original layout plan has been revised and is attached to this document.

**TO ALL CONCERNED:** The application described below has been submitted for a Department of the Army Permit pursuant to **Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (CWA) and Section 26a of the TVA Act**. Before a permit can be issued, certification must be provided by the Mississippi Department of Environmental Quality, pursuant to Section 401(a) (1) of the CWA, that applicable water quality standards will not be violated. By copy of this notice, the applicant hereby applies for the required certification.

**APPLICANT:** Pickwick Pines Marina, Inc.  
11 Ashley Avenue  
Iuka, MS 38852  
**Agent:** Rodney Lucas Phone: 662-379-0676

**LOCATION:** Tennessee-Tombigbee Waterway (TTW) Mile 448.4LB, (Yellow Creek Mile 3.0 LB); a tributary of the Tennessee River at Mile 215LB, Pickwick Lake, Tishomingo County, Mississippi.

TVA Tract XPR-460RE - RLR No.169384. USGS Yellow Creek  
Quadrangle Map; Latitude 34° 48' 54" N, Longitude 88° 14' 44" W.

**DESCRIPTION OF PROPOSED WORK:** The applicant proposes to develop approximately 31-acres of TVA land, Tract No. XPR-460RE through commercial recreation easement. The proposed site is currently under a 40-year TVA commercial recreation easement held by the Tishomingo County Development Foundation (TCDF). They proposed to develop the site for a marina, restaurant, rental cabins, etc. TVA originally prepared an Environmental Assessment (EA) to assess the environmental impacts of such a project. In 2000, a Finding of No Significant Impact (FONSI) was issued for the project. Pickwick Pines has recently leased the property from TCDF for completion of the project. TVA will review the current plans and prepare a supplemental EA for project approval under Section 26a of the TVA Act.

The proposed development would be called Pickwick Pines Marina. Harbor Limits would be established by the TVA Navigation Program. The proposed harbor limit would be around the perimeter of the marina structures with permitted buoys for a 50' no-wake zone on the three sides of the fuel dock. There would be no additional no-wake zones. The marina docks would be protected by a lighted dolphin at the southeast corner of the marina. The dolphin would be comprised of two concrete-filled 8' diameter pipes and one concrete-filled 12' diameter pipe in a tripod shape. The dolphin would be mitigation for the potential for a wind-blown tow allision between tows serving the neighboring Ergon asphalt terminal and the marina structure. The docks would be tethered to the dolphin with cables.

The proposed activity would require the dredging of approximately 3,000 cubic yards (CY) of lake bottom materials from below the 414 NSF Elevation at the following two locations:

Area 1: Approximately 9,000 SF for access to the dry stack dock and boat ramp.

Area 2: Approximately 9,950 SF for restaurant deck and access. Dredging would be required to create a 6-foot water depth at the Normal Winter Pool (NWP) Elevation of 408.0. All dredging would be performed using land based equipment. All dredged material would be immediately removed from the site by truck and stabilized in an off-site disposal area away from the lake.

The proposed activity would also require the discharge of clean fill material for the following:

1. 1000 CY clean rock for 1800 LF of bank stabilization. The riprap would extend lakeward to Elevation 410.
2. 155 CY of fill material (concrete & clean fill) below the NSF 408 Elevation for a dry stack storage bulkhead and adjacent 12'W service boat launching ramp.

The 30' x 40' x 14' high dry stack bulkhead would have a top elevation of 416, would extend approximately 10-feet into the water from the shoreline and would be used for loading and unloading boats for storage. The bulkhead and ramp would be constructed using a coffer dam system to temporarily dam and

drain the construction area to ensure that no construction would be accomplished under water. A 6'W x 100'L dock for boats awaiting storage would be constructed along the shoreline adjacent to the bulkhead. The dock would be floating on telescoping poles with the ramp pinned to a bulkhead above the 414 elevation. The ramp would extend to Elevation 406. The ramp would be used for only for emergency situations or for retrieval of inoperative boats. There would be no private or public use of the ramp.

The proposed marina would be constructed according to the TVA Clean Marina Standards. There would be 228 boat slips in the following configuration:

Dock	# of Slips	Length	Width
A	21	60'	24'
B	14	100'	30'
C	22	50'	20'
D	24	40'	18'
E	32	30'	12'
F	30	30'	12'
G	30	30'	12'
H	15	17'	22'
I	14	60'	22'
J	14	50'	20'
K	12	60'	22'

All slips 40 feet and larger would provide in-slip pump-out in accordance with R.S. Guideline 4.5.3 - Marina Sewage Pump-out Stations and Holding Tanks. All docks would have water, electrical and sewer service. Water cutoffs and electrical disconnects would be located above Elevation 423. All sewer lines would have shutoffs and check valves. The access ramps to the docks would be pinned to bulkheads installed above Normal Summer Pool Elevation 414. The docks would be floating secured by telescoping poles and attached to the access ramps.

The fuel dock would have pump-out facilities in accordance with R.S. Guidelines 4.5.3 - Marina Sewage Pump-out Stations and Holding Tanks. Fuel tanks as shown on drawings would be constructed in accordance with R.S. Guidelines 4.5.5 Storage Tanks (USTS and ASTS). All fuel lines shall be flex piping with cutoffs installed. A fixed 12-foot wide timber deck constructed for seating would be adjacent to the restaurant. The deck would be constructed on 6"x 6" treated wood pilings.

Plans for the upland property include the construction of roads, a paved trail, residential villas, marina store, restaurant, pool, golf cart storage and a dry stack boat storage facility.

Potential impacts to navigation include but are not limited to increased recreational boat traffic and other safety issues, increased use of existing federal mooring facilities and increased costs.

Plans of the proposed work are attached to this notice.

The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the work must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the work will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. In addition, the evaluation of the impact of the activity on the public interest will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency, under authority of Section 404(b)(1) of the CWA (40 CFR Part 230). A permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

A Supplemental Environmental Assessment will be prepared by TVA prior to a final decision concerning issuance or denial of the requested TVA 26a Permit and Department of the Army Permit.

The National Register of Historic Places has been consulted and no properties listed in or eligible for the National Register are known which would be affected by the proposed work. This review constitutes the full extent of cultural resources investigations unless comment to this notice is received documenting that significant sites or properties exist which may be affected by this work, or that adequately documents that a potential exists for the location of significant sites or properties within the permit area. Copies of this notice are being sent to the office of the State Historic Preservation Officer.

Based on available information, the proposed work will not destroy or endanger any federally-listed, threatened, or endangered species or their critical habitats, as identified under the Endangered Species Act. Therefore, we have reached effect determination and initiation of formal consultation procedures with the U.S. Fish and Wildlife Service is not planned at this time.

Other federal, state, and/or local approvals required for the proposed work are as follows:

TVA approval under Section 26a of the TVA Act. In addition to other provisions of its approval, TVA would require the applicant to employ best management practices to control erosion and sedimentation, as necessary, to prevent adverse aquatic impacts.

Water quality certification from the state of Mississippi Department of Environmental Management (MDEQ) in accordance with Section 401(a) (1) of the CWA.

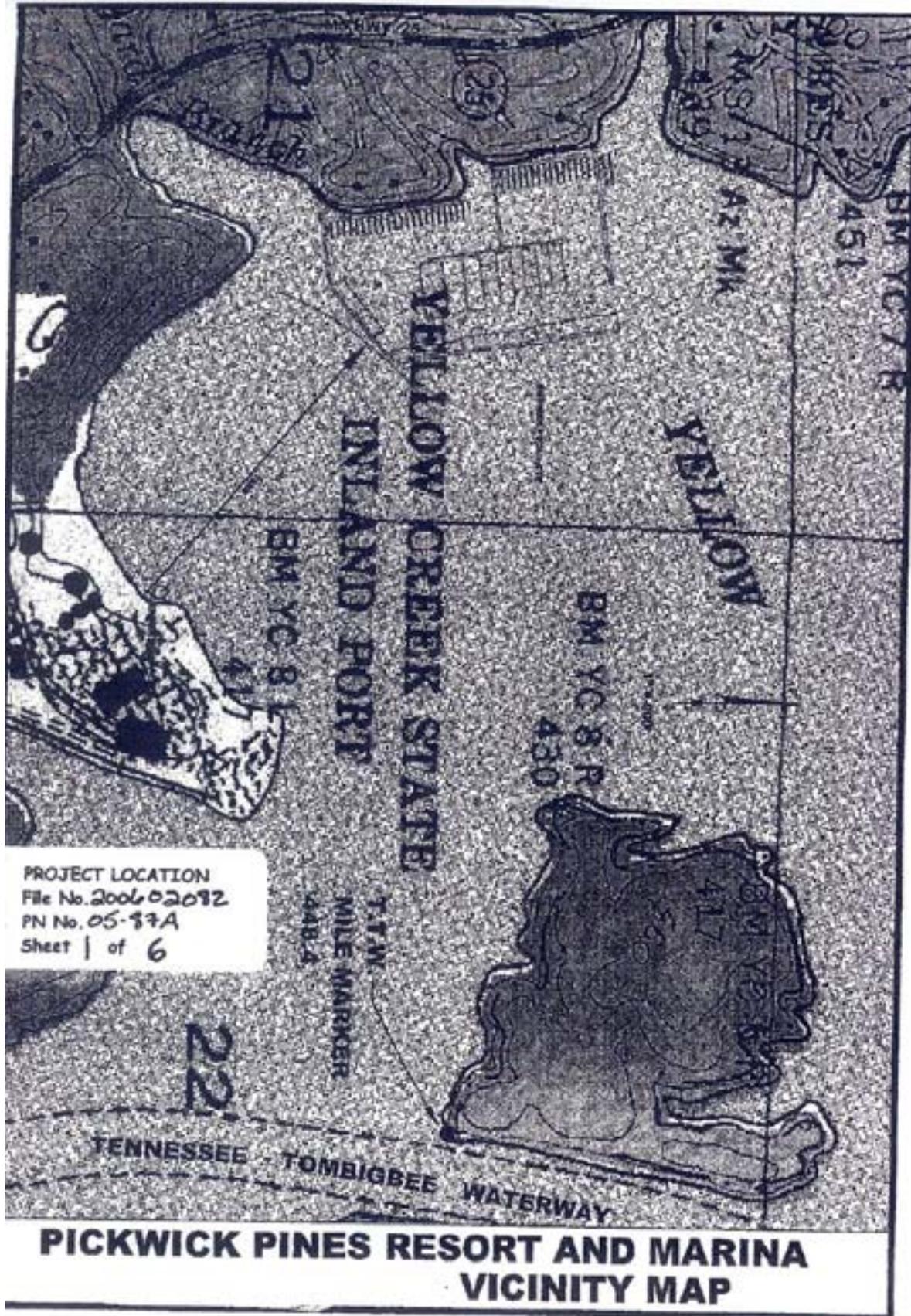
Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

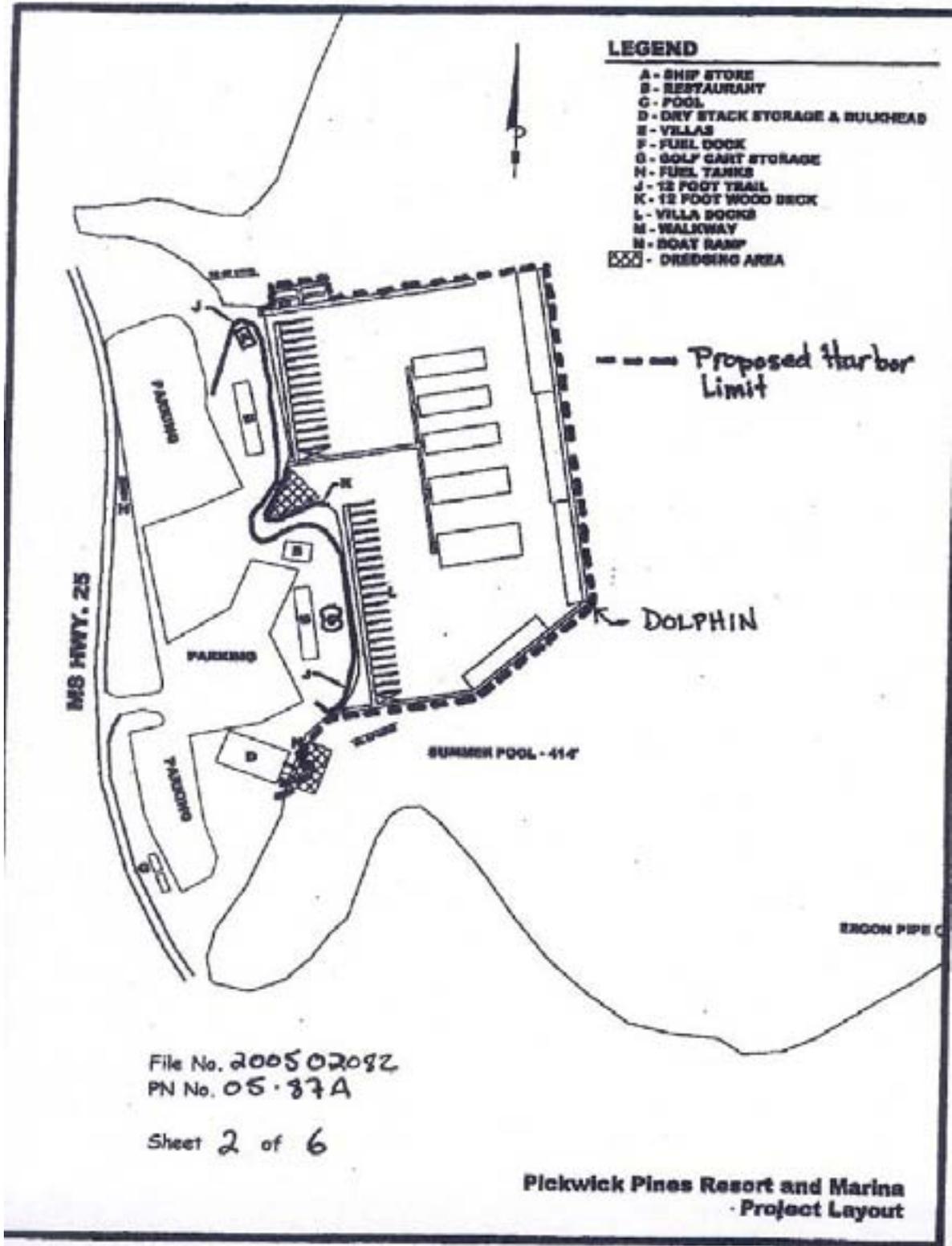
Written statements received in this office on or before March 2006 will become a part of the record and will be considered in the determination. Any response to this notice should be directed to Kathleen Kuná at the above address.

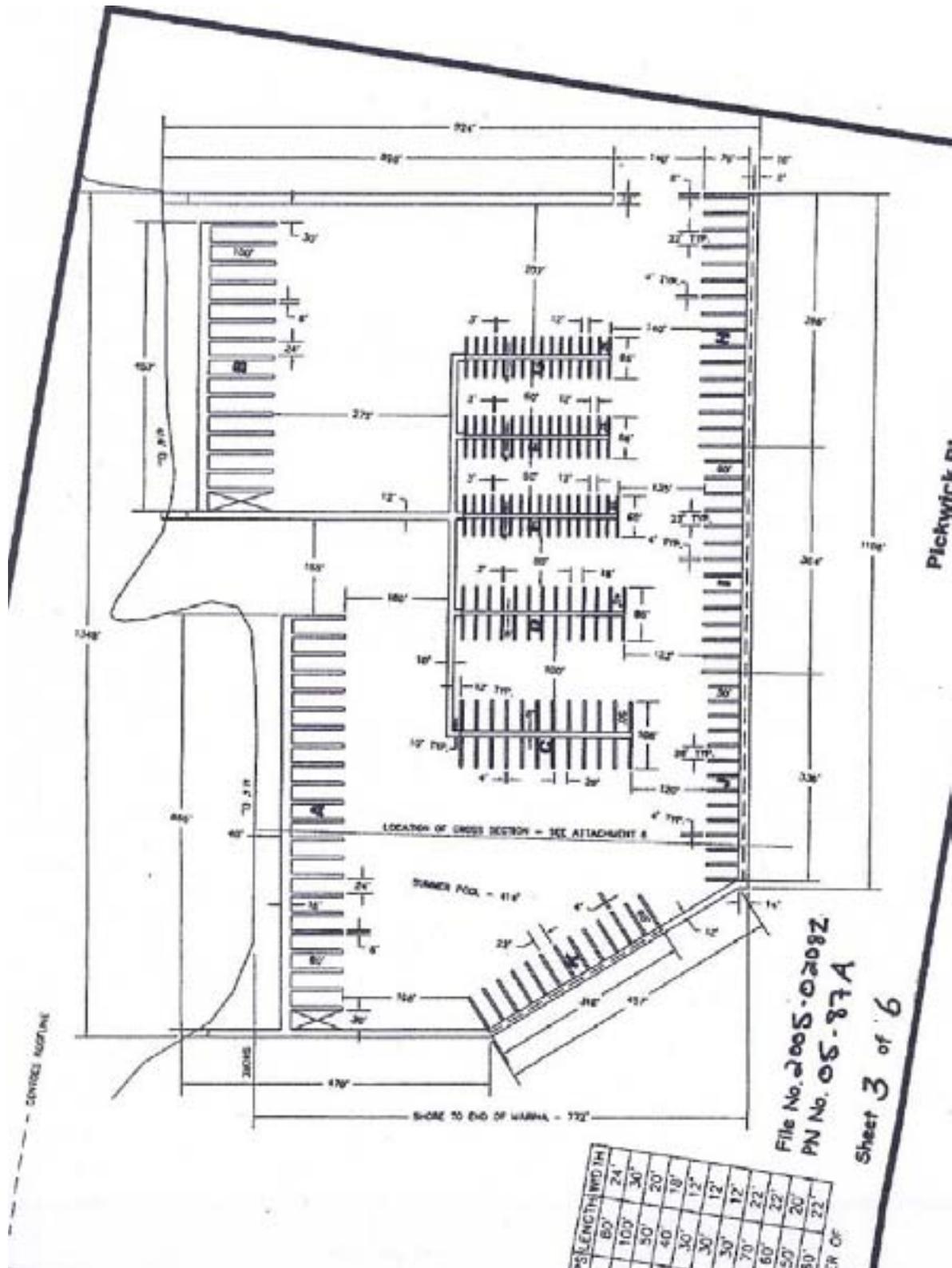
It is not necessary to comment separately to TVA or MDEQ since copies of all comments will be sent to them and will become part of their record on the proposal. However, comments may also be sent directly to either agency at the following addresses:

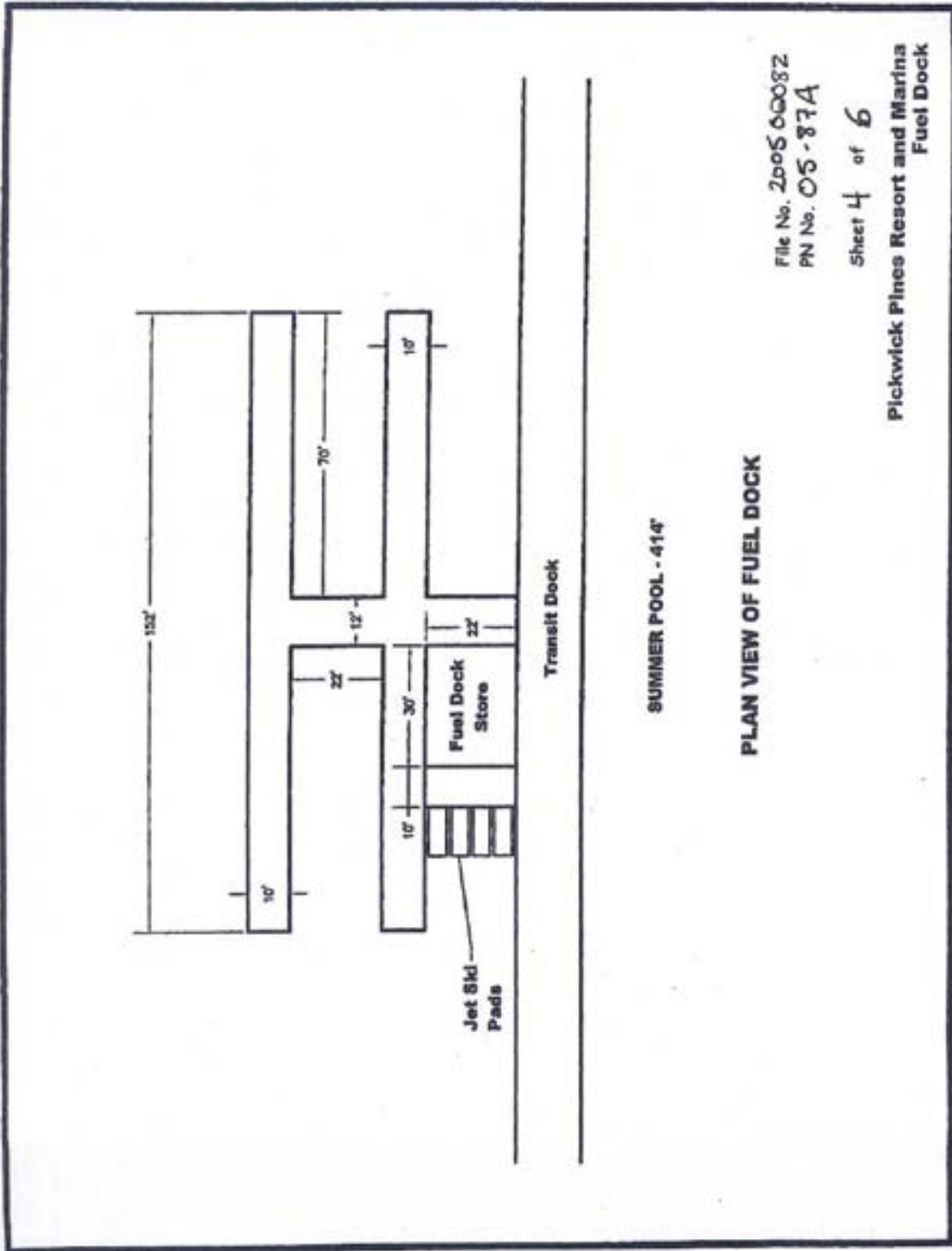
Mr. Stephen Williams  
Pickwick Wheeler Watershed Team  
P.O. Box 1010 (SB 1H-M)  
Muscle Shoals, AL 35662

Mr. Robert Seysarth  
Chief, Water Quality Certification Branch  
Mississippi Department of Environmental Quality  
P.O. Box 10385  
Jackson, MS 39289









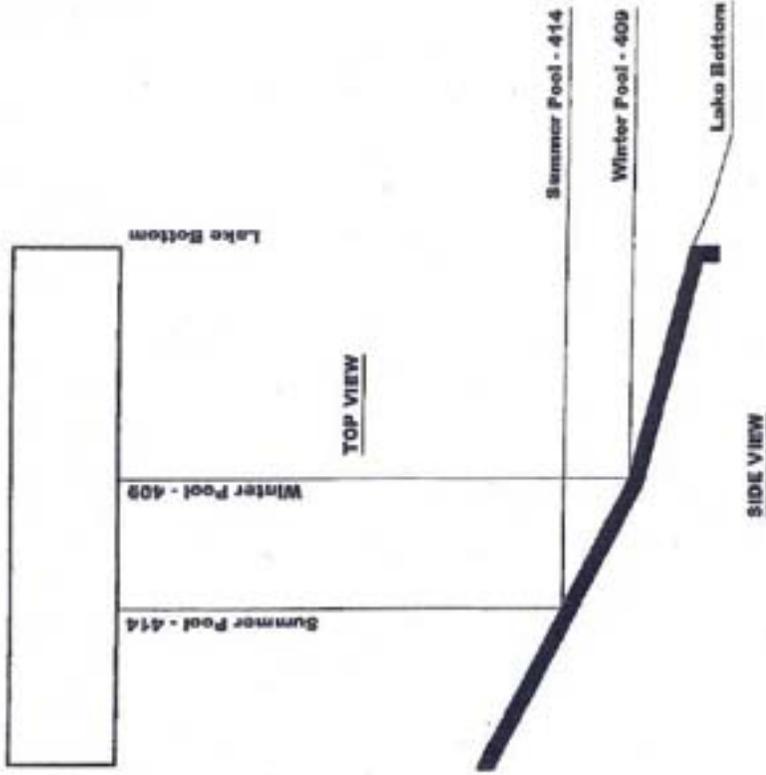
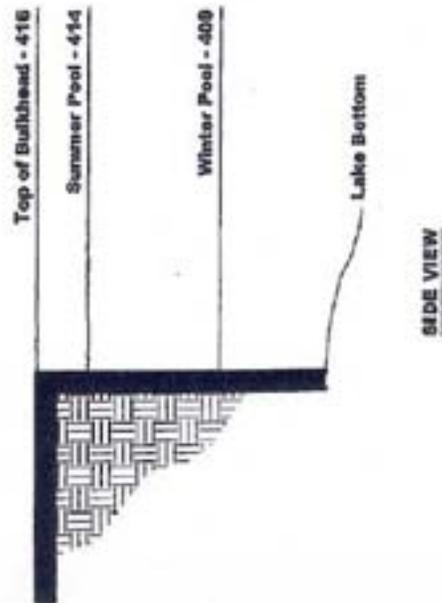
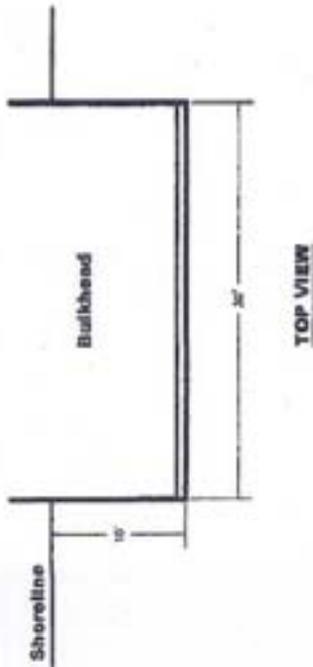
SUMMER POOL - 414'

PLAN VIEW OF FUEL DOCK

File No. 2005 00082  
PN No. 05-37A

Sheet 4 of 6

Pickwick Pines Resort and Marina  
Fuel Dock

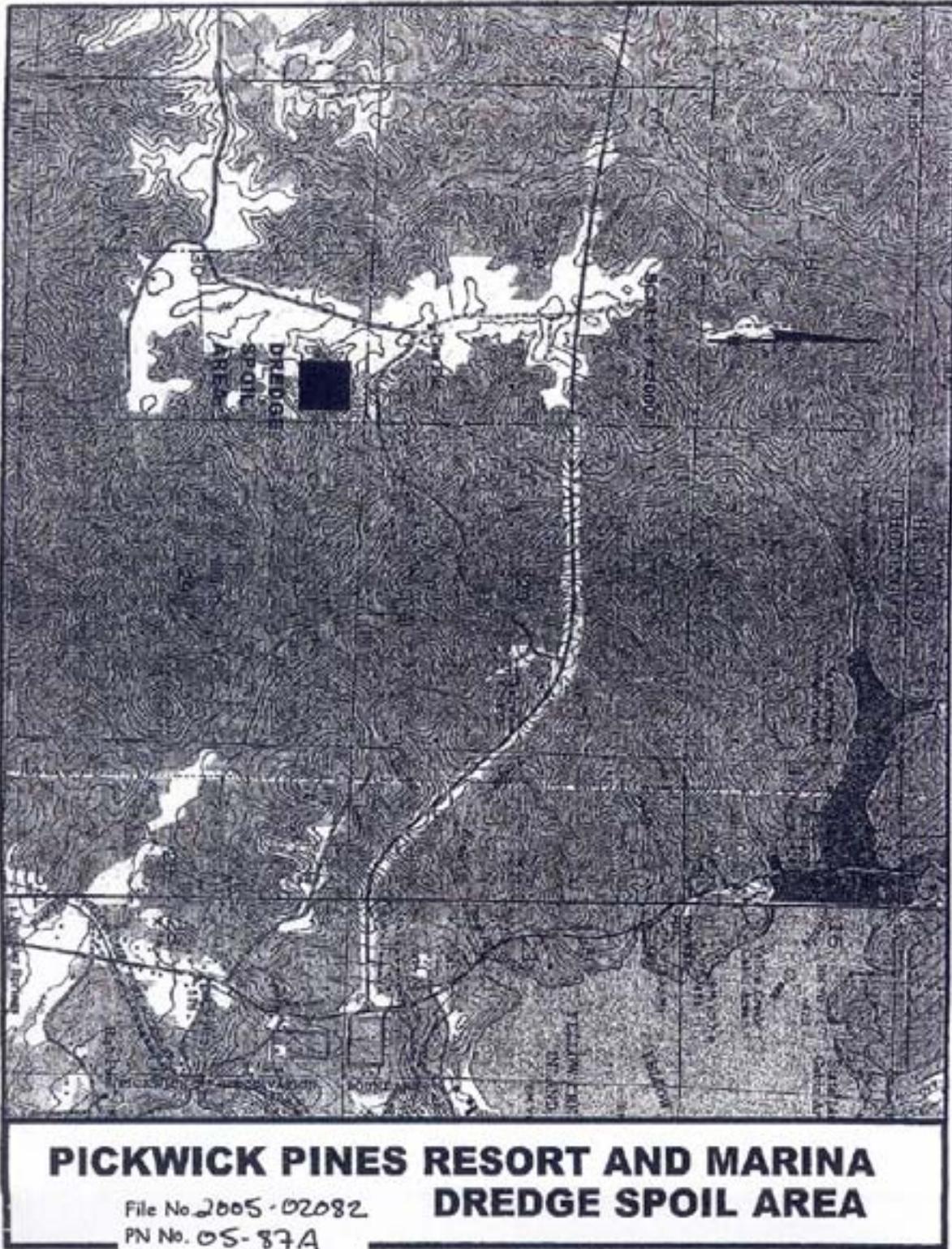


**BULKHEAD**

**BOAT RAMP**

File No. 2005 02082  
PN No. 06-37A  
Sheet 5 of 6.

Pickwick Pines Resort and Marina



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**APPENDIX B – 2000 FINDING OF NO SIGNIFICANT IMPACT AND  
FINAL ENVIRONMENTAL ASSESSMENT**

**TISHOMINGO COUNTY DEVELOPMENT FOUNDATION  
REQUEST FOR LONG-TERM TENURE COMMERCIAL RECREATION  
EASEMENT  
TRACT NO. XPR-460RE  
DECEMBER 2000**

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## FINDING OF NO SIGNIFICANT IMPACT

### PROPOSED RECREATION EASEMENT TO TISHOMINGO COUNTY DEVELOPMENT FOUNDATION

TRACT NO. XPR-460RE  
PICKWICK RESERVOIR  
TISHOMINGO COUNTY, MISSISSIPPI

#### **BACKGROUND**

The Tishomingo County Development Foundation (TCDF) has requested a commercial recreation easement over 31 acres of TVA land on Pickwick Reservoir. If the easement was approved by TVA, TCDF would construct a convention center, rental cabins, and a marina. A conceptual plan for these facilities was submitted. When the final configuration of the marina and boat slips is known, TVA would review the final plan under Section 26a of the TVA Act. TVA has prepared an Environmental Assessment (EA) to assess the environmental consequences of the TCDF development and to assist its decision making on this matter. The Draft EA was distributed for review to federal and state agencies and the public in September 2000. Comments were received from the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (FWS), Tennessee Conservation League (TCL), and four individuals.

USACE indicated that marina facilities would require a permit under Section 10 of the Rivers and Harbors Act of 1899 in addition to a permit under Section 404 of the Clean Water Act. They also requested that the concept plan be included in the EA, and that more information be included on the issue of boat traffic congestion and erosion. This information was added to the Environmental Assessment (EA).

FWS was concerned about the amount of commercial development proposed, which would tend to eliminate all of the wildlife habitat of the area and affect water quality and aesthetics. Additional information was added to the EA to clarify the cumulative effects of the proposal and to recognize the footprint of the facility in relation to the total tract of land to be under easement. Also, the water quality impacts of the marina and aesthetics of the proposed facilities were addressed by modification of the EA.

TCL expressed concerns about the characterization of public opposition, the loss of informal recreation opportunities, cumulative impacts, and lack of data collected on boat traffic, water quality, noise, traffic, and wildlife habitat. The EA was revised to respond to these comments. TCL also recommended that the Pickwick Reservoir Land

Management Plan be updated before further changes in land use designations were considered. In addition, TCL requested that a no net loss proposal be developed to address the loss of land available for informal recreation and natural resource purposes. The EA was revised to respond to these comments. TVA is planning to update the Pickwick Reservoir Land Management Plan in the next fiscal year. Because portions of this land were already considered transferred for a roadside park and the other portion is a narrow strip of forest (totaling 15.5 acres) between Mississippi State Route 25 and the water, TVA does not believe that there would be a significant loss of public lands for informal recreation as a result of this proposal. Accordingly, TVA does not plan to require a "no net loss" proposal from TCDF.

Concerns of individuals focused on the potential for additional development on the reservoir and the potential for boat congestion, erosion, and water quality impacts from the proposed conference center and marina development. As indicated above, the EA was changed to respond to these comments.

### **ALTERNATIVES**

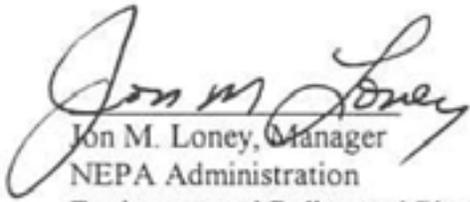
In the EA, TVA considered two alternatives, No Action and the Proposed Action. Under No Action, the property would remain undeveloped. A portion of the property has previously been used as a roadside park, but these facilities have been removed. In addition, TVA would not issue Section 26a approvals associated with marina and boat slips. Under the Proposed Action, a commercial recreation easement would be granted to the 423-foot contour on the Yellow Creek embayment at mile 448.4, right bank, of the Tennessee-Tombigbee Waterway. Allocations in the Pickwick Reservoir Plan of 1981 would be changed to be consistent with the easement. In addition, Section 26a applications would be considered for the marina, boat slips, and other facilities proposed below the 423-foot contour, upon receipt of more detailed plans consistent with the conceptual plan evaluated in the EA.

### **IMPACT ASSESSMENT**

The attached EA concludes that there would be no significant impacts to air quality, rare species, terrestrial ecology, navigation, or noise under the action or no action alternative. As additional environmental safeguards, under the proposed action, TVA would require shoreline and woodland buffers to be maintained around the perimeter of the property. Best Management Practices would be required for construction, and shoreline stabilization would emphasize bio-engineering methods. Buildings would be required to blend into the aesthetics of the surrounding area. In addition, entrance and exit roads would be designed to allow for safe turning maneuvers into and out of the facility. Marina plans would be required to include sewage pump-out facilities with spill-proof connections. Any above ground or underground storage tanks would also be required to have secondary containment and a spill prevention, control, and countermeasures plan. Final site development and marina development plans would be subject to TVA approval. The EA is attached and incorporated by reference.

## CONCLUSION AND FINDINGS

Following notification and consultation with consulting parties, the Mississippi State Historic Preservation Officer, and the public, TVA concludes that no historic properties would be affected. Based on the EA, TVA concludes that the proposed recreation easement to Tishomingo County would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required. This FONSI is contingent upon successful completion of the commitments contained in Section 6.0 of the attached EA.

  
Jon M. Loney, Manager  
NEPA Administration  
Environmental Policy and Planning  
Tennessee Valley Authority

Dec 11, 2000  
Date

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# FINAL ENVIRONMENTAL ASSESSMENT

Tishomingo County Development Foundation  
Request for Long-Term Tenure Commercial Recreation Easement  
Tract XPR-460RE

PICKWICK RESERVOIR

TENNESSEE VALLEY AUTHORITY  
December 2000

For more information, please contact:  
Danny Johnson  
Pickwick Watershed Team  
P. O. Box 1010  
Muscle Shoals, Alabama 35662  
(256) 386-3457

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## 1.0 PURPOSE OF AND NEED FOR ACTION

### 1.1 Background

Pickwick Reservoir is an impoundment of the Tennessee River formed by Pickwick Dam which is located at Tennessee River Mile (TRM) 206.7 in Hardin County, Tennessee. Pickwick Reservoir is located in parts of three states - Alabama, Mississippi, and Tennessee. TVA originally acquired 63,625 acres of land for construction of the reservoir which was begun in December 1934 and completed in February 1938. TVA has retained 17,358 acres of land lying above full pool elevation. At full pool, the reservoir is 52.7 miles long, shoreline length is 490.6 miles, and surface area is 43,100 acres.

The Tishomingo County Development Foundation (TCDF) has requested long-term tenure for 31 acres in two tracts (Tract E and Tract 11, now combined as Tract XPR-460RE) on the Yellow Creek Embayment at mile 448.4R on the Tennessee-Tombigbee Waterway. TCDF has requested the property for development of commercial recreation facilities (see Figure 1). Tract XPR 460RE is composed of two TVA properties, i.e., Tract E, 15.5 acres (also identified as XPR 393RE), and Tract 11, 15.5 acres (see Figure 2). Tentative plans for the proposed action include a convention center, a marina, cabin sites, and covered boat slips (see Figure 3). This conceptual drawing generated by TVA staff is a very abstract plan view of the site, similar to an artist's rendition, and was used only for general analysis purposes. The intent of this conceptual plan view was to determine the site's feasibility to accommodate the proposed facilities and necessary infrastructure within the 31 acres and does not constitute a formal and/or approved plan. TCDF would solicit proposals for actual design, construction, and operation of the facilities.

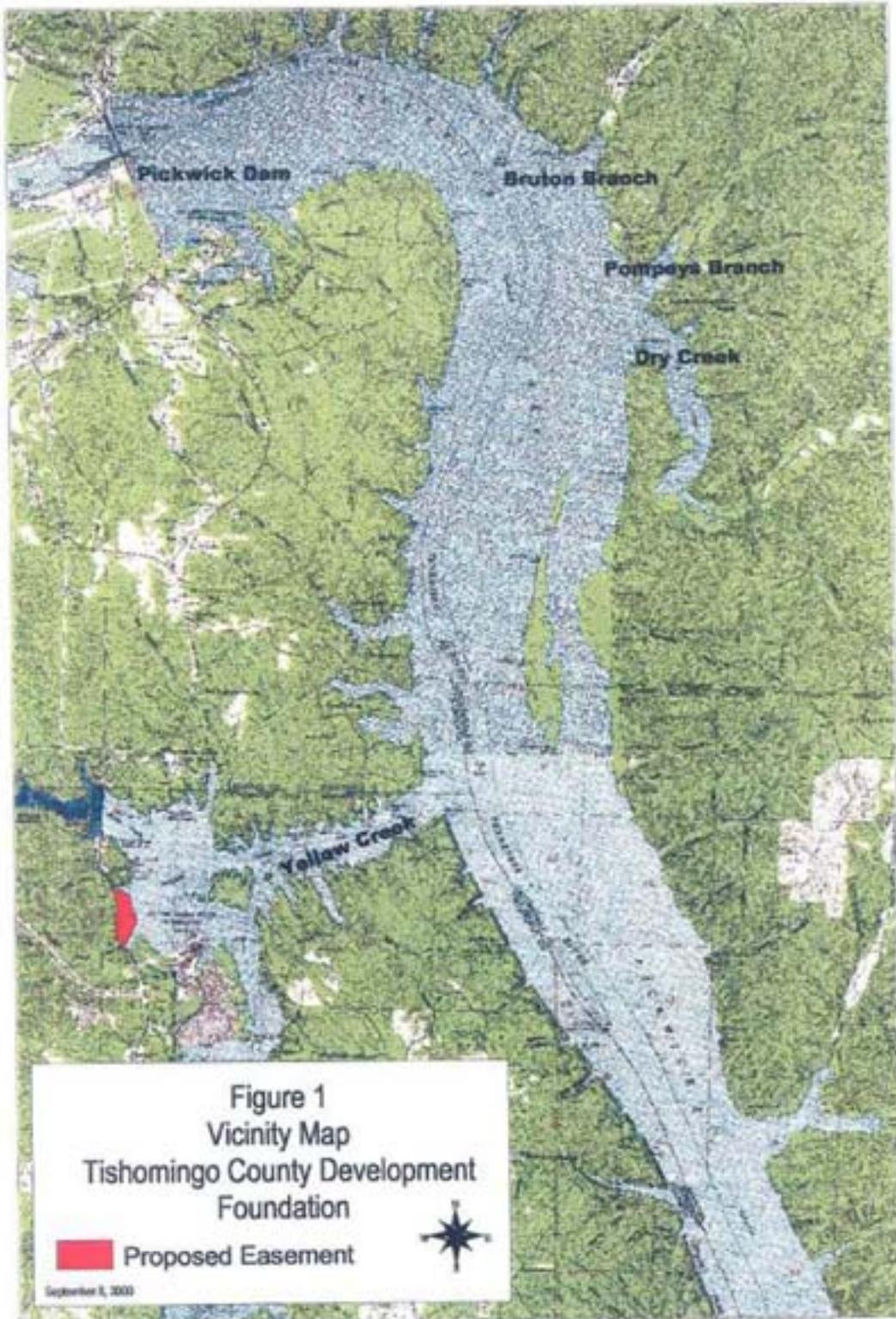
Tract E (XPR 393RE) has previously been used as a roadside park by the Mississippi Department of Transportation. Recreation facilities consisted of pavilions, restrooms, and picnic areas. Due to chronic vandalism and maintenance costs of these facilities, the state decided to no longer maintain this area. In June 2000 the state of Mississippi quitclaimed this property to TVA after discontinuing its use as a roadside park.

Tract 11 was allocated to the following land use categories in the 1981 Pickwick Reservoir Plan: Forest Management and Navigation (Minor Commercial Landing). No requests have been received for the use of Tract 11 for minor commercial landing since the Plan was adopted in 1981. The navigation program has reviewed the use of Tract 11 and does not object to removing Navigation (Minor Commercial Landing) from the tract allocation.

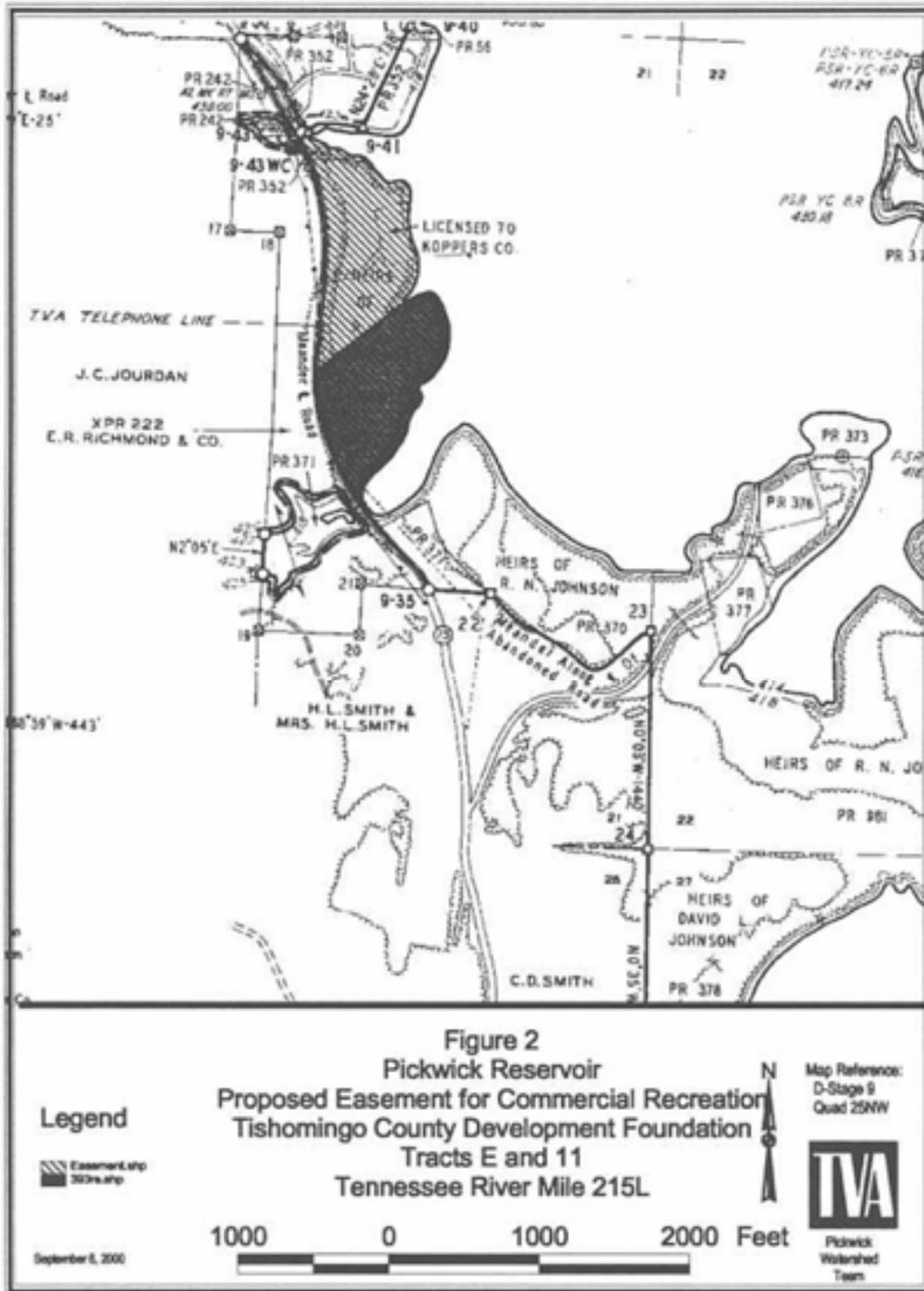
### 1.2 The Decision

The decision before TVA is whether or not to approve the proposed long-term tenure easement and modify the Pickwick Reservoir Land Management Plan so that TCDF can pursue commercial recreation development opportunities.

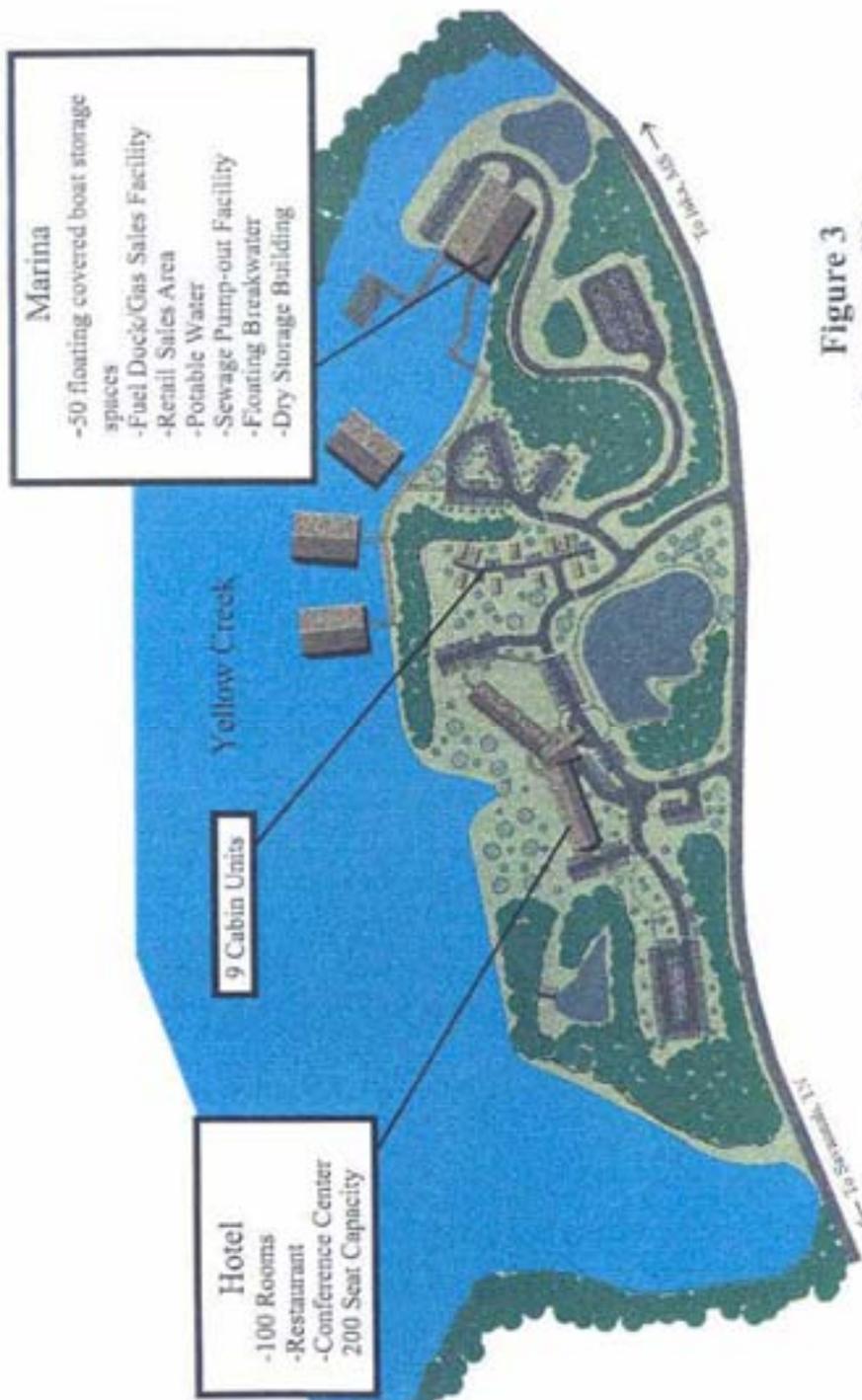
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**Figure 3**  
**Concept Plan**  
Marina Hotel Restaurant Conference Center  
Tishomingo County, Mississippi  
July 2000



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TVA has prepared an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) to assess the impacts of its proposed decision.

### 1.3 *Scoping and Issue Identification*

#### 1.3.1 Scoping

TVA began the NEPA process with a news release and paid advertisements in local newspapers in July 2000 announcing a public meeting on July 14, 2000, to solicit input. The paid advertisements and the news release were sent to the following media sources:

- The Northeast Mississippi Daily Journal - Tupelo, Mississippi
- The Tishomingo County News - Iuka, Mississippi
- The Commercial Appeal - Memphis, Tennessee
- The Courier - Savannah, Tennessee

Opportunities for the public to make comments included attending the public meeting and/or calling or sending written comments to the Pickwick Watershed Team. A public meeting was held on July 14, 2000, from 4 p.m. to 8 p.m. at the Pickwick Landing State Park and 37 people attended. The majority of comments received at the public meeting were in support of the project. Environmental concerns stated were water pollution from fueling facilities, boating congestion in the area, and sewage disposal. Additionally, several comments were received at the Pickwick Watershed Team office in Muscle Shoals. The public had until July 31, 2000, to call in or mail in written comments.

Comments in support of the commercial development generally stated "this project will be of great economic value to the county and surrounding counties. It would also provide tax revenue for the county and state and revenue for the Foundation to carry out its mission in the county. Also, there is no place in the county for more than 40 or 50 people to have a meeting which would include food and lodging. This project would provide at least 100 rooms and a convention center seating approximately 200 people and a restaurant."

Comments opposed to the commercial development included concerns in regards to pollution from spills when fueling and sewage pumpouts at the marina(s) and boating congestion. Those opposed expressed the issues and concerns listed in Table 1.3-1.

In total, comments were received from 21 people on the TCDF proposal throughout the public scoping period. Seven people were in favor of the proposal and 15 people were opposed. Additionally, 10 people provided comments on a log sheet.

**Table 1.3-1 Issues Identified During Public Scoping**

<b>Number of people</b>	<b>Issue</b>
10	Boating congestion and water safety
7	No marina or hotel
7	Too many marinas in the area already
6	Visual - Loss of scenic forested area
3	Shoreline erosion from boat wakes
3	Water quality - pollution from marina
4	Loss of habitat for terrestrial animals including bald eagles and blue herons
3	Increase of vehicle traffic on Highway 25
2	Noise pollution from additional boats
2	No more development
1	Adversely affect private property values
1	Loss of aquatic habitat in coves
1	Competition with J. P. Coleman State Park

### 1.3.2 Identification of Environmental Issues

Information collected through public scoping and internal agency review was used to identify the following important issues to be included in the environmental review:

- Air Quality
- Flora
- Fauna
- Water Quality
- Aquatic Ecology
- Wetlands
- Floodplains
- Socioeconomic Environment (including Property values)
- Land Use
- Cultural/Historic Resources
- Visual Resources
- Navigation
- Recreation

### 1.3.3 Draft Environmental Assessment (DEA)

Copies of the DEA were mailed to interested intergovernmental agencies and individuals. The U. S. Army Corps of Engineers, U. S. Fish and Wildlife Service, Tennessee Conservation League, and four individuals provided written comments. The comments received and responses are included in Appendix B.

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**1.4 Cooperating Agencies**

TVA is the lead federal agency for this EA primarily because of the need for land-use change consideration which does not involve other federal agencies.

**1.5 Related Environmental Documents****1.5.1 Pickwick Reservoir Plan**

In 1981 TVA completed the Pickwick Reservoir Plan (TVA, 1981). This plan designates Pickwick Reservoir lands for a variety of single and multiple land uses. It allocates 17,370 of public land around Pickwick Reservoir for wildlife management, forest management, recreation, cultural resource management, agriculture, navigation, visual protection, open space, special management areas, and industry.

**1.5.2 Shoreline Management Initiative (SMI): An Assessment of Residential Shoreline Development Impacts in the Tennessee Valley**

In 1999 TVA completed an environmental impact study (EIS) on residential shoreline development impacts throughout the Tennessee Valley (TVA, 1999a). The Record of Decision (ROD) for SMI was signed on May 24, 1999. Under the Blended Alternative adopted in the ROD, sensitive natural and cultural resource values of reservoir shorelines would be conserved and retained in three ways. These include:

1. Preparing a shoreline categorization for individual reservoirs;
2. Encouraging voluntary donations of conservation easements to properties over which TVA holds a flowage easement (i.e., property over which TVA has the right to flood) or other shoreland to protect scenic landscapes; and,
3. Establishing a premise that no additional residential access rights will be granted across public shorelines unless a "maintain and gain" policy to prevent losses of public shoreline is implemented.

**1.6 Necessary Federal Permits or Licenses**

Future construction of water-use facilities, shoreline stabilization, and wetland alterations would require permits from the U. S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act and from TVA under Section 26a of the TVA Act. Wastewater discharges would require a National Pollutant Discharge Elimination System (NPDES) permit from the Mississippi Department of Environmental Quality. NPDES stormwater construction permits are required for activities involving soil disturbance greater than one acre.

## 2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

The two alternatives that have been identified are described in this chapter. Alternative A is the No Action Alternative and Alternative B is The Proposed Action. If Alternative B is selected, a 40-year commercial recreation easement with the option to renew for another 40 years would be granted to TCDF.

### 2.1 *Alternative A: No Action*

Under the No Action Alternative, no change would be made to the use of this property. It would remain as undeveloped property and it would be available to the public for informal recreational use. Tract E has previously been used as a roadside park, but facilities associated with that development have been removed. Tract 11 would remain undeveloped and managed for the multiple uses of Forest Management and Navigation (minor commercial landing).

### 2.2 *Alternative B: The Proposed Action*

The Proposed Action is to grant a long-term tenure commercial recreation easement for Tracts E and 11 (as designated in the Pickwick Reservoir Land Plan-1981) to the 423-foot contour on the Yellow Creek embayment at mile 448.4R on the Tennessee-Tombigbee Waterway. TCDF has requested the property for development of commercial recreational facilities that could include a commercial marina, restaurant, lodging, and related facilities. Under this alternative, the land use for Tract E would remain recreation and the land use for Tract 11 would be allocated for Forest Management and Recreation.

### 2.3 *Comparison of Alternatives*

Under Alternative A, there would be no change in land use activities and no additional impacts are anticipated to:

- air quality,
- the general flora of the region,
- federal- or state-listed plant species,
- wildlife or threatened or endangered species of wildlife on the parcel,
- aquatic ecology,
- water quality,
- floodplains,
- navigation, and
- historic properties.

Wetlands would probably expand slowly due to natural sedimentation in the back of embayments and subsequent establishment of wetland type vegetation. Shoreline erosion would continue, thus, increasing the exposed bank height and probably dislodging trees from the steep slopes which could increase visual discord over time, further reducing the scenic attractiveness and visual coherence. There would be no change in public recreation opportunities and their availability would continue to

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enhance the quality of life in the area. There would be a slight increase in traffic over time due to the natural growth of the area, but these impacts would be insignificant.

Under Alternative B, there would be no significant impacts to:

- local or regional air quality,
- state or regional flora,
- federal- or state-listed plant species,
- terrestrial animal communities,
- federal-listed species of wildlife or their habitat,
- sensitive aquatic animals,
- wetlands,
- historic properties,
- commercial navigation traffic, and
- noise.

Soil disturbances, removal of the tree canopy, and improper use of herbicides, could result in adverse water quality and aquatic impacts. These potential impacts will be minimized to insignificant levels by the implementation of commitments in the easement agreement (see Section 6.0). The construction of commercial water-use facilities could result in minor floodplain impacts. To ensure the proposed action would have no adverse effect on floodplains and flood control, commitments have been included in Section 6.0. Visual impacts of development would be insignificant, provided the mitigation commitments for visual resources in Section 6.0 are incorporated. The new marina would likely increase boating traffic in the immediate area during the summer recreation season. New development could be beneficial to the site in that it may minimize the vandalism that has occurred at the roadside park in the past and provide vessel operators with another option regarding fueling and related services. An increase in traffic on the adjacent roadway network would be generated, but would not result in a change to the existing service level of State Route 25/57 and the effect would be insignificant. Based on the small, potential increase in recreational boating activity, the likelihood of continuing regional development, and the current ambient noise levels, the potential impact on the total noise environment is insignificant. This development could result in positive effects on the local economy both during construction and in operation by increasing employment and income in the local area, and if properly developed, maintained, and marketed, could be an important element in the economic development of the area.

There would be no disproportionate impacts to minority or low-income populations under either of the alternatives.

#### **2.4 Preferred Alternative**

TVA has selected Alternative B as the preferred alternative. Adoption of this alternative would not result in any adverse or significant impacts and would provide greater recreation opportunities to the area.

### **3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

#### **3.1 Introduction**

The location of the proposed recreation tracts are shown in Figure 2. Tracts 11 and E are within Tishomingo County, Mississippi, on the Yellow Creek Embayment at mile 448.4 on the Tennessee-Tombigbee (Tenn-Tom) Waterway.

##### **3.1.1 Description of Property**

Tract E, which contains 15.5 acres and 1,827 feet of shoreline at normal summer pool, has been used previously as a roadside park under a long-term tenure easement to the Mississippi Department of Transportation. Recreation facilities consisted of pavilions, restrooms, and picnic areas. The restroom and picnic facilities were removed when the state of Mississippi quitclaimed this property to TVA after discontinuing its use as a roadside park. Existing facilities include a paved access road and a picnic pavilion. Water and electrical utilities are available at the site.

Tract 11 contains 15.5 acres and 1,563 feet of shoreline at normal summer pool. This tract is currently managed as Forest and General Forest Management and Navigation, Minor Commercial Landing under the Pickwick Reservoir Plan.

#### **3.2 Terrestrial Environment**

##### **3.2.1 Air Quality**

###### **AFFECTED ENVIRONMENT**

National Ambient Air Quality Standards establish concentration limits in the outside air for six pollutants: particulate matter, sulfur dioxide, carbon monoxide, ozone, nitrogen dioxide, and lead. These standards are designed to protect public health and welfare. An area where any air quality standard is violated is designated as a nonattainment area for that pollutant, and emissions of that pollutant from new or expanding sources are carefully controlled. The subject tracts are not in or near any nonattainment areas.

In addition, Prevention of Significant Deterioration (PSD) regulations address air quality in attainment areas and in national parks and wilderness areas that are designated PSD Class I areas. A new or expanding major air pollutant source is required to estimate potential impact of its emissions on air quality, including that of any nearby Class I area as specified by the state or local air regulatory agency with input from the Federal Land Manager(s) having jurisdiction over the given Class I area(s). The closest PSD Class I area is the Sipsey Wilderness Area in northwestern Alabama about 60 miles (97 kilometers) distant.

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ENVIRONMENTAL CONSEQUENCES

Under Alternative A, no new air quality emissions are expected because of no change in land use activities. For Alternative B, potential impacts on air quality would be limited to activities associated with the development and operation of the commercial recreation facilities. Pollution from fossil-fuel combustion by vehicles and equipment, fugitive dust emissions during dry conditions, and increased traffic during construction activities would cause some minor and temporary air quality degradation in the vicinity of the reservoir. However, state air pollution rules require use of reasonable precautions to prevent fugitive dust emissions. After construction is completed, normal commercial recreation activities such as restaurant operation, use of fireplaces and picnic facilities, operation of motorboats and fuel-burning groundskeeping equipment along with increased motor-vehicle traffic would contribute to minor impacts on local air quality, but would have little or no impact on regional air quality. These impacts would be so minor that no significant cumulative impacts would occur for air quality, including ozone acid deposition, and haze. Therefore, the local or regional air quality would not be significantly deteriorated.

## 3.2.2 Flora

AFFECTED ENVIRONMENT

The site is dominated by moderate- to mature-aged oaks and hickory trees (*Quercus* and *Carya* sp.) along the ridges of the project with tulip trees (*Liriodendron tulipifera*) and sweet-gums (*Liquidambar styraciflua*) replacing the hickories along the two ravines. Most of the hardwoods in the site are estimated to be older than 30 years of age with some of the more mature individual trees estimated to be over 70 years of age. Sourwood (*Oxydendrum arboreum*), black gum (*Nyssa sylvatica*), serviceberry (*Amelanchier arborea*), and flowering dogwood (*Cornus florida*) are the predominant understory throughout the site. Poison ivy (*Toxicodendron radicans*), muscadine grape (*Vitis rotundifolia*), Japanese honeysuckle (*Lonicera japonica*), and Christmas fern (*Polystichum acrostichoides*) are noticeable along the ridges. Royal fern (*Osumnda regalis*), climbing hydrangea (*Decumaria barbara*), bloodroot (*Sanguinaria canadensis*), and small green wood orchid (*Platanthera clavellata*) are common in the ravines on the site. Most of the banks are highly eroded and have little or no vegetation on them. Water willow (*Justicia americana*), tag alder (*Alnus serrulata*), and black willow (*Salix nigra*) are growing in Tanford Branch at the south end of the site. No uncommon communities are present on the site.

A review of the TVA heritage database indicates that there are no federal-listed plant species known from Tishomingo County, Mississippi. The database also indicates that there are 79 state-listed plant species known from the county, 55 of which are reported from within five miles of the project. A survey of the site indicated favorable habitat for two of the 55 species. The typical habitat for these two species, pipsissewa (*Chimaphila maculata*) and Virginia pine (*Pinus virginiana*) is upland woods over sandstone substrate. A field inspection indicated that these species are not present despite the presence of apparently suitable habitat.

ENVIRONMENTAL CONSEQUENCES

Under Alternative A, Tract 11 would continue to be a wooded area for Forest Management and General Forest Management in accordance with the Pickwick

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Reservoir Plan and Tract E would continue to be considered available for public recreation opportunities. No significant impacts are anticipated to the general flora of the region or to federal- or state-listed species from adopting this alternative.

Under Alternative B, the vegetation would be eliminated where buildings, roads, and related structures would be placed. Grading and fill would be placed into low areas in the site. Because the existing vegetation is relatively abundant in the vicinity and no uncommon communities occur on the tract, no significant impacts to the state or regional flora are expected. Because no federal- or state-listed species occur on the tract, no impacts to such species are expected.

### 3.2.3 Fauna

#### AFFECTED ENVIRONMENT

The proposed project area consists of a typical upland hardwood forest dominated by scarlet and white oak mixed with some pine and shagbark hickory of small diameter. Wildlife in this habitat is abundant locally and regionally. Species observed at the site include wild turkey, common crow, chickadee, downy woodpecker, yellow-billed cuckoo, red-eyed and white-eyed vireo, red-tailed hawk, great blue heron, and green-backed heron. Other species commonly found in this habitat include gray squirrel, eastern chipmunk, opossum, white-tailed deer, fence lizard, and broad-headed skink. There are no uncommon habitats on the project lands.

Twenty-three species currently tracked by the Mississippi Natural Heritage Program as being uncommon in Mississippi are reported from the area. Most of the existing records are from Tishomingo State Park, south of the project area. Seven of the 23 species are reported from localities within 5 miles of the project site. These species include mole kingsnake (*Lampropeltis calligaster rhombomaculata*), black kingsnake (*Lampropeltis getula nigra*), Ouachita map turtle (*Graptemys ouachitensis*), southern coal skink (*Eumeces anthracinus pluvialis*), mountain chorus frog (*Pseudacris brachyphona*), and red salamander (*Pseudotriton ruber*). An active osprey (*Pandion haliaetus*) nest was observed 1.0 miles from the project site in a residential area.

A review to the TVA Regional Natural Heritage databases indicates that nine listed species of animals are reported from Tishomingo County. Four of the listed species, the bald eagle (*Haliaeetus leucocephalus*), red-cockaded woodpecker (*Picoides borealis*), gray bat (*Myotis grisescens*), and Indiana bat (*M. sodalis*) are federally protected. The remaining state endangered species include northern long-eared bat (*Myotis septentrionalis*), Bewick's wren (*Thryomanes bewickii*), cave salamander (*Eurycea lucifuga*), spring salamander (*Gyrinophilus porphyriticus*), and green salamander (*Aneides aeneus*).

Nesting bald eagles, listed as federally threatened, have been reported from the Tennessee-Tombigbee Waterway and from several localities along Pickwick Reservoir. No nests are known from the vicinity of the proposed project. Red-cockaded woodpeckers have been reported near Tishomingo State Park; however, these colonies are no longer active. Federal endangered gray and Indiana bats and state-endangered northern long-eared bats have been reported from an abandoned Chalk Mine in nearby Bear Creek Embayment (Kennedy et. al., 1974; La Val, 1967; White, 1961; Wolfe,

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1971). The mine was surveyed extensively in 1990 to determine its use by gray bats, Indiana bats, and northern long-eared bats, but the investigators found no evidence of these species using the cave in recent years (Best and Caesar, 1990).

Bewick's wren, cave salamander, spring salamander, and green salamander have also been reported from Tishomingo County. A historical record (>60 years) of Bewick's wren was reported from a bluff on the Bear Creek Embayment. Suitable habitat for Bewick's wren does not exist at the project site. Cave, spring, and green salamanders have been reported from Tishomingo State Park and Cave Spring Cave on the Natchez Trace, south of the project area. No suitable habitat for cave salamanders exists on the site. Limited habitat for spring and green salamanders exists in the project area.

#### ENVIRONMENTAL CONSEQUENCES

Under Alternative A, the property would remain undisturbed and there would be no impacts to wildlife on the parcel. There would be no impacts to threatened or endangered species of wildlife.

Under Alternative B, the site would require extensive grading due to the steepness of the property. Forested areas on the parcel would be removed and the terrain extensively modified. The proposed activity would result in some direct mortality of slower, less mobile wildlife species. Because of the regional abundance of the wildlife found on this parcel, impacts from the proposed project would not result in significant adverse impacts to terrestrial animal communities.

No active heron colonies are known from the vicinity, however, herons regularly forage along the shoreline at the project site and in the Yellow Creek Embayment. Adoption of Alternative B would result in removal of some upland habitats and would allow the construction of water-use facilities at the project site. However, TVA would require the use of forested buffer zones and vegetation management zones as described in the Shoreline Management Initiative to reduce impacts to the shoreline. Construction of the proposed facility is not expected to adversely affect herons. Great blue herons will continue to forage in the Yellow Creek Embayment and along the shoreline at the project site.

Small amounts of potential habitat suitable for uncommon species listed by the Mississippi Natural Heritage exists on the site. Habitats found on the project site are common throughout the vicinity. Adoption of Alternative B is not expected to result in adverse impacts to populations of uncommon species or their habitat.

Adoption of Alternative B would not affect federally-listed species of wildlife or their habitat. No suitable habitat for red-cockaded woodpeckers exists on the project site. Bald eagles are occasionally observed in the Yellow Creek Embayment during winter and summer months. However, no nesting activity takes place at the project site or in the immediate vicinity. Bald eagles will continue to forage in the Yellow Creek Embayment. No suitable habitat for gray or Indiana bats or state protected species, such as caves, exists on the project site. Forested portions of the tracts do not have an extensive, open mid-story or adequate species composition to provide optimum summer habitat for Indiana bats. Therefore, adoption of Alternative B would not result in adverse impacts to populations of federal- or state-protected species of wildlife or their habitat.

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Cumulative impacts to terrestrial animals and their habitats are expected to be insignificant. Approximately 23.55 miles of TVA-owned shoreline in the Yellow Creek Embayment is being used for Natural Resources Conservation and Public Recreation. These areas make up 56% of the total shoreline in the Yellow Creek Embayment (see section 3.4.2). The proposed project would involve 0.6 miles of this shoreline. Considering the amount of remaining habitat in the Yellow Creek Embayment, impacts to terrestrial animals and their habitats are considered insignificant.

### **3.3 Aquatic Environment**

#### **3.3.1 Water Quality**

##### **AFFECTED ENVIRONMENT**

The site drains to the Yellow Creek embayment of Pickwick Reservoir on the Tennessee River. Precipitation averages about 50 inches per year with the wettest month in March and the driest month in October. Runoff varies with rainfall and averages about 20 inches per year. Streams draining to the Yellow Creek embayment are classified by the Mississippi Department of Environmental Quality for aquatic life support. Streams in the Yellow Creek drainage area are listed on the state 303 (d) list as "evaluated waterbodies" due to pesticides, nutrients, siltation, organic enrichment-low dissolved oxygen.

According to the 1998 TVA Vital Signs Monitoring Results, overall ecological conditions in Pickwick Reservoir are good. Most indicators used to evaluate ecological conditions rated good or fair at all locations. Fecal coliform samples collected at 10 locations in the reservoir (including one location in the Yellow Creek embayment) were within the state water quality criteria. A screening level assessment of water quality conditions at three locations in the Yellow Creek embayment was conducted monthly from July through September 1999. All three sites were highly productive and could be considered eutrophic as indicated by high chlorophyll concentrations (averages from 14 to 21 ug/L). Nutrient levels in the embayment were similar to those found throughout Pickwick Reservoir. Mean embayment values were 0.4 mg/L for total nitrogen; 0.04 mg/L for total phosphorus; and 3.2 mg/L for total organic carbon. Two of the three Yellow Creek sites had dissolved oxygen concentrations below 5.0 mg/L at deeper strata in at least one of the months sampled. None of the sites had dissolved oxygen concentrations less than the state criteria of 5.0 mg/L at the 1.5 m depth. Water temperatures did not vary much from top to bottom, indicating minimal stratification. All sites had temperatures exceeding 30 °C at most depths during July.

##### **ENVIRONMENTAL CONSEQUENCES**

Under Alternative A, the property would remain undisturbed. Consequently, there would be no impacts to water quality in the area.

Under Alternative B, soil disturbances associated with access roads or other construction activities can potentially result in adverse water quality impacts. Erosion and sedimentation can clog small streams and threaten aquatic life. Removal of the

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tree canopy along stream crossings can result in increased water temperatures and adverse impacts to aquatic biota. Improper use of herbicides to control vegetation could result in runoff to streams and subsequent aquatic impacts. Appropriate precautions (see Section 6.0, Commitment 11) will be taken to minimize these potential impacts. Fueling and sewage pumpout facilities at the marina can potentially result in leaks or spills to the lake. In addition to state and federal regulations to control potential receiving water impacts, TVA will require that all sewage pump-out facilities and appurtenances have spill-proof connections, no overflow piping, and failure alarms. TVA will require that underground storage tanks containing regulated substances such as petroleum products have secondary containment, anchorage to prevent floating during flooding, and a spill prevention, control, and countermeasures plan. Above ground storage tanks would be required to be installed and maintained in compliance with applicable AST requirements. With the application of the measures identified in Section 6.0, potential effects to water quality would be insignificant.

Cumulative water quality impacts are not expected to be significant. With the proposed project, only about three percent of the shoreline in the Yellow Creek embayment will be devoted to marinas and their associated commercial development. Based on the pollution controls to be employed and the anticipated level of recreational activity, no significant change in existing water quality conditions is expected.

### 3.3.2 Aquatic Ecology

#### AFFECTED ENVIRONMENT

The Pickwick Reservoir section of the Tennessee River is located in the physiographic province called the Highland Rim. The Highland Rim is composed primarily of limestone and chert and some shales. Streams in this region are characterized by coarse chert gravel and sand substrates interspersed with bedrock areas, moderate gradients, clear waters, and moderate to low productivity, and thus, little aquatic vegetation except near spring sources (Etnier and Starnes, 1993). The land tracts involved in this proposed easement are located in the Highland Rim province and the aquatic communities exhibit the previously described substrates.

A review of TVA's Regional Natural Heritage Database indicated that no sensitive aquatic animals are known to occur within the proposed project area. Additionally, no sensitive aquatic animals were observed in aquatic habitats present on the subject tract during a site visit on July 27, 2000.

Four federally-listed mussel species are known from appropriate habitats in Pickwick Reservoir. However, none of these species are known in the Yellow Creek embayment of Pickwick Reservoir. Habitat appropriate for these mussels does not exist in the embayment because the Tennessee-Tombigbee Waterway in the Yellow Creek embayment has resulted in turbidity and siltation (TVA, 1977).

Results of four cove rotenone surveys conducted on Pickwick Reservoir in 1975 resulted in the capture of 50 species of fish (TVA Summaries of Fish Standing Stock in Tennessee Valley Reservoirs). Collection activities for Vital Signs Monitoring on Pickwick Reservoir in 1998 resulted in the capture of 22 species of fish, taken with gill

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nets and electrofishing gear in the forebay area of the reservoir which includes the land transfer area (TVA, 1999b).

Based on historic and recent fisheries data collected in the area, the Yellow Creek embayment and Pickwick Reservoir apparently maintain a diverse and healthy fish community.

ENVIRONMENTAL CONSEQUENCES

Under Alternative A, existing conditions would remain virtually unchanged and the property would continue to be available for public use. At present there is evidence of some use by bank fishermen. These types of activities would not affect aquatic resources.

Adoption of Alternative B would result in construction of proposed land-based facilities and development of shoreline facilities such as boat slips and marinas. These construction activities could result in the introduction of soil or other pollutants into the reservoir unless BMPs were used to prevent this. Because TVA would require TCDF to use BMPs as described in TVA's Standard 26a Permit Conditions and would also require TCDF to maintain a 50-foot shoreline buffer (see commitments 4 and 10 in Section 6.0), potential impacts to the aquatic community would be insignificant.

Because no sensitive aquatic animals are known from within the project area, no impacts to sensitive aquatic animals are anticipated as a result of the proposed project. Cumulative impacts to aquatic resources would be insignificant and short term, restricted to construction activities on shoreline areas.

3.3.3 Wetlands

AFFECTED ENVIRONMENT

A review of the TVA Natural Heritage and wetland databases indicated the presence of forested wetlands located along the northern and southern boundaries of Tract 11. National Wetlands Inventory maps indicated wetlands along the shoreline and up the drainage areas at each end of the site. However, field investigations revealed only widely-dispersed patches of emergent wetland vegetation. The shoreline consists of chert, gravel/cobble, and sand with small patches of wetland vegetation along the shoreline indentation's at both the north and south ends of the site.

ENVIRONMENTAL CONSEQUENCES

Wetlands would probably eventually expand under Alternative A due to natural sedimentation in the back of embayments and subsequent development of wetland type vegetation. Under Alternative B, facilities are not currently proposed in wetland areas and due to the widely-scattered occurrences of wetlands, there would be insignificant impacts.

3.3.4 Floodplains

AFFECTED ENVIRONMENT

The Tennessee-Tombigbee 100-year floodplain at Waterway Mile 448.4 is the area lying below elevation 419.5 feet mean sea level (msl). The 500-year, i.e., critical action,

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floodplain is the area lying below elevation 419.6 feet msl. The Flood Risk Profile (FRP) is also 419.1 feet msl. The FRP is used to control flood-damageable development on TVA lands.

#### ENVIRONMENTAL CONSEQUENCES

Under Alternative A, none of the floodplain areas for Tracts 11 and E would be developed. Under Alternative B, TVA would transfer in fee, land above the 423-foot msl contour. A conceptual plan has been developed which includes a hotel, cabins, and a marina. For compliance with EO 11988, commercial water-use facilities are considered to be a repetitive action in the 100-year floodplain that would result in minor floodplain impacts. To ensure the proposed action would have no adverse affect on floodplains and flood control, commitments have been included in Section 6.0. TVA retains the right to flood these tracts as needed during flood control operations.

### **3.4 Human Environment**

#### 3.4.1 Socioeconomic Environment

##### AFFECTED ENVIRONMENT

The tract of land under consideration is located in Tishomingo County, Mississippi, which is in the northeast corner of the state. Tishomingo is a small, largely rural county with an estimated population in 1999 of 18,742. This estimate indicates that the county has begun to grow after a population decline during the 1980s. In 1999 the county had a labor force of 9,180, with average unemployment of 740 or 8.1 percent, notably higher than the state rate of 5.1 and the national rate of 4.2. The county is much more dependent on manufacturing than the state as a whole with 36.7 percent of its workers employed in manufacturing in 1998, compared with 17.3 percent statewide. It is less dependent on services and government, at 17.1 and 10.2 percent of the total respectively, in contrast to the state's 24.7 and 17.7 percent. Per capita personal income in 1998 stood at \$16,217, about 82 percent of the state average of \$19,776 and 60 percent of the national average of \$27,203.

According to 1998 estimates by the U. S. Bureau of the Census, only 4.7 percent of the county's population is minority (nonwhite or white Hispanic), which is well below the state's 38.2 percent and the nation's 27.7 percent. The U. S. Bureau of the Census estimates also indicate lower poverty levels than the state with an estimated 14.6 percent of the population below the poverty level in 1995, compared to 21.4 percent statewide and 13.8 percent nationally. The land that would be involved in the proposed project is all located in Census Tract 9501 in Tishomingo County. This tract has a lower share of its population below the poverty level and a smaller percentage of minority population than does the county according to the 1990 Census of Population, which is the latest available census tract data. At that time, the census tract had 0.7 percent minority population compared to 4.0 percent countywide, and a poverty rate of 13.5 percent compared to 20.3 percent countywide.

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ENVIRONMENTAL CONSEQUENCES

*Socioeconomic Impacts*—Under Alternative A (the No-Action Alternative), this property would remain undeveloped and would continue to be available to the public for informal recreation. Availability of these opportunities would continue to enhance the quality of life in the area. Under Alternative B, commercial recreation facilities would be developed, including a commercial marina, a restaurant, lodging, and related facilities. This development could result in positive effects on the local economy both during construction and in operation by increasing employment and income in the local area, and if properly developed, maintained, and marketed, could be an important element in the economic development of the area.

In general, well-planned and attractive recreation development would be likely to increase property values in the vicinity. However, property values could be negatively impacted if the development is allowed to become a nuisance due to adverse impacts such as excessive noise, overburdened roads, inadequate security, or poor maintenance and upkeep. Because the preliminary and final site development plans shall be subject to TVA approval and TCDF's commitment to follow TVA's Clean Marina Guidebook for ensuring properly installed, operated, and maintained facilities, the facilities should not become a nuisance. The increase in property values probably would be small, although if there should be interest in using nearby lands for additional recreation development, the value of some properties could be further enhanced.

*Environmental Justice*—As discussed above, the subject area has a very small minority population and a relatively low poverty rate. No residences would be directly affected by either of the proposals, and there is no indication that any of the actions would disproportionately impact disadvantaged populations. Therefore, there would be no disproportionate impacts to minority or low-income populations under either of the alternatives.

3.4.2 Land Use

AFFECTED ENVIRONMENT

Tract E (XPR 393RE) has previously been used as a roadside park by the Mississippi Department of Transportation. Recreation facilities consisted of pavilions, restrooms, and picnic areas. Tract E was not planned in the 1981 Pickwick Reservoir Plan because it was considered committed due to the fact that it was under long-term easement to the state of Mississippi. There is no zoning within Tishomingo County. Located north of the tracts is a TVA-developed subdivision with three residences within view of the proposed development. The area surrounding the tract is rural with upland forests. Directly to the south, within view, is the Yellow Creek Port Authority, a public port and industrial development. Shoreline miles for the Yellow Creek Embayment are listed by land use in Table 3.4-1.

ENVIRONMENTAL CONSEQUENCES

Adoption of Alternative A would result in no change in the current land use of the tracts. Because approximately 15 acres of Tract E had previously been developed for public recreation as a roadside park, adoption of Alternative B would result in a minor net change in land use for that tract. Under Alternative B, Tract 11 would change from its

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current use of Forest and General Forest Management and Navigation, Minor Commercial Landing to Recreation. Because of the small total acreage involved (i.e., 31 acres), the adoption of Alternative B would constitute a minor and insignificant change in local land use.

**Table 3.4-1 Existing Shoreline Land Use for Yellow Creek Embayment**

Land Use	Shoreline Miles	Percent of Total Shoreline
<b>Natural Resources/Public Recreation</b>		
Retained (General Forest Management, Minor Commercial Landing, Open Space)	10.64	25.5
Transferred to State Park for Wildlife and Recreation Areas	12.91	31.0
<b>Subtotal</b>	<b>23.55</b>	<b>56.5</b>
<b>Industrial</b>		
Yellow Creek Port	3.29	7.9
TVA Yellow Creek Nuclear Plant	2.98	7.2
<b>Subtotal</b>	<b>6.27</b>	<b>15.1</b>
<b>Commercial Recreation - Marinas</b>		
	0.73	1.8
<b>Residential Access - Sold</b>		
	11.09	26.6
<b>Total</b>		
	<b>41.64</b>	<b>100</b>

### 3.4.3 Cultural/Historic Resources

#### AFFECTED ENVIRONMENT

The Pickwick Reservoir is located in portions of Alabama, Mississippi, and Tennessee where human occupation has been recorded for the last 10,000 years. Prehistoric land use and settlement patterns vary, but short- and long-term habitation sites are generally located on flood plains and alluvial terraces along rivers and tributaries. Specialized campsites tend to be located on older alluvial terraces and in the uplands. European interactions with Native Americans, primarily the Chickasaws, in this area began in the seventeenth and eighteenth centuries associated with the fur trading industry. The first permanent occupation of the area by Europeans, Euro-Americans, and African-Americans occurred in the late eighteenth century, with more intensive occupation occurring following secession of the various lands by the Chickasaw. Tishomingo County was formed in 1832 by the state of Mississippi following secession of the land by the Chickasaw. Agriculture was important to the county throughout the nineteenth century and into the early twentieth century. More recently, industry has increased throughout the county. The creation of the Pickwick Reservoir and the Tennessee-Tombigbee Waterway has increased tourism, recreation, and industry in the county.

Tracts 11 (XPR-460) and E (XPR-462) were surveyed for archaeological resources by the University of Alabama in the late 1980s (Meyer, 1994). Site 22TS1590 was

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recorded on Tract 11 (Meyer, 1994:74), and site 22TS1589 was recorded on Tract E (Meyer, 1994:136). Both are reported to be prehistoric lithic scatters with unknown cultural affiliation. These sites were not recommended for further testing because of a lack of stratigraphic integrity (Meyer, 1994).

There are 13 historic properties and one historic district listed on the National Register of Historic Places in Tishomingo County. The majority of these properties are located in Iuka as part of the Iuka Multiple Property Survey that includes nine houses, the Church of our Savior, and the Central Iuka Historic District. The other properties include the Tishomingo State Park and Old Tishomingo County Courthouse in Tishomingo and the Bear Creek Mound and Village Site (22TS500). None of these historic properties are located near the proposed action.

ENVIRONMENTAL CONSEQUENCES

Two archaeological sites, 22TS1589 and 22TS1590, are located within the proposed easement tract. Because of a lack of stratigraphic integrity, no further work was recommended for either site by the report's author (Meyer, 1994). As such, these sites do not meet the criteria for inclusion on the National Register of Historic Places.

Under Alternatives A and B, no historic properties eligible for the National Register of Historic Places are present; therefore, no historic properties will be affected by either alternative. A copy of the draft EA was distributed to the Chickasaw Nation of Oklahoma for their review.

3.4.4 Visual Resources

AFFECTED ENVIRONMENT

Tract XPR-460RE is covered with mixed hardwoods and has an average visual character. Small coves separate it from an undeveloped part of Yellow Creek Port to the south and residential development to the north. The site is composed of two gently sloping upland areas about 50 feet above the lake, separated by a ravine averaging 35 feet deep. The land slopes steeply at the shoreline, with 6- to 8-foot eroded banks along most of it which contributes to the low scenic attractiveness. Shoreline at the south end slopes more gently and there is no erosion. The southern upland is the former roadside park site. Occasional visitors can see remaining facilities beneath the open woodland canopy, and the lake beyond. The northern portion has denser woods and no development. The scenic coherence is moderate.

The tract is visible in the foreground from a couple of homes to the north and in the middleground from homes northeast across the embayment. It is also seen in foreground and middleground views from boats. Passing motorists see the site in foreground views from State Route 25.

ENVIRONMENTAL CONSEQUENCES

Under Alternative A, the site would not be developed and the woodland landscape character would remain virtually unchanged. Vegetation would grow denser in the former park area blocking views of abandoned facilities and the lake beyond. Shoreline erosion would likely continue, thereby, increasing the exposed bank height and probably dislodging trees from the steep slopes. This would increase visual discord over time,

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further reducing the scenic attractiveness and visual coherence. These changes would be seen from the same locations described above.

Under Alternative B, development similar to that shown in the concept plan would change the landscape from a mediocre wooded shoreline to a rural recreational facility. The visual character would shift from predominantly natural features to more dominant man-made alterations. Visual coherence would be reduced and scenic attractiveness would be affected. The extent of adverse visual impacts depend to a great extent on the sensitivity of final site planning and architectural design. Activities, equipment, and materials seen during the construction period would add temporary visual discord until project cleanup was complete.

Extensive tree clearing and earthwork would be required for the shoreline access, dry storage, parking, and lodge facilities. Buildings of four to six stories with rooftops seen above the skyline would cause adverse contrast and visual discord. Bright-colored buildings, dry storage, and marina facilities would create substantial adverse contrast and visual congestion when seen from the water or opposite shoreline. Large garish signage would create visual discord for any viewing point.

In order to reduce these potential visual impacts to a level of insignificance, various commitments would be included as conditions in the easement (see Section 6.0). The adverse impacts of clearing and earthwork would be substantially reduced by careful site design that protects existing tree cover on steep shoreline slopes, roadside areas, and other sensitive locations. Retained and enhanced vegetative buffers around the site would minimize the impacts seen from the lake and the road. A possible water feature near the road would enhance the scenic attractiveness for passing motorists.

Broadly horizontal buildings with rooftops below the wooded skyline would provide visual harmony with the natural landscape. A subtle scheme of natural colors (e.g., grays, darker gray-greens, and black) required in Commitment 6 (see section 6.0) would minimize the visual contrast of these buildings and be compatible with surrounding natural features. Dark roofs would provide much less contrast than very light ones when viewed against the woodland background.

Applying the same color scheme to dry storage and water use facilities would help reduce visual congestion and contrast seen from the water as well as help unify the overall visual character. Covered but open-sided boat slips with dark structural framing will help them appear transparent and further minimize shoreline contrast.

Shoreline stabilization and erosion control would improve the scenic attractiveness of waterfront areas. Bio-engineering practices would provide the most natural, visually compatible shoreline protection, but other methods may also be required.

Overall, visual impacts of development would be insignificant, provided the mitigation commitments for visual resources in Section 6.0 are incorporated.

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### 3.4.5 Navigation

#### AFFECTED ENVIRONMENT

The proposed facility is located at Tennessee-Tombigbee Waterway Mile marker 448.4R on Yellow Creek embayment. Yellow Creek enters the Tennessee River on Pickwick Reservoir at Tenn-Tom Mile 450.4 and TRM 215.2L. The facility would be approximately two miles from the Tennessee River (see Figure 1). The proposed location is approximately three-fourths mile off the main navigation channel on Yellow Creek. Yellow Creek serves as the northern terminus of the Waterway which provides a navigable waterway from the Tennessee River to the Gulf of Mexico. The Waterway provides a short-cut of several hundred miles for recreational and commercial river navigation between the midwest and the Gulf of Mexico compared to using the Mississippi River.

Tract 11 was allocated for Navigation, Minor Commercial Landing in the 1981 Pickwick Reservoir Plan. No requests for minor commercial landings have been received since the Plan was adopted in 1981. The adjacent Yellow Creek Port has added an additional dock and two warehouses since 1981 for barge shipments, and the use of the tract for a minor commercial landing has not been requested. The waterfront adjacent to the tract was considered in the past for a barge fleeting area but more suitable areas with deeper water were found closer to the navigation sailing line.

#### ENVIRONMENTAL CONSEQUENCES

Under Alternative A, the tracts would continue to be available for use as a minor commercial landing. Thus, there would be no impact on navigation.

Under Alternative B, a grant of long-term commercial recreation easement for Tracts E and 11 is proposed. Tract 11 would not be available for a minor commercial landing. However, Yellow Creek Port, approximately 2,000 feet east of the tract, is available for barge movements. Because the Port is an existing use, it will likely continue to operate and expand as needed to provide support for future economic development in the industrial park owned by the Yellow Creek Port Authority. Conceptual plans of the proposed action include a convention center, a marina, cabin sites, and covered boat slips. Conceptually, three covered boat docks could be possible, but they should not impact commercial navigation. The commercial navigation channel, approximately three-fourths mile from the site, and barge traffic to the Yellow Creek Port, approximately 2,000 feet east of the tract, should not be adversely impacted by the proposed development. Because Tract 11 has not been utilized for navigation purposes, and because other adequate navigation facilities are available in the area, adoption of Alternative B is not expected to significantly affect navigation.

### 3.4.6 Recreation

#### AFFECTED ENVIRONMENT

Tract E has previously been licensed to the state of Mississippi for a day-use picnic area. That use has been discontinued. Most of the improvements have been removed and the area has been gated.

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The preliminary proposal from TCDF includes a marina and related facilities as well as lodging and conference facilities. Nearby marinas are located on Yellow Creek embayment at mile marker 448.9R (Aqua Yacht Harbor) and mile marker 449.8R (Pickwick's Tenn-Tom Marina). Other nearby marinas are located at TRM 207.6L (Pickwick Landing State Park), TRM 220.0L (J. P. Coleman State Park), and TRM 224.8L (Eastport Marina), see Table 3.4-1. The area from Pickwick Landing State Park to Coleman State Park, including the mouth of the Tenn-Tom Waterway downstream to Aqua Yacht Harbor, is a very congested area during the summer recreation season.

Table 3.4-1 Existing Marina Facilities

Facility	Location	# Wet Slips	Fuel	Repairs	Rentals	Occupancy	Waiting List	Pump-Out
Aqua Yacht Harbor	448.9R Tenn-Tom*	500	Yes	Yes	Yes	30' Slips**	No	Yes
Pickwick's Tenn-Tom Marina	449.8R Tenn-Tom*	325	Yes	No	No	80%	No	Yes
Pickwick Landing State Resort Park	207.6L Tn. River	282	Yes	No	jon boats	100%	Yes	Yes
J. P. Coleman State Park	220.0L Tn. River	52	Gas only	No	No	100%	Yes	Yes
Eastport Marina	224.8L Tn. River	59	Yes	Yes	No	30' Slips**	No	No

\* The Tennessee-Tombigbee Waterway intersects the Tennessee River at Tenn-Tom mile 450.4 and TRM 215.2L.

\*\* All slips were fully occupied except for a few 30' slips.

Public boat launching ramps are located on either side of the proposed site at Tenn-Tom Miles 448.9R and 446.8R. In addition to these existing access areas, a growing number of vessels transit this waterway on the north-south route connecting the Gulf of Mexico with the Midwest. The majority of the transiting traffic occurs in the fall and spring.

The marina is proposed for an embayment which is only partially sheltered from the Tenn-Tom Waterway. Wind and wave protection will be necessary for a marina development.

#### ENVIRONMENTAL CONSEQUENCES

Under the No Action Alternative, the site would remain undeveloped and available to the public for informal recreation use. There would be no change in public recreation opportunities.

Under Alternative B, a commercial public marina and related facilities would be built and maintained on the site. New marina services, including moorage, fuel, and related services would be offered to the boating public. The proposed site is over 0.75 miles from the main channel, approximately 0.5 miles from Aqua Yacht Harbor, and 2 miles from Pickwick's Tenn-Tom Marina. The area within approximately one-half mile radius from the marina is sparsely traveled compared to the main channel and the route from Aqua Yacht Harbor to the main channel. This area is able to accommodate additional boating without significant impact. The main channel from Goat Island to the mouth of

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Yellow Creek is congested during peak periods of weekends and holidays. It is assumed that boaters using the proposed marina would merely transit this area en route to other parts of the reservoir where they would be more dispersed.

Based upon the data contained in Table 3.4-1, there is an apparent market for additional marina facilities. The proposed new marina would likely increase boating traffic in the immediate area during the summer recreation season. A survey of Tennessee River marinas conducted in 1999 (TVA, 2000) showed estimated usage rates of 33 percent on the busiest, summer weekend days and less than 10 percent on summer weekdays. The requested action proposes a 100-slip marina. Assuming that the boats using the marina are all new to the area and not already using the local waterfront by other access means, the increase number of boats would be about 33 on the busiest weekend days and less than 10 on weekdays in the summer. Thirty-three boats is a small total compared to one-third of Aqua Yacht Harbor's boats that would be used on the busiest weekend days. Such an increase would not constitute a significant impact. Vessel operators would have another option regarding fueling and related services. New development could be beneficial to the site in that it may minimize the vandalism that has occurred at the roadside park in the past.

The area within approximately one-half mile radius from the marina is sparsely traveled compared to the main channel and the route from Aqua Yacht Harbor to the main channel based upon boating traffic counts conducted in summer 2000. Boats exiting the proposed marina are expected to transit the most heavily used area at the mouth of Yellow Creek to more dispersed areas on Pickwick Reservoir. This area is able to accommodate additional boating traffic without significant cumulative impact.

### 3.4.7 Transportation

#### AFFECTED ENVIRONMENT

The site is located approximately 12 miles north of Iuka, Mississippi, and approximately 1 mile south of the Tennessee-Mississippi state line directly off of State Route 25. Primary access to the site is via State Route 25 through Mississippi. The road becomes State Route 57 north of the state line in Hardin County, Tennessee. U. S. Highway 72 runs in an east-west direction across North Alabama and Mississippi. U. S. Highway 72 is primarily a four-lane principal divided highway. U. S. Highway 72 and State Route 25 intersect in Iuka, Mississippi. Traveling north from Iuka, State Route 25 is a four-lane divided highway for several miles. Then, the road becomes two lanes and ranges from a high to mid-quality roadway with generally good speed limits, shoulder widths, passing zones, and sight distance. The road is of fairly rolling terrain and has a curvy alignment in the vicinity of the tract under consideration. The latest available Average Daily Traffic (ADT) counts show approximately 2,800 vehicles per day on State Route 25 near the site (MDOT, 1999). There are few small businesses and residential areas located along the roadway. Some marine storage, service, and sales businesses, gasoline station, a small strip mall, and a Hampton Inn with Conference Center are located in the vicinity of the site and serve as traffic generators in the area.

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ENVIRONMENTAL CONSEQUENCES

Under Alternative A, there would be a slight increase in traffic over time due to the natural residential and commercial growth of the area. Resulting effects to transportation would be insignificant.

Under Alternative B, the development of commercial recreational facilities would result in the generation of additional traffic on the adjacent roadway network. Increases in traffic may be observed near the site on the two-lane State Route 25/57. Additional traffic would likely become disbursed on adjacent roadways further from the site, and traffic increases tend to be less noticeable on major multi-lane highways, i.e., U. S. Highway 72, with higher capacity levels. Based on several field studies of existing marinas, hotels, and related facilities, estimates of additional vehicles per day due to the particular traffic generator were used to determine how existing traffic would be affected on the impacted roadway (Institute of Transportation Engineers, 1998).

The additional traffic due to the proposal would result in an increase in ADT to approximately 3,640 vehicles per day, or a 30 percent increase on State Route 25 near the site. However, this increase in traffic would not result in a change in the existing service level of State Route 25/57 and the effect would be insignificant. Also, this type of traffic is highly seasonal, and traffic increases would be lower during off-season times. The traffic flow would, though, be susceptible to sudden variations in operating speeds due to turning traffic and slow-moving vehicles, e.g., boat trailers, etc. Care should be taken in the placement of any entrance/exit roads for the recreational facility off of State Route 25. Sight distances should be sufficient to allow for safe turning maneuvers into and out of the facility. Consideration of dedicated turning lanes and intersection design should be made to assure adequate traffic conditions. To ensure the proposed action would have no adverse affect on land transportation, commitments have been included in Section 6.0.

## 3.4.8 Noise

AFFECTED ENVIRONMENT

The noise environment at the site is typical for a location with a multi-use waterfront and an adjacent, busy highway. This location is not a pristine or isolated wilderness area where the lack or absence of man-made noise is a recognized environmental asset. It is an existing recreational area that experiences a wide variety of noises from diverse neighboring activities.

Ambient noise at this site is dominated by traffic noise from State Route 25. This highway is the main north/south route in the area, and it is heavily used by car and truck traffic. The truck traffic consists of regional deliveries, log haulers to the nearby pulp plant, and steel roll and coil haulers from the adjacent Port of Yellow Creek. During a day-long site visit on August 18, 2000, there was never a time when truck traffic was not plainly heard.

Ambient noise at the waterfront comes from two main sources: the Port of Yellow Creek and recreational boating. The port is about 3,000 feet southeast across the water from the site and its operational noise is easily heard. Activities at the Port include transloading steel rolls and coils, petroleum, and other bulk materials. The Port also has

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a steel processing facility, as well as two tow boats and four cranes available for operations. There was a high level of onsite hauling the day of the site visit. Truck and loader engine noise was constant and other noise such as vehicle backup alarms were regularly heard.

There is a high level of recreational boating along the waterfront of the site. A shoreline count produced 39 boathouses or docks visible from the picnic shelter at the site, and many of the boathouses were multi-craft structures. The slough on the northern boundary of the site has four more boathouses that are not visible from the picnic shelter. About 4,000 feet to the north is the main channel leading to the Aqua Yacht Harbor marina and residential area. Aqua Yacht Harbor is a very large marina that docks various sizes of boats. An informal boat count conducted on the day of the site visit produced more than 60 power boat activities during a six hour, mid-day period. All power boat activities within a line-of-sight from the picnic shelter were counted, including those in the channels. Although some of these boats were several thousand feet away, their engine noise was easily heard because noise is poorly attenuated when it is transmitted over water. These activities included fishermen going to their fishing locations, boats pulling skiers and floats, pontoon boats cruising the area, personal watercraft playing, and large yachts heading to the main river channel.

Environmental Consequences

There are no federal, state, or Tishomingo County environmental noise standards or regulations. TVA generally follows the Environmental Protection Agency's (EPA) guidelines by examining the potential for incremental increase in the total noise environment caused by a proposed action. The total noise environment is the sum of the existing ambient noise and the potential noise generated by the proposed action. The current ambient noise environment is primarily made up of noise from highway vehicles, Port of Yellow Creek activities, and existing recreational boats. This noise, although generally heard, would be below levels that EPA uses as a threshold. In this requested action, the potential noise emissions would be from power and recreational boating. It is estimated that the current noise level at the site of the proposed action is less than EPA's guideline of 55 dBA.

A survey of Tennessee River marinas conducted in 1999 (TVA, 2000) showed estimated usage rates of 33 percent on the busiest, summer weekend days and less than 10 percent on summer weekdays. The requested action proposes a 100-slip marina. Assuming that the boats using the marina are all new to the area and not already using the local waterfront by other access means, the increased number of boats would be about 33 on the busiest weekend days and less than 10 on weekdays in the summer. Thirty-three boats is a small total compared to one-third of Aqua Yacht Harbor's boats that would be used on the busiest weekend days. The rest of the year these usage rates would be substantially lower. The potential noise from the small increase in recreational boating activity is similar to the noise already in the area and would not sound unusual to local residents.

The total noise in this region of Pickwick Reservoir will likely increase regardless of the decision on the requested action. There is an increase in residential development within 4,000 to 6,000 feet of the site, and the Port of Yellow Creek has room to expand.

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Highway 25 will remain the major north/south route, and as the local population grows, so will the highway traffic and associated noise.

Cumulative noise impacts come from the total noise resulting from the requested or proposed action. Total noise is the sum of the current ambient or background noise and the incremental noise increase. In this case, the incremental noise increase is insignificant, especially when it is assessed over a long time period; consequently, its impact on total noise would be insignificant over a long time period also. Additionally, as discussed in the no action alternative, the presence or absence of this small marina will not stop the growth of recreational boating or other growth in the immediate area. It is very likely that the proposed marina will have no impact on the total noise in this area.

Based on the small, potential increase in recreational boating activity, the potential impact of the requested action after being added to the current ambient noise level and future noise levels from continuing regional development is expected to be insignificant.

#### 4.0 LIST OF PREPARERS

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## 5.0 LIST OF AGENCIES AND PERSONS CONSULTED

### State and Federal Agencies

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Mississippi Department of Archives and History  
 Mississippi Department of Environmental Quality  
 Mississippi Department of Wildlife, Fisheries, and Parks  
 Mississippi State Clearinghouse  
 Northeast Mississippi Planning and Development District  
 U. S. Army Corps of Engineers, Nashville District  
 U. S. Department of Interior, Washington D. C.  
 U. S. Fish and Wildlife Service, Cookeville, Tennessee  
 The Chickasaw Nation of Oklahoma

### Individuals and Organizations

---

State Representative Ricky Cummings Iuka, Mississippi 38852	Vincent & Marsha Marascuilo Cordova, Tennessee 38018
Dale Price Iuka, Mississippi 38852	John D. Lichterman Memphis, Tennessee 38132
Matt Buck Iuka, Mississippi 38852	Jonathan Lafferty Memphis, Tennessee 38117
J.C. Kennedy Memphis, Tennessee 38118-3332	Sherolyn Ayers Iuka, Mississippi 38852
Charlotte Orick, Executive Officer Burnsville, Mississippi 38833	Jay Paul McDonald Iuka, Mississippi 38852
Alvia Blakney, Chairman Tishomingo County Development Foundation Iuka, Mississippi 38852	Mary Ben Heflin Memphis, Tennessee 38111
Richard O. Clark Iuka, Mississippi 38852	Susan K. Davis Memphis, Tennessee 38127
E. Glennan Grady Corinth, Mississippi 38834	Robert H. Krauch, Jr. Pickwick Dam, Tennessee 38365
Richard Warriner, D.D.S. Tupelo, Mississippi 38801	Jeff, Heather, and Conlin King Arlington, Tennessee 38002-7452
	Carolyn & Sam Ronk Alamo, Tennessee 38001

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Betsy & Robert C. Thorton  
Alamo, Tennessee 38001

H.L. "Sandy" Williams, Jr.  
Corinth, Mississippi 38835

Robert J. Fratesi  
Memphis, Tennessee 38119

Michael and Deborah Alexander  
Germantown, Tennessee 38138

Kathy Thompson  
Memphis, Tennessee 38118

Richard S. Hollis, M.D.  
Amory, Mississippi 38821-9106

John J. Heflin, III  
Memphis, Tennessee 38819

The Tennessee Conservation League  
Mike Butler  
Nashville, Tennessee

## 6.0 COMMITMENTS

The following conditions and commitments will be incorporated as conditions in the easement agreement between TVA and the Tishomingo County Development Foundation in order to reduce the potential for adverse environmental effects.

1. Any future facilities or equipment subject to flood damage shall be located above or floodproofed to the TVA Flood Risk Profile elevation 419.6 feet msl.
2. All future development shall be consistent with the requirements of TVA's Flood Control Storage Loss Guideline.
3. The applicant shall be required, through deed restrictions, to maintain a 50-foot undisturbed buffer to be managed as a shoreline management zone.
4. Undisturbed forested buffers at least 50-feet wide shall be maintained and enhanced around the site with 100-foot minimum width along the cove at the north end. Minimum openings are acceptable for water access on the south end.
5. Buildings shall not exceed three stories above grade and shall use natural materials to the extent practical. Roofs shall not extend above the wooded skyline when seen from the lake.
6. The architectural color scheme shall be visually compatible with natural background colors and shall provide dark roofs on all structures. The color scheme applies to the lodge, cabins, dry storage, water use facilities, and miscellaneous structures. It also applies to the signage where a compatible contrasting color may be added for message readability.
7. No enclosed boathouses are permitted and covered boat slips shall be open on all sides. Roofs and the structural framing shall be a dark selection from the color scheme.
8. Shoreline stabilization and erosion control shall use bio-engineering methods to the extent practical and other applicable methods as required.
9. Preliminary and final site development plans shall be reviewed by TVA and are subject to TVA approval.
10. Employ and implement all appropriate construction BMPs. These BMPs include:
  - a) Removal of vegetation will be minimized, particularly any woody vegetation providing shoreline/streambank stabilization.
  - b) Installation of cofferdams and/or silt control structures between construction areas and surface waters prior to any soil-disturbing construction activity. Clarification of all water that accumulates behind these devices must meet state water quality criteria at the stream mile where activity occurs before it is returned to the unaffected portion of the stream. Cofferdams must be used wherever construction activity is at or below water elevation.

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- c) Must keep equipment out of the reservoir or stream and off reservoir or stream banks to the extent practicable (i.e., performing work "in the dry").
  - d) Must avoid contact of wet concrete with the stream or reservoir and avoid disposing of concrete washings, or other substances or materials, in those waters.
  - e) Must agree to use erosion control structures around any material stockpile areas.
  - f) Must agree to apply clean/shaken riprap or shot rock (where needed at water/bank interface) over a water permeable/soil impermeable fabric or geotextile and in such a manner as to avoid stream sedimentation or disturbance, or that any rock used for cover and stabilization shall be large enough to prevent washout and provide good aquatic habitat.
  - g) Must agree to remove, redistribute, and stabilize (with vegetation) all sediment which accumulates behind cofferdams or silt control structures.
  - h) Must agree to use vegetation (versus riprap) wherever practicable and sustainable to stabilize streambank, shorelines, and adjacent areas. These areas will be stabilized as soon as practicable, using either an appropriate seed mixture that includes an annual (quick cover) as well as one or two perennial legumes and one or two perennial grasses, or sod. In winter or summer, this will require initial planting of a quick cover annual only to be followed by subsequent establishment of the perennials. Seed and soil will be protected as appropriate with erosion control netting and/or mulch and provided adequate moisture. Streambank and shoreline areas will also be permanently stabilized with native woody plants to include trees wherever practicable and sustainable (this vegetative prescription may be altered if dictated by geologic condition or landowner requirements). Must also agree to install or perform additional erosion control structure/techniques deemed necessary by TVA.
11. Use only EPA registered chemicals (i.e., pesticides, including herbicides) in accordance with label directions.
  12. Properly handle, store, and dispose of any and all waste materials.
  13. To ensure that safe traffic conditions are met in this vicinity, TVA shall review site development plans for the placement of entrance/exit roads off of State Route 25 to allow adequate sight distances for safe turning maneuvers into and out of the facility.
  14. All requests for proposals from developers will require that the proposals follow TVA's Clean Marina Guidebook for ensuring properly installed, operated, and maintained facilities. Additionally, guidelines will be established to ensure proper and complete usage of sewage disposal by occupants of the marina.
  15. TVA will require that all sewage pump-out facilities and appurtenances have spill-proof connections, failure alarms, and no overflow piping. TVA will require that underground storage tanks containing regulated substances such as petroleum products have secondary containment, anchorage to prevent floating during

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flooding, and a spill prevention, control, and countermeasures plan. Above ground storage tanks be required to be installed and maintained in compliance with applicable AST requirements.

## 7.0 REFERENCES

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- Institute of Transportation Engineers. 1998. *Trip Generation*. 6<sup>th</sup> Edition. Washington: Institute of Transportation Engineers
- Meyer, C. C. 1994. *Cultural Resources in the Pickwick Reservoir*. Report on file, Tennessee Valley Authority, Cultural Resources Group, Norris, Tennessee.
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- Tennessee Valley Authority. 1998. *Shoreline Management Initiative (SMI): An Assessment of Residential Shoreline Development Impacts in the Tennessee Valley*. Land Management, Norris, Tennessee.
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- Walthall, J. A. 1980. *Prehistoric Indians of the Southeast: Archaeology of Alabama and the Middle South*. University of Alabama Press, Tuscaloosa.

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## APPENDICES

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***Appendix A - Letters received from State and Federal Agencies and Organizations***



# Mississippi Department of Archives and History

Historic Preservation Division • Post Office Box 571 • Jackson, Mississippi 39205-0571  
Phone 601 / 355-6940 • Fax 601 / 355-0955

August 3, 2000

Mr. J. Bennett Graham  
Senior Archaeologist  
Tennessee Valley Authority  
Post Office Box 1589  
Norris, Tennessee 37826-1589

Dear Mr. Graham:

RE: TVA—Proposed Long-Term Lease for Commercial Recreation, Pickwick Reservoir, Tishomingo County

We have reviewed your July 14, 2000, cultural resources assessment request for the above referenced project proposal in accordance with our responsibilities outlined in 36 CFR 800.4 and 800.5 regarding the identification of historic properties and assessment of any potential adverse effects. We concur that Sites 22TS1590 and 22TS1589 are ineligible for listing in the National Register of Historic Places. It is our determination that no other properties listed in or eligible for listing in the National Register of Historic Places will be affected. Therefore, we have no reservations with the proposal.

In addition, we are not aware of any potential of this undertaking to affect Indian cultural or religious sites. However, the tribal entities must be contacted directly for confirmation of this.

Should there be additional work in connection with the project, or any changes in the scope of work, please let us know in order that we may provide you with appropriate comments in compliance with the above referenced regulations. If we can be of further assistance, please do not hesitate to contact this office.

Sincerely,

Eibert R. Hillard  
State Historic Preservation Officer

By: Thomas H. Waggener  
Review and Compliance Officer

cc: Clearinghouse for Federal Programs

Board of Trustees: William B. Wilson, Chairman; Van R. Beecher, Jr., Jack Dalgryble III, Lynn Corby Gessell, J. R. Jackson, George  
C. Lee, Jr., G. Mark D. Reynolds, Jr., James W. Taylor, Jr., Charles Williams, Jr., William W. Moore, Albert R. Johnson

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*Appendix B - Comments received from Review of Draft Environmental Assessment*

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Letters Received from State and Federal Agencies

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## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

446 Neal Street  
Cookeville, TN 38501

October 19, 2000

Mr. Jon M. Loney  
Manager, NEPA Administration  
Environmental Policy and Planning  
Tennessee Valley Authority  
400 West Summit Hill Drive Knoxville,  
Tennessee 37902-1499

Dear Mr. Loney:

Thank you for your correspondence of September 21, 2000, transmitting a copy of the Draft Environmental Assessment - Request For Commercial Recreation Easement For Tishomingo County Development Foundation, Pickwick Reservoir, Tishomingo County, Mississippi. The Fish and Wildlife Service (Service) has reviewed the document and offers the following comments.

USFWS -1 The environmental assessment adequately describes the resources within the project area and the proposed actions' impact on these resources. With the amount of commercial development proposed, it appears that area flora, fauna, water quality, and aesthetics could receive significant adverse cumulative impacts. Therefore, the environmental assessment does not adequately support the Finding of No Significant Impact. The Service supports Alternative A: No Action, and believes it will protect fish and wildlife resources while continuing to provide recreational opportunities in the area.

Thank you for the opportunity to comment on this proposed action. If you have any questions regarding the information which we have provided, please contact Wally Brines of my staff at 531/528-6481, extension 222.

Sincerely,

Lee A. Barclay Ph.D.  
Field Supervisor

## Final Environmental Assessment



NASHVILLE DISTRICT, CORPS OF  
ENGINEERS  
P. O. BOX 1070  
NASHVILLE, TENNESSEE 37202-1070

## Project Planning Branch

Mr. Jon M. Loney  
Tennessee Valley Authority  
400 West Summit Hill Drive  
Knoxville, TN 37902-1499

Dear Mr. Loney:

Thank you for the opportunity to review the Draft Environmental Assessment (EA): Request for Commercial Recreation Easement for Tishomingo County Development Foundation, Pickwick Reservoir, Tishomingo County, Mississippi.

There are several points within the document that need to be addressed:

- USACE - 1 — Section 1.6, Necessary Federal Permits or Licenses: Section 10 of the Rivers and Harbors Act of 1899 should be cited as an applicable Department of Army (DA) regulatory authority.
- USACE - 2 — Section 2.3, Comparison of Alternatives: The intent of the sentence, "There would be no change in public recreation..." is not clear.
- USACE - 3 — Section 3.3.3, Environmental Consequences: EA should also state that facility development would be subject to DA regulatory authorities pursuant to Section 404 and Section 10.
- USACE - 4 — Section 3.3.4, Environmental Consequences: The second paragraph refers to the "concept plan." If such a plan is available, a copy should be included in the document.
- USACE - 5 — Section 3.4.5, navigation- heavy boat traffic and wave-induced erosion have been the source of many complaints during the past several years. Requests have been made for the imposition of no-wake zones in the embayment. We recommend that

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this issue be discussed in the EA in light of the additional boat traffic that would probably be generated by the proposed marina.

Thanks for the opportunity to participate in your planning process. If you have any questions concerning these comments, please feel free to contact Mr. Brian Canada at (615) 736-7666.

Sincerely,

Stephen W. Eli, P. E.  
Chief, Project Planning Branch

## Final Environmental Assessment

## Response to Agency Comments

## USFWS - 1

Response: Additional analysis on cumulative impacts have been incorporated to the final EA sections on Flora, Fauna, Air Quality, Water Quality, Aquatic Ecology, Recreation, Noise, and Socioeconomics. TVA believes this additional analysis provides sufficient information to conclude that the impacts are insignificant.

## USACE - 1

Response: Revisions have been made to the final EA.

## USACE - 2

Response: Under the No Action Alternative, no change is proposed to the land use of the tracts. Therefore, there would be no change in the current public recreational opportunities afforded by the existing condition and use of the tracts.

## USACE - 3

Response: The text has been revised. All necessary Federal permits or licenses are noted in Section 1.6.

## USACE - 4

Response: The conceptual plan referred to in section 3.3.4 was generated by TVA staff and is a very abstract plan view of the site similar to an artist's rendition and was used for general analysis purposes only. The intent of this conceptual plan view was to determine the site's feasibility (from a space standpoint) to accommodate the proposed facilities and necessary infrastructure within the 31 acres. It was not included in the DEA because TVA did not want to create any perceptions that it was a formal and/or approved plan. A conceptual drawing is included in section 1.1.

## USACE - 5

Response: Section 3.4.6 addresses impacts associated with additional recreational boating traffic that could be added to the reservoir. The requested action proposes a 100-slip marina. The area within approximately a one-half mile radius from the proposed marina is sparsely traveled compared to the main channel and the route from Aqua Yacht Harbor to the main channel based upon boating traffic counts conducted in summer 2000. Boats exiting the proposed marina are expected to transit the most heavily used area at the mouth of Yellow Creek to more dispersed areas on Pickwick Reservoir. This area is able to accommodate additional boating traffic without significant cumulative impact.

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A survey of Tennessee River marinas conducted in 1999 (TVA, 2000) showed estimated usage rates of 33 percent on the busiest, summer weekend days and less than 10 percent on summer weekdays. Assuming that the boats using the marina are all new to the area and not already using the local waterfront by other access means, the increase number of boats would be about 33 on the busiest weekend days and less than 10 on weekdays in the summer. Thirty-three boats is a small total compared to one-third of Aqua Yacht Harbor's boats that would be used on the busiest weekend days. Such an increase would not constitute a significant impact within the Yellow Creek Embayment.

A no-wake zone would be considered necessary around the perimeter of the marina. Due to the length, width, and lack of congestion in the immediate embayment of the proposed marina, and the ability of the area to accommodate additional boating traffic without significant cumulative impacts, additional no-wake zones within Yellow Creek Embayment are not considered necessary at this time.

Granted, any additional boat traffic in the area will increase wave action and shoreline erosion, but this potential impact from this facility would be insignificant when compared to existing boat storage facilities in the area.



*the*  
**Chickasaw**  
**Nation** HEADQUARTERS

*Arlington at Mississippi / Box 1548 / Ada, OK 74821-1548 / (580) 436-2603*

*Bill Anoatubby*  
Governor

*Jefferson Keel*  
Lieutenant  
Governor

November 16, 2000

Mr. Jon Loney, Manager  
Tennessee Valley Authority  
400 West Summit Hill Drive  
Knoxville, TN 37902-1499

Dear Mr. Loney,

In response to your letter regarding proposed construction, we are not aware at this time of any culturally sensitive or sacred sites in or near the project area for the recreation easement in Tishomingo County, MS. However, please understand that this construction project could lead to the uncovering of such sites. We would therefore expect that any inadvertent discoveries would be brought to our attention immediately, and that all construction would cease according to all applicable federal laws.

Your sensitivity to these issues is appreciated. If you have any questions, please contact Mrs. Rena Duncan, director of cultural resources, at (580) 332-8685.

Sincerely,

A handwritten signature in black ink, appearing to read "Jefferson Keel".

Jefferson Keel, Lt. Governor  
The Chickasaw Nation



## Issues Identified from Individuals and Organizations and Responses

### Boat Congestion

- However, we must not overlook the negative concerns such as more traffic on the lake in an already congested area with very limited Police Control for the large number of boats on the lake. *Comment By: Douglas C. Mayhall*
- As you well know, the two existing marinas in Yellow Creek and boat ramp at the State Line create massive boat congestion. *Comment By: Louis F. Allen*
- ...this development would negatively impact Yellow Creek. There are currently over 1500 boat slips within less than a mile of the proposed new marina. This area is vastly over-crowded given the current level of development. *Comment By: Jon H. Hill, W. Hull Davis*

**Response:** The proposed site is over 0.75 miles from the main channel, approximately 0.5 miles from Aqua Yacht Harbor, and 2 miles from Pickwick's Tenn-Tom Marina. The area within approximately a one-half mile radius from the marina is sparsely traveled compared to the main channel and the route from Aqua Yacht Harbor to the main channel. This area is able to accommodate additional boating without significant impact. The main channel from Goat Island to the mouth of Yellow Creek is congested during peak periods of weekends and holidays. It is assumed that boaters using the proposed marina would merely transit this area en route to other parts of the reservoir where they would be more dispersed.

### Water Quality

- The largest concern should be the protection of our water quality. Living across from Aqua Yacht Marina, I see, on a daily basis, how this marina affects the quality of water in this area. *Comment By: Douglas C. Mayhall*
- the water quality is suffering now. *Comment By: Jon H. Hill, W. Hull Davis*

**Response:** According to the 1998 TVA Vital Signs Monitoring Results, overall ecological conditions in Pickwick Reservoir are good. Most indicators used to evaluate ecological conditions rated good or fair at all locations. Fecal coliform samples collected at 10 locations in the reservoir (including one location in the Yellow Creek embayment) were within the state water quality criteria. A screening level assessment of water quality conditions at three locations in the Yellow Creek embayment was conducted monthly from July through September 1999. All three sites were highly productive and could be considered eutrophic as indicated by high chlorophyll concentrations (averages from 14 to 21 ug/L). Nutrient levels in the embayment were similar to those found throughout Pickwick Reservoir. Mean embayment values were 0.4 mg/L for total nitrogen; 0.04 mg/L for total phosphorus; and 3.2 mg/L for total organic carbon. Two of the three Yellow Creek sites had dissolved oxygen concentrations below 5.0 mg/L at deeper strata in at least one of the months sampled. None of the sites had dissolved oxygen concentrations less than the state criteria of 5.0 mg/L at the 1.5 m depth. Water temperatures did not vary much from top to bottom

## Final Environmental Assessment

indicating minimal stratification. All sites had temperatures exceeding 30 °C at most depths during July.

The TCDF has made a commitment to TVA to develop a state-of-the-art marina that is a demonstration for the surrounding area on proper marina stewardship. All requests for proposals from developers will require that the proposals follow TVA's Clean Marina Guidebook for ensuring properly installed, operated, and maintained facilities. Additionally, guidelines will be established to ensure proper and complete usage of sewage disposal by occupants of the marina.

Therefore, no long-term adverse impacts to water quality are expected, provided the new facilities are properly installed, operated and maintained. All waste and wastewaters must be contained and disposed of, so as to avoid adding pollutants to the lake. In the event the facilities are not operated as defined in the regulatory permits, corrective actions will be required.

**Erosion**

- Also, as you know, the wake created by the excessive boat traffic is causing the existing shoreline and islands in the Yellow Creek area to erode. In fact, there are two islands in Yellow Creek now where one is completely eroded and it is just a matter of time for the other. *Comment By: Louis F. Allen*

**Response:** Granted, any additional boat traffic in the area will increase wave action and shoreline erosion, but this facility will be insignificant when compared to existing boat storage facilities in the area. Results of the following data indicated the increased boat traffic would have insignificant cumulative impact on erosion in the area.

A survey of Tennessee River marinas conducted in 1999 (TVA, 2000) showed estimated usage rates of 33 percent on the busiest, summer weekend days and less than 10 percent on summer weekdays. The requested action proposed a 100-slip marina. Assuming that the boats using the marina are all new to the area and not already using the local waterfront by other access means, the increased number of boats would be about 33 on the busiest weekend days and less than 10 on weekdays in the summer. Thirty-three boats is a small total compared to one-third of Aqua Yacht Harbor's boats that would be used on the busiest weekend days. The rest of the year these usage rates would be substantially lower.

**Too much development (land) already**

- The current development on Pickwick Lake appears to be out of control... Additionally, this use would mean there would be less undeveloped land in an area that is overdeveloped now. *Comment By: Jon H. Hill, W. Hull Davis*

**Response:** The Yellow Creek Embayment consists of 41.64 miles of shoreline. 11.1 miles (26.6 percent) is managed for residential development, 6.3 miles (15.1 percent) is managed for industrial development for Yellow Creek Port and Yellow Creek Nuclear Plant site, and 0.7 miles (less than two percent) is managed for recreational use as marinas. The proposed development by TCDF

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would add 0.6 miles of shoreline to recreational use, increasing the percent of recreation to three percent. 12.9 miles of shoreline have been transferred to the states of Mississippi and Tennessee to manage for wildlife and public recreation areas. Development along this shoreline consists of three public use areas (launching ramps). No additional development of this shoreline is currently proposed in the long-range plan for either state park. The remaining shoreline (10.6 miles) is retained TVA land and is managed for natural resources. As a result, 56.5 percent of the shoreline in the Yellow Creek Embayment is managed by TVA and state parks for general forest management, wildlife, and recreation areas.

### **Weakening of the Reservoir Planning Process**

- The League is concerned that proposals such as the TCDF proposal work to undermine the integrity of the reservoir planning process. The Pickwick Reservoir Plan was developed in 1981. Since that time the TVA Board of Directors has approved several incremental changes in land use designations, which we believe weaken the results of reservoir land management plans. It is our understanding that the Pickwick plan was not created under the direction of the National Environmental Policy Act (NEPA). Keeping in mind, that it has been nearly 20 years since this first plan was finished, the League strongly believes that it is time to revise the Pickwick Reservoir Land Management Plan under the guidelines developed in NEPA before further changes in land use designations. *Comment By: Tennessee Conservation League*

**Response:** According to our records, there have been 17 board actions on Pickwick Reservoir since the Pickwick Reservoir Plan was adopted in 1981. Six of these were for the Yellow Creek Port area which did not include modifications to land use allocations to the Reservoir Plan. Additional actions were for State Park activities, sewer line easements, etc., which also did not include modifications to land use allocations to the Reservoir Plan. Our records indicate that this is the first Board Action requesting a land use change to the Pickwick Reservoir Plan. The Pickwick Reservoir Plan "is a decision making tool that will help to guide and expedite TVA's handling of requests for the use of its lands and allow the Agency to better meet its responsibilities as a public agency and land manager. It is not a rigid 'master plan'...It is intended that this plan remain flexible, that it be continually weighed and adjusted as land management decisions are made and as growth pressures, economic trends, and environmental conditions and standards change in the future" (TVA, 1981). Additionally, the Pickwick Reservoir Land Management Plan is one of the next TVA reservoir plans to be updated.

### **Public Opposition to the Project**

- While the EA states in Section 1.3.1 that the "majority of comments received at the public meeting were in support of the project", a quick glance at the Appendix B of the EA shows that nearly 2/3rds (i.e., 60%) of scoping respondents were opposed to the project. The League feels this opposition is significant, and is not fairly presented in the EA. *Comment By: Tennessee Conservation League*

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**Response:** Section 1.3 has been revised to more accurately reflect the comments received in opposition to the proposal.

#### Permanent Loss of Public Access and Recreational Opportunity

- The TCDF proposal will result in a loss of public lands available for informal recreation and non-fee related outdoor activities. In the EA, TVA notes that bank fishing is an existing use of the area. Further, this area of Yellow Creek is heavily developed with lakefront houses that have existed for more than 20 years. Undeveloped public shorelines are not prevalent, and are not as easily accessible to the public as this site could be. Additionally, in this EA, TVA makes repeated reference to facility vandalism that has occurred at the roadside park (the parcel which was "quick claim" deeded to TVA from the Mississippi DOT). Comments in the EA also suggest that TVA believes, if this proposal is approved and completed that vandalism will be reduced. The League acknowledges that the completion of such a project would reduce vandalism in the project area. However, TVA admits to abandoning the roadside park (Section 3.4.6) upon receiving the property from MDOT. The League believes there are other, less intrusive ways of preventing vandalism. *Comment By: Tennessee Conservation League*

**Response:** Because portions of this land were already considered transferred for a roadside park and the other portion is a narrow strip of forest (totaling 15.5 acres) between Mississippi State Route 25 and the water, TVA does not believe that there would be a significant loss of public lands for informal recreation as a result of this proposal.

#### Lack of an Assessment of Cumulative Impacts

- As mentioned in several previous League comments to TVA regarding similar projects, we do not believe that an adequate or meaningful assessment of the cumulative impacts of the disposition of small parcels of public land to non-public uses has been undertaken. Specifically, the National Environmental Policy Act of 1969 requires cumulative impacts assessments. The TCDF proposal EA does not address any cumulative impacts to water, wildlife, forests, air, or other resource values that will be affected by this proposal, and that have been affected in recent years by similar proposals. *Comment By: Tennessee Conservation League*

**Response:** Additional information has been added to the EA in sections on Flora, Fauna, Air Quality, Water Quality, Aquatic Ecology, Recreation, Noise, and Socioeconomics. This also attempts to address the concerns of FWS in the October 19, 2000, letter on cumulative impacts to these resources.

#### Lack of Adequate Data in EA

- In general, there is a significant lack of data provided or used in this particular Environmental Assessment (EA). The following is an itemized list of specific examples:
  1. In Section 2.3, TVA states that the preferred Alternative B will have no significant impacts on boat traffic. This EA provides no data for current boat traffic levels, provides no assessment of potential carrying capacity of boat

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traffic, and does not provide a reasonable analysis of the impacts of boat traffic resulting from this project. Furthermore, the EA recognizes boat traffic and congestion as the number one issue raised by EA respondents. Boat traffic and congestion has greatly increased on Yellow Creek over the past 15 years. This is an area that League staff have frequented since the early 1980's. Research on boat congestion, including consultation with the Tennessee Wildlife Resources Boating Division, should occur before this proposal is revisited. *Comment By: Tennessee Conservation League*

**Response:** Additional information has been added to the EA. TWRA was not consulted because this project is located in the State of Mississippi. A copy of the Draft EA was distributed to the Mississippi Department of Wildlife, Fisheries, and Parks. No comments were received from the Department.

2. The EA assumes that this project will have no significant impacts on water quality. In this light, the EA does admit to the real potential for negative water quality impacts, unless development guidelines are followed (see Section 3.3.1). The EA points out that this area contains steep terrain that poses concerns for activities that could negatively impact water quality. The League is concerned that TVA offers no data on the current water quality of the Yellow Creek embayment. We find it difficult to accept a suggestion of no significant impacts to water quality when no data are given on the current conditions and potential conditions resulting from the project. Several other marinas are located in the immediate vicinity to this proposed site. Data on water quality near and around these areas can be obtained. For these reasons, the League asks that TVA better assess the current and potential water quality conditions and impacts before revisiting this proposal. Lastly, TVA offers no monitoring proposal to insure that the project applicant will meet the development standards put forth in the EA. *Comment By: Tennessee Conservation League*

**Response:** Additional information on water quality has been added to the EA. TCDF has committed to using the Clean Marina Guidebook in the development and maintenance of these facilities. Additionally, federal and state regulations are in place that require monitoring during construction and operation of these facilities.

3. Additionally, Section 2.3 TVA states that Alternative B will have no impact on ambient noise levels. Again, there are no data or research cited in the determination of this position. Noise levels, in terms of decibels, can easily be measured at this time, and some basic analysis of noise impacts can be derived. *Comment By: Tennessee Conservation League*

**Response:** The FEA states there will be insignificant impacts to ambient noise levels. Section 3.4.8 provides the analysis that the potential noise from the recreational boating activity will not be significant and, therefore, we see no need to do ambient monitoring to come to this conclusion for this EA. The purposes of establishing pre-action, background noise

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levels are two-fold; first, for possible modeling or predicting the impact of the new noise source, and second, for determining post-action impact. In both cases, statistically-representative, background noise levels are needed for meaningful comparisons. Representative noise monitoring usually means 6 to 12 field surveys over a year's period, or 3 to 4 surveys over a shorter time period in question. This would be followed-up by post-action noise monitoring to verify the modeling prediction or for impact determination. Modeling is not possible for this proposed action because of the episodic noise generated by power boats, and post-action impact determination is not possible either because of the other area growth that is occurring.

4. Similar to the points raised regarding boat traffic and congestion, TVA does not provide adequate analysis or data regarding impacts to automobile use resulting from the proposed project. *Comment By: Tennessee Conservation League*

**Response:** Section 3.4.7 provides analysis and data for the potential impacts associated with vehicle use. The additional traffic due to the proposal would result in an increase in ADT to approximately 3,640 vehicles per day, or a 30 percent increase on State Route 25 near the site. However, this increase in traffic would not result in a change in the existing service level of State Route 25/57 and the effect would be insignificant. To ensure the proposed action would have no adverse affect on land transportation, commitments have been included in Section 6.0.

5. The analysis given within the EA regarding wildlife habitat and threatened and endangered habitat is flawed. The EA shows that (Section 2.3.) there would be a loss of habitat for state listed wildlife species. In addition, the EA assumes that impacts to local wildlife are not significant (Section 3.2.3) because of the health of wildlife populations around the project site. TVA offers no data regarding the status of wildlife, threatened, endangered, or abundant. Additionally, no reasonable assessment of wildlife or aquatic habitat is made near or outside the project area. Thus, impacts to wildlife resulting from this proposal are at best unknown and most likely negative. *Comment By: Tennessee Conservation League*

**Response:** Sections 2.3 and 3.2.2 of the EA have been revised and additional language has been added.

#### **Questionable Economic Benefits and Need for an Additional Marina**

- In Section 3.4.1, TVA writes that this project proposal will have little economic benefit at the county level. Additionally, the EA states that there is no waiting list at nearby Aqua Yacht Harbor for boat slips and other services. After examining this information, we are under the impression that there is no compelling economic reason for TVA to grant a change in land use designation and significant cause for concern about negative impacts to water quality, traffic congestion and noise pollution. *Comment By: Tennessee Conservation League*

Final Environmental Assessment

**Response:** Additional information has to been added to the final EA clarifying the data in Table 3.4-1 on waiting lists. Clarification of data indicates that all slips were fully occupied at Aqua Yacht Harbor and Eastport Marina except for a few 30-foot slips. This data was collected in the summer of 2000. The statement that the proposal would have little economic benefit at the county level was written to reflect only the immediate direct impacts on employment and income, and also prior to full knowledge of the extent of the plans, especially regarding the marketing efforts planned for the lodging and restaurant components. In light of its potential as a catalyst for development in the area, the statement has been revised to recognize this longer term potential.

**Conclusion**

- The League DOES NOT SUPPORT this project, given the conflicting s and failure to address cumulative impacts in the draft EA. If TVA wishe forward with this land use change, the League will reconsider its positik seeing the following additional information:
  1. Additional data collected and analyzed to meet all Federal criteria, including cumulative impacts.
  2. Revision to the proposal that will result in a no-net-loss of public lands available for informal recreation and natural resource purposes.

**Response:** Text has been added in the EA to address these concerns. Because portions of this land were already considered transferred for a roadside park and the other portion is a narrow strip of forest (totaling 15.5 acres) between Mississippi State Route 25 and the water, TVA does not believe that there would be a significant loss of public lands for informal recreation as a result of this proposal. Accordingly, TVA does not plan to require a "no net loss" proposal.

**Individuals and Organizations Providing Comments**

Douglas C. Mayhall  
Counce, Tennessee

Louis F. Allen  
Memphis, Tennessee

Jon H. Hill  
Corinth, Mississippi

W. Hull Davis  
Tishomingo County, Mississippi

Mike Butler, Tennessee Conservation  
League  
Nashville, Tennessee

Jefferson Keel, Lt. Governor  
The Chickasaw Nation

**APPENDIX C – APPLICANT RESPONSE TO PUBLIC COMMENTS  
RECEIVED FROM PUBLIC NOTICE NO. 05-87-A**

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Nashville District Corps of Engineers  
 Regulatory Branch  
 Attn: Kathleen J. Kuna  
 3701 Bell Road  
 Nashville, TN. 37214

RE: Responses to comments  
 Application # 2005-020282

Dear Ms. Kuna:

**"Increase in boat traffic".**

With 132 of the 228 slips proposed being slips over 30', I do not believe that boat traffic will be greatly increased. Statistics show that large boats are used less than 5% of the time. On a typical summer weekend there would probably be less than 40 boats leave a 228 slip marina. To me this is not a large increase in boat traffic.

**"Too crowded already".**

The overcrowding of the Yellow Creek area is caused by the increase each year in trailer boats being unloaded at the two ramps close by. The proposed marina should not have a great impact on overcrowding in the area. Unlike smaller watercraft that go and come frequently to the restaurants and fuel docks each day, the larger craft tend to go out of the area at least for all day and usually for all weekend.

**"Safety / accidents".**

Statistics show that larger boats are the least likely to be involved in accidents. The operators of these boats are usually more educated on proper boating techniques and have a much larger investment to consider. Most marina operators will educate and advise slip holders if they see safety concerns or unsafe boating practices. To operate a boat safely in the confined spaces of a marina usually will make the boater safer on the open water.

Pickwick-Wheeler Watershed Team	
ALA	IGP
JKA	RIP
WB	AMP
CLC	DJS
BGF	JDS
SAH	SJS
CHH	HLT
KRK	/ SEW
WRM	
ELM	
SDM	
RJM	Files
Received: <i>Paul 3/15/06</i>	

**“Get rich quick scheme”.**

I do not fully understand the meaning of this concern. By scheme it sounds as if the commenter believes that we will take advantage of customers in some way. This is far from the truth. If it is meant that they believe this project was developed just for this developer to “get rich” then they have not researched to know that this has been ongoing for almost six years. This was offered three separate times for proposals to be submitted. Each time specific criteria was offered with public meetings advertised and held to discuss the project. Several investors considered the project but none committed until Mr. McMeans in 2005. Though we certainly hope to be profitable, we do not expect to “get rich quick”.

**“Too many no-wake zones”.**

This proposed marina will extend lake ward less than 800’ and with the shoreline 1300’. This area is not on or close to a channel to either the Tennessee River or the Tenn-Tom Waterway. For this reason I do not feel that the limited amount of no-wake this marina will have should impact boaters in any way.

**“Loss of public shoreline”.**

In 2002, TVA zoned this entire shoreline as recreational development. With 500 miles of shoreline on Pickwick Lake I feel that the loss of this 1300’ is insignificant. There is considerably more shoreline lost each year for private boathouses and community docks than by commercial marinas.

**“Damaging boat wakes to private property”.**

Again I point out that most large boats in marinas are less likely to cause damage because they are more aware of the consequences. They are typically more educated on proper boat handling and having their own boat in the water full time they are very aware of what damage boat wakes can cause.

**“Decrease in available open water”.**

There is more than 43,000 acres of water on Pickwick Lake and Yellow Creek. The embayment where this project is located has approximately 385 acres. The proposed marina will occupy about 22 acres or less than 6% of this embayment. This is not a significant loss for Pickwick Lake.

**“Loss of best ski and water sports area”.**

With less than 6% of this embayment being occupied by the marina limits, there is still ample area for water activity. This is one of two large embayment on Yellow Creek. The second is less than ½ mile south and known as the Goat Island/Elks Landing area. It is comparable in size and depth. This allows plenty of deep water in the Yellow Creek area for fishing, skiing, tubing etc.

**“No survey of concerns of Yellow Creek Property Owners”.**

This project was first considered in 1999 when the day park closed and a suitable use of this TVA property was discussed. Since then there have been public meetings held and much discussion on this issue by all agencies and homeowners. In 2000 a “Finding of Non-Significant Impact” was prepared and distributed. I believe that the homeowners concerns have always been considered in this issue by all parties.

**“Noise pollution”**

Excess noise would be as much a problem for marina slip holders as for adjacent homeowners. Because of this, our policy is to have a quiet time starting and 10:00 pm each day and continuing until 8:00am. With 24 hour security to enforce this policy and to monitor excess noise during the day, increased noise should not be a problem.

**“Water quality / pollution”.**

This marina will be built to TVA “Clean Marina” standards. In addition, all slips over 30’ will have in slip pump-out available. This should encourage compliance of our no-discharge rules. All other aspects of the site will be closely monitored by TVA and MDEQ. Proper fueling techniques and spill prevention procedures will be practiced daily along with fuel spill containment in the event of an accident.

**“Loss of wildlife habitat – fish / fowl”.**

Fish tend to congregate around marinas so I do not think that this will constitute a loss of fish habitat. Since this was used for many years as a roadside park, deer, wild turkey and most other wildlife do not frequent this site. There is still an abundance of squirrel, beaver, waterfowl and an occasional eagle at the site, however by maintaining the landscape as close to natural as possible I believe these will remain.

**“No need for another marina”.**

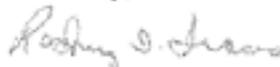
There are currently three marinas south of Pickwick Dam to this site. This is a portion of the connecting waterway from Chicago and the upper Mississippi River region to Mobile that is considered a must stop for travelers and a favorite location for full time boaters. All three of the existing marinas are at or near 100% occupancy and many slips have a waiting list. At the current time I have 75 slips spoken for. Many of these are redistribution from the other marinas but the demand for slips in this area is growing daily. Most marinas from Kentucky Dam to the Gulf Of Mexico are experiencing more demand especially with recent hurricanes along the coast.

**“Existing marinas not full”.**

As stated above, the existing marinas in the area are full or very close to full. Grand Harbor Marina was completed in 1999 with 325 slips and reached full occupancy in 2004. The marina at Pickwick Landing State Park has been full for several years. Aqua Yacht Harbor is considered full since they try to maintain a certain number of available slips for winter storage customers. During the heavy transit season in the fall, between 1100 and 1500 boats pass this location. During this time there is not enough transit space available.

Thank you for allowing me the opportunity to respond.

Sincerely,



Rodney D. Lucas  
General Manager  
Pickwick Pines Marina, Inc.

## **APPENDIX D – DOLPHIN LOCATION**

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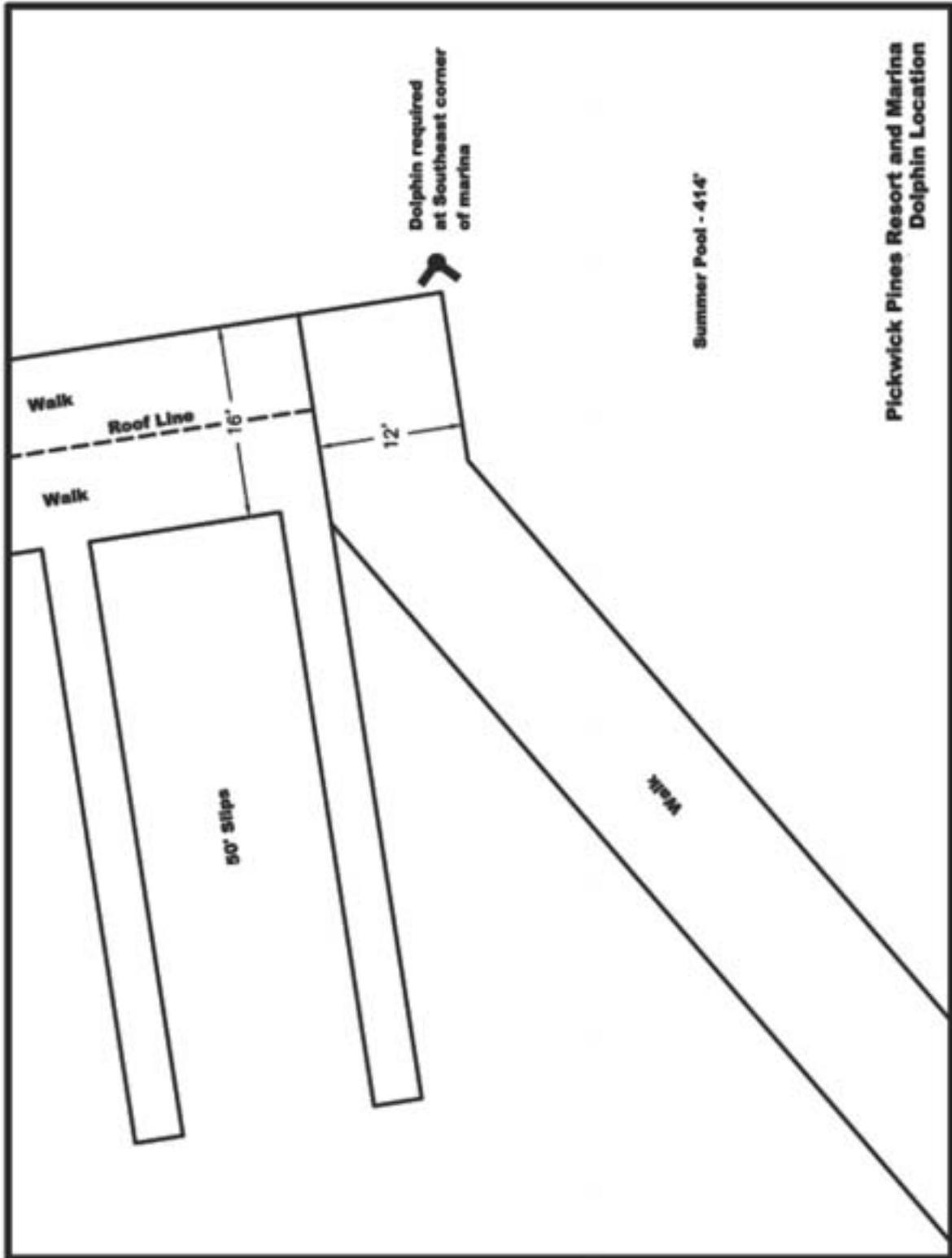
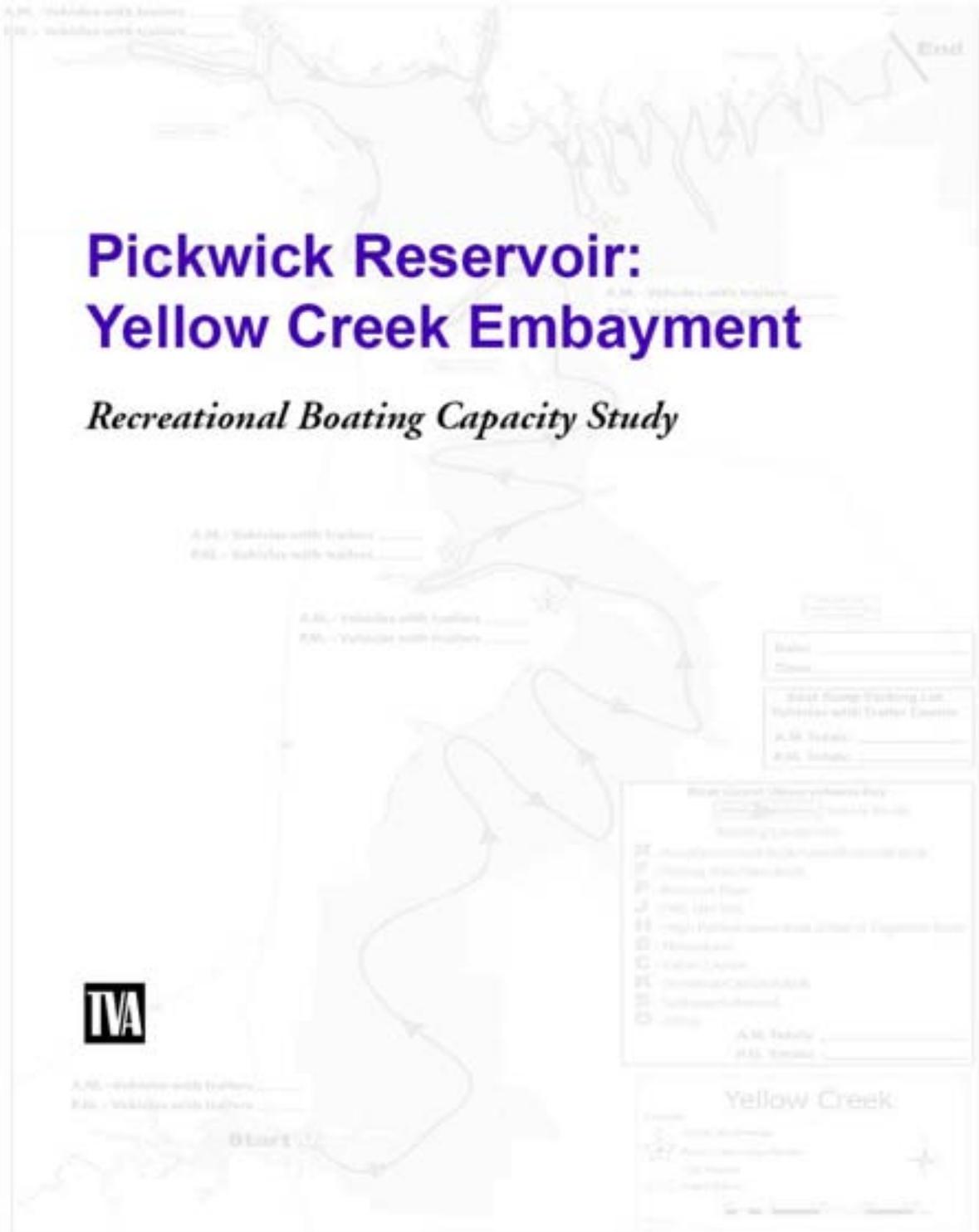


Figure D-1. Dolphin Location

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**APPENDIX E – YELLOW CREEK EMBAYMENT BOATING  
CAPACITY STUDY**

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## 1: Introduction and Project Purpose

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### **Background: Development Proposal and Boating Capacity on Yellow Creek Embayment of Pickwick Reservoir**

Pickwick Reservoir is managed by the Tennessee Valley Authority (TVA) to provide a multitude of benefits, including high quality recreation opportunities for nearby residents and visitors from the surrounding region. The Tishomingo County Development Foundation in cooperation with an area developer proposes to develop a resort/marina facility on Parcel Number 141, a tract of 26 acres near the Tennessee -Tombigbee Waterway (Tenn-Tom Waterway) Mile Marker 448.4 in Yellow Creek Embayment (YCE). Yellow Creek Embayment Service Area (YCESA) contains 2,678 surface acres at summer pool (414' contour with 43.7 miles of public shoreline) and provides for a combination of commercial and recreational boating. The question arises whether the number and diversity of recreational users present, along with associated local development, may threaten the safety and enjoyment of visitors and residents.

As recreational use increases, TVA managers and the Mississippi Department of Wildlife Fisheries and Parks, Boating Law Administrator (MDWF&P-BLA), would like to know if the YCESA is experiencing recreational boating use levels which could be considered overcrowded or unsafe given the pending development proposal.

To study this issue, TVA has selected the Water Recreation Opportunity Spectrum (WROS) methodology, which provides a framework to assess recreational water craft capacities on water bodies of varying sizes and shapes.

#### **The Challenge**

TVA is challenged to maintain quality recreational experiences at YCESA of Pickwick Reservoir while acknowledging its increasing use and development potential. *Recreation quality* strongly equates with diversity of experiences. It is defined as the degree to which a range of boating opportunities (e.g. fishing, skiing, cruising, high performance boating, sailing, canoeing, pontoon boating, jet skiing, etc) are provided to meet the diversity of visitor needs and expectations rather than allowing one particular type of opportunity to dominate. There is no such thing as a typical visitor. Most visitors have many, sometimes conflicting, needs and interests. The objective is to understand the WROS protocols and to apply the fifteen attributes (five physical, six social and four management) to determine the degree, extent or magnitude that they are present at the YCESA. Completing the assessment should result in scores for the YCESA that reflect one of eleven classifications ranging from Urban, #1 "highly developed with high degree of activity" to Primitive #11 "no development and no or low activity." Once the YCESA is classified the "Boating Capacity Range Decision Tool" is applied and corresponding "Range of Boating Coefficients" is determined. The

goal is to achieve a balance among social conditions, resource conditions, and management conditions related to recreational boating opportunities and the current and future conditions. (See Appendix 1 for pages 36-39 and 94 & 95; the full document can be accessed at: [www.usbr.gov/pmts/planning/wros/wros\\_report.pdf](http://www.usbr.gov/pmts/planning/wros/wros_report.pdf).)

#### **The Problem**

TVA decided to utilize a systematic process (WROS) to provide managers the data needed to make decisions about requests for the establishment of a new marina and resort facility on Pickwick Reservoir in the YCESA. This was in response to questions that were raised by citizen stakeholders regarding the draft Supplemental Environmental Assessment (SEA) and the ability of Pickwick Reservoir and YCESA to accommodate additional recreational boat traffic.

User groups who live nearby and recreate on YCESA are asking more questions about management actions and policies established by managing agencies, i.e., TVA, U.S. Army Corps of Engineers (USACE), and MDWF&P-BLA. Managers and staff need systematic information gathered over time to answer questions and to support management decisions.

#### **Project Purpose**

The purpose of this project is to develop an approach for assessing recreational water craft crowding on YCE of Pickwick Reservoir.

Boating Capacity Studies are aimed at describing existing conditions and evaluating whether proposed changes will adversely impact current users. TVA initiated the Pickwick Reservoir, YCESA study in August and September 2006 to evaluate recreational water craft capacity for this reservoir service area and setting. TVA elected to use the Water Recreation Opportunity Spectrum (WROS) process as developed from the National Lakes Study Commission, USACE, 1999; Visitor Capacity on Public Lands and Waters: Making Better Decisions, NRPA, 2002; and Water Recreation Opportunities Spectrum Users' Guidebook, Aukerman, Haas and Associates in cooperation with the Department of Interior, Bureau of Reclamation, 2004, pages 34-39 and 94-95.

This process moves us through a framework of analysis and when coupled with water craft counts, accident/incident reports, boat ramp vehicle counts and interviews with area marina and dry storage owners/operators helps us understand the use levels, upper limits and associated issues relating to recreational boating on YCESA. This approach characterizes a reservoir setting in terms of resource conditions, shoreline conditions, social conditions, and managerial conditions for recreational water craft and users. An evaluation profile tool is used to assess the service area and classify recreational water craft levels in terms of the WROS Classification and the corresponding "Range of Boating Coefficients" and "Boating Capacity Range Decision Tool"; water craft counts, boat ramp counts, and interviews with marina and recreational water craft dry storage owner/operators are used to determine origins and levels of recreational water craft. The attached six pages of Appendix 1 are used to show

*PICKWICK RESERVOIR: YELLOW CREEK EMBAYMENT BOATING CAPACITY STUDY*

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the six broad categories; eleven scales, the physical, social and management inventory process; and "Range of Reasonable Boating Capacity Coefficients" and "Boating Capacity Range Decision Tool" used in this analysis. This approach provides useful data for gaining a better understanding of existing boating conditions and for offering reservoir managers choices for altering management strategies.

#### **Boating Capacity Study Objectives**

The Yellow Creek Embayment Visitor Capacity; Water Craft Study of the Pickwick Reservoir Study Team (Study Team) was formed to develop and execute this project. The following specific study objectives are concerned with the application of the WROS Boating Capacity Study Model (Model) to the question of whether or not boating on YCESA is getting overcrowded and unsafe. In meeting each of these objectives, the Study Team is addressing the management concerns stated above under "Project Purpose." The objectives are:

1. To apply the WROS Model for assessing and classifying the recreational boating Service Area of YCE of Pickwick Reservoir.
2. To document and estimate the amount of recreational boating activity on YCE of Pickwick Reservoir on weekdays and weekend days.
3. To assess the natural resource, physical, social, and managerial conditions on the YCE of Pickwick Reservoir so that managers can better understand these conditions.
4. To review the nature and magnitude of recreational water craft assists and operational needs/issues and violations as they occurred over the past three years.
5. To interview area marina and dry storage owners/operators to determine the current and future implications to recreational boating in the YCESA.
6. To provide recommendations to TVA's management team concerning the pending 26a application.

#### **Study Area and Summary of Proposed Boat Access Facilities**

Pickwick Pines Resort and Marina is applying to construct three types of boat access facilities on Parcel Number 141, a tract of 26 acres planned and currently committed by the TVA Board to the specific use/zone of "Developed Recreation". This plan was drafted, reviewed and approved through the National Environmental Policy Act (NEPA) Process including wide spread advertisement of the draft for review and public/stakeholder comments. The Pickwick Reservoir Land Plan, 2002 allocates land into seven land use zones, including TVA project operations, sensitive resource management, natural resource conservation, industrial/commercial development, developed recreation (zone 6), residential development/access and conservation partnership.

*CHAPTER 1*

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Included in this proposal are three types of boating access facilities: 12 foot wide boat ramp, 228 wet slips and a dry boat storage building of 110 feet by 200 feet large enough to store 75-100 boats. The boat ramp has no vehicle trailer parking spaces and is designed for ingress and egress of boats needing service or repairs and provides no access for recreational boaters. The remaining two items will provide access for recreational boats in storage. Based on marina studies by the USACE and interviews with noted boat capacity researcher, John Titre, an estimated 20-25%, or at most 33% (the most conservative estimate for recreational boats) as reported by TVA from a survey of Tennessee River marinas of boats at marinas which would be in use at any given time. This would provide an estimate of around 66-108 of the boats stored at the proposed Pickwick Pines Resort and Marina which could be added on any given weekend day, to the boat count averages as determined by our study team.

## 2: Process Methodology

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### Recreational Boating Capacity

Recreational Boating Capacity is a concept of “carrying capacity” borrowed from other resource management fields such as range or wildlife management. The notion of providing a broad range of boating opportunities and recreational experiences in a particular location can also be applied to water-based recreation. This concept, known as Recreation Opportunity Spectrum (ROS), describes a prescribed range of experiences associated with place-specific locations in undeveloped to developed settings (Driver and Brown, 1978). The concept implies that specific land or water areas have certain “capacities” for use and that these capacities can be determined and then managed. In addition, a derivative of this analysis has since been developed and specifically applied to Water Recreation Opportunity Spectrum (WROS) and again includes place-specific locations in undeveloped to developed settings (Haas, Aukerman, Lovejoy and Welch, 2004).

Ideally, the determination of recreational water craft optimum carrying capacity would be accomplished by applying a simple formula for calculating a manageable limit or specific number of watercraft for an entire body of water or service area, as in the nine (9) acres per boat (“Unlimited Power Boating” USDI, BOR, 1977, pages VI-14 & VI-15). However, the concept of evaluating recreational boating capacity on service areas or sections of rivers, lakes, and reservoirs is more complex and should include an analysis of boating access and conditions under which various recreational boating activities occur. The definition for boating capacity used in this study is:

*The reservoir condition in which a high-quality, safe, and enjoyable recreation experience can be maintained while protecting the natural resources where recreational activities occur.*

Specifically, **water craft capacity is the prescribed number of people/boats (demand) that a reservoir service area will accommodate (supply), given the desired biophysical/cultural resources (resource conditions/inventory), visitor experiences (social conditions/inventory), and management program (managerial conditions/inventory) (Haas, 2001).** The understanding of recreational water craft optimum carrying capacity depends upon knowledge of user preferences and perceptions, resource capabilities, the reservoir existing conditions, agencies management objectives, policies, regulations, budget, and personnel—conditions which change with some frequency.

In 1982 R. F. Washburne proposed recreational carrying capacity as a set of conditions—physical-biological, social, and managerial—to be managed in a particular area, rather than as a calculation of limits on visitor numbers. During

*CHAPTER 2*

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the past two decades various processes have been developed and used by major land managing agencies, including ***Limits of Acceptable Change*** used by the U.S. Forest Service and National Park Service, ***Visitor Experience and Resource Protection or Visitor Impact Management*** used by the National Park Service (U.S. Department of the Interior, 1997), ***Carrying Capacity Assessment Process*** used by the National Oceanic and Atmospheric Administration Coastal Service Center, and ***Quality Upgrading and Learning (QUAL)*** used by the U.S. Army Corps of Engineers. All of these processes integrate various kinds of information and recommendations for a desired set of conditions. However, with the exception of the Water Recreation Opportunity Spectrum (WROS), most of these models are expensive and time consuming, taking one to two years to complete.

### **3: Recreational Boat Count, Boat Ramp Parking Lot Counts and Marina/Dry Storage Interview Results**

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#### **Introduction**

This chapter presents the results of the recreational water craft and boat ramp parking lot counts. Both of these findings provide a strong baseline inventory for understanding the current level of use and where use is occurring. Low cost, practical methods were used in recreational water craft count estimations. The process used provides an approximate but relatively reliable count—subject to human error—with the understanding that greater precision is attainable but at an exponentially higher cost. We have learned from other reservoir managers that the extra effort required reading traffic meters at launch sites, or to conduct other time-consuming count procedures to achieve greater precision is not justified by the uses of the data. The counts conducted for this study allowed data to be collected on the number of recreational watercraft on the Yellow Creek Embayment portion of Pickwick Reservoir, traffic patterns for this specific Service Area of the reservoir, with additional information obtained on the distribution and types of boats on the water.

Both marina operators and area dry storage managers located on and around YCESA were asked about current occupancy rates on the dates corresponding to the boat count and boat ramp vehicle counts. Operators provided no additional information concerning boat launches that would influence the boat counts or use estimates for boats stored in the area as reviewed by the study team. Aqua Yacht Harbor and Grand Harbor reported near 100 percent occupancy with a waiting list for large covered slips. L&S Boat Storage and Sportsman's Boat Storage on and near the area of YCESA reported near 100 percent occupancy. The marina operators and area dry storage owners/managers reported being generally full in the summer. Both marina operators reported a lack of water, surface acres available (harbor limits) for future expansions and none of the dry storage owners reported plans to expand.

#### **Boat Count Method and Counts Completed**

Boat counts were conducted by members of the study team on Pickwick Reservoir from a boat (2004, 24' Fishmaster, runabout with center console and 225 hp Suzuki engine) traveling the length of YCESA as designated on the Boat Count Survey Route Map (Appendix 2). This resulted in a round trip from Scruggs Bridge Ramp winding through YCESA for boat identification and documentation to its confluence with the Tennessee River, counting vehicle with trailers on the return trip at each of five public boat ramps serving this area. The area was chosen as a result of proximity to the site as noted in the 26a

application, recreational boat use and the ability to count recreational water craft on the outbound trip and vehicles with trailers at area boat ramp parking lots on the return trip all within two hours or less.

A total of 16 observation trips were scheduled, with each trip covering the YCESA for recreational boat counts, commercial boat counts and vehicle-trailer counts at the five (5) area boat ramps. These were scheduled throughout the study period (late August and early September, 2006) on weekdays (six trips) and weekends (10 trips). While peak-user times are generally not used for research in planning or analyzing recreational carrying capacity, two of the weekend days correspond to the Labor Day Holiday (September 2 & 3) and are included in this report to help gauge the upper limits of current recreational boating activity on the YCESA. It should be noted that based on data from external boating capacity studies, the selected count times were 9 a.m. and 2 p.m.; and noon and 5 p.m. as these were some of the most heavily used periods. Good weather was encountered for all scheduled days and times so alternate count days were not required. During each observation period, the type of each boat observed and its location were plotted on the boat count maps using an identifying letter for each of the various boat types.

The method of conducting observations from a boat moving through designated Service Areas was devised in previous studies (Titre, et al., 1995) as an alternative to aerial photography. This systematic means of gathering information on the amount and patterns of boat traffic, which can be performed by project team members, provides information comparable to that obtained with expensive overflights.

The total number and types of recreational boats observed during each trip were tallied from the maps and are reported in Table 1. These count figures are representative of the exact number of boats on the YCESA portion of the reservoir at a specific time because each water craft count took one hour and the boat ramp parking lot counts an additional hour to complete. During that time, it is possible that some boats entered and left the count area unobserved. Also, in some cases the number of boats on the reservoir may have been greater when the count was completed than when the observation trip began. The count figures do, however, provide a reliable estimation of use levels and can be used to indicate the relative amount of use within various parts of the YCESA and the relative proportions of different types of boats. It is worth noting that only 1% of boats (nine in sixteen counts for total of 902) were commercial tugs or barges. Therefore the balance of this report will focus on the recreational boats which totaled 893 over the sixteen counts. For more information concerning commercial navigation through this area refer to section 3.4.5 of the Supplemental Environmental Assessment (pages 15-18).

### **Boat Count Results**

For the sixteen boat counts there were a total of 893 boats observed for an overall average of 55.81 boats per count or 47.98 acres per boat. There were more than twice as many boats on YCESA in the mid-day/afternoon counts total (606) as compared with the morning and noon counts (287). Averaging the **weekend** counts for YCESA, we can estimate the average use level observed for a typical summer weekend day and summer weekend peak use day. The Labor Day Holiday peak use weekend averaged 117.75 boats with a blended average summer weekend peak use of 83.2 boats when holiday counts are included and an average of 60.17 boats for typical weekend counts when the holiday counts are excluded (Table 1). These numbers for boats would be considered a "low" use level as it would result in 22.74, 32.19 and 44.51 acres per boat respectively (Table 1).

As expected, **weekday** boat traffic was found to be lighter than weekend traffic the average summer weekday count was 10.17 boats or about 263.32 acres per boat (Table 1). Overall, weekday use levels in this Service Area were considerably lower than weekend use levels. The number of weekday boats observed would be considered a "very low" use level. Although all the weekday counts were lower than weekends, the counts were quite consistent across the YCESA for the same time of day.

**These observations and data indicate that boater "high use" levels are likely to be confined to a few holiday weekends per year.** High use levels tend to lead to perceptions of conflicts; however boater conflicts may occur at any use level, and isolated concentrations of recreational boating traffic may occur near access points. However, the count data demonstrate that averages for non-holiday weekend recreational boat traffic is six (6) times greater than weekday boating traffic with higher boat traffic on holiday weekends (a contributing factor to perceived crowding and conflicts). While logic would lead one to believe that an increase in recreational boating traffic should result in an increase in boating accidents; discussions with boating law administrators in Tennessee and Mississippi reveal that levels of recreation boat traffic and numbers of boating accidents do not correlate. Boating accidents tend to be random events/occurrences.

**Table 1: Recreational Boat Counts**

Pickwick Reservoir: Yellow Creek Embayment (2,678 surface acres with 43.7 miles of public shoreline)													
Yellow Creek Embayment: Recreation Water Craft Counts by Type, Time & Day													
2006	27-Aug	30-Sep	02-Sep	03-Sep	07-Sep	09-Sep	10-Sep	13-Sep					
	Sunday	Wednesday	Saturday	Sunday	Thursday	Saturday	Sunday	Wednesday					
	9:00	9:00	9:00	5:00	9:00	NOON	9:00	9:00					
AM	TOTALS												
Runabout/Deck/Speed/Ski	25	1	5	8	0	20	2	0					
Fishing/Bass	3	4	22	22	6	30	13	6					
Pontoon	4	1	11	3	4	17	1	0					
PWC/Jet Ski	8	0	3	3	0	5	5	0					
High Performance/Drag/Cigar	1	0	0	1	0	0	1	0					
Houseboat	0	0	2	4	1	2	0	0					
Cabin Cruiser	8	0	5	9	2	1	5	1					
Row/Canoe/Kayak	2	0	0	0	0	2	0	0					
Sailboat/Sailboard	2	0	2	1	0	2	1	0					
Subtotals	53	6	50	51	13	79	28	7					
PM	TOTALS												
Runabout/Deck/Speed/Ski	28	1	62	56	3	22	18	1					
Fishing/Bass	5	4	11	14	4	3	13	4					
Pontoon	15	3	44	35	1	11	12	1					
PWC/Jet Ski	12	0	33	32	0	10	6	3					
High Performance/Drag/Cigar	6	0	2	1	1	3	1	1					
Houseboat	6	0	6	7	1	1	2	0					
Cabin Cruiser	9	1	25	34	1	8	8	4					
Row/Canoe/Kayak	0	1	0	0	0	0	1	0					
Sailboat/Sailboard	0	0	3	5	0	1	0	0					
Subtotals	81	10	186	184	11	59	61	14					
Totals	134	16	236	235	24	138	89	21					

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Table 2: Boat Ramp Parking Lot Counts

Yellow Creek Embayment: Boat Ramp Vehicles w/Trailer Counts											
2006	Labor Day		Labor Day		Labor Day		Labor Day		Labor Day		TOTALS
	27-Aug Sunday	30-Sep Wednesday	02-Sep Saturday	03-Sep Sunday	07-Sep Thursday	09-Sep Saturday	10-Sep Sunday	13-Sep Wednesday			
AM	22	8	24	35	7		19	10	125		
NOON						56			56		
PM	36	7	111	102	10	30	41	9	348		
Subtotals	58	15	135	137	17	86	60	19	527		
Daily High	36	8	111	102	10	56	41	10	374		
AM						NOON					
Ramp # 1 Scruggs Bridge	6	2	11	10	2	12	7	3	53		
Ramp # 2 Goat Island	4	1	7	14	2	15	2	0	45		
Ramp # 3 Elks Landing	0	0	0	0	0	0	0	1	1		
Ramp # 4 Stateline	12	3	6	11	3	29	10	5	79		
Ramp # 5 Steel Bridge	0	2	0	0	0	0	0	1	3		
PM											
Ramp # 1 Scruggs Bridge	8	1	30	26	2	9	13	1	92		
Ramp # 2 Goat Island	7	2	29	25	2	6	6	0	77		
Ramp # 3 Elks Landing	0	0	3	0	0	0	0	0	3		
Ramp # 4 Stateline	20	3	49	49	6	15	21	6	169		
Ramp # 5 Steel Bridge	1	1	0	0	0	0	1	2	5		
Totals	58	15	135	137	17	86	60	19	527		

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*CHAPTER 3*

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**Numbers and Types of Recreational Boats Observed Used on YCESA**

A total of 893 recreational boaters were observed using different types of boats on various days of the counts (Table 1). Knowing the types of boats being used provides some indication of the nature of their boating activity. Boaters using runabouts, pontoon boats, and personal water craft (PWC) can each be expected to use the reservoir differently. For example, there may be differences in how far and how fast they travel, the areas they prefer to use, and the activities they participate in on the water. Also, some conflicts between boaters appear to be closely related to the types of watercraft being used; for example, recent similar studies revealed frequent conflicts between PWC and other pleasure boats. Tracking changes in the types, sizes, and power of boats being used on a particular reservoir allows managers to anticipate changes in use patterns and potential increases in conflicts among boater types.

**Runabouts/speedboats** are the predominant boat type used on YCESA Reservoir, observed as used by (28.22 percent or 252 boats) (Table 1). **Deck boats** are a recent innovation that have grown in popularity on TVA reservoirs and were counted as runabout-type craft. Numerous deck boats have been observed on YCESA. Deck boats have the V-hull typical of runabouts combined with a broad, open deck as seen on pontoon boats. **Fishing boats** were the next most popular boat at (18.37 percent or 164 boats) (Table 1), followed closely by **pontoon boats** (18.25 percent or 163 boats) (Table 1).

**Cabin Cruisers**, are the fourth most numerous type of boat observed in the YCESA and most likely is a result of the Tenn-Tom Waterway traversing this area and accounted for (13.55 percent or 121 boats) observed, followed closely by **personal watercraft** at (13.44 percent or 120 boats) observed (Table 1).

**High Performance boats, houseboats, sailboats/boards and kayak/canoes/rowboats** are relatively scarce on YCESA, each comprising less than 4 percent of the boats observed in use by the team (Table 1).

**Parking Lot Counts**

The boat count teams performed the boat ramp vehicle-trailer counts on their return trip to Scruggs Bridge Ramp at the end of each count trip (Table 2). The information, which was tabulated and averaged as to weekend and weekday use provides baseline information about current use levels at each of the five (5) public boat ramps serving the YCESA. These data can be used to assess the current infrastructure use and better determine if improvements and/or expansions are warranted. Table 3 reflects this count information.

Similar to the boat count data, **weekend use at these boat ramps was slightly more than five times greater as compared to weekday use** (Table 3). For weekend use, Stateline Boat Ramp parking lot averaged the highest number of vehicles with trailers recorded (22.2) with a single count high of (49) (Table 2).

*PICKWICK RESERVOIR: YELLOW CREEK EMBAYMENT BOATING CAPACITY STUDY*

The next highest used parking lot during the weekend was at Scruggs Bridge (13.4), followed by Goat Island (11.5). For weekday use, the parking lot at Stateline Boat Ramp was the most heavily used (4.33 vehicles with trailers) with a single count high of 6. Scruggs Bridge Boat Ramp was second highest (averaging 1.83 vehicles), followed by Goat Island Boat Ramp (1.17) and Steel Bridge Boat Ramp (1). The Labor Day Holiday provided an opportunity to secure vehicle-trailer counts at the boat ramp parking lots on a peak use weekend and provided highs of 111 for Saturday September 2 and 102 for Sunday September 3 (Table 2).

**Table 3: Boat Ramp Parking Lot Counts Weekend and Weekday Summaries**

Boat Ramps: Number and Name	Weekend Days		Weekdays	
	Average # of Vehicles with Trailers	Total # of Vehicles with Trailers	Average # of Vehicles with Trailers	Total # of Vehicles with Trailers
Ramp # 1 Scruggs Bridge	13.4	134	1.83	11
Ramp # 2 Goat Island	11.5	115	1.17	7
Ramp # 3 Elks Landing	0.3	3	0.17	1
Ramp # 4 Stateline	22.2	222	4.33	26
Ramp # 5 Steel Bridge	.2	2	1	6
<b>TOTALS</b>	47.6	476	8.5	51

On a typical summer weekend, the five public ramps provide sufficient parking to accommodate the current needs of recreational boaters. As a result of location to the highway system and proximity to area boaters three boat ramps: Stateline, Scruggs Bridge and Goat Island are more heavily used than either Steel Bridge or Elks Landing.

Boating accidents/incidents have declined in the past three years most likely as a result of coordinated schedules of boating patrols by TVA police and MDWF&P-BLA. The MDWF&P initiated statewide boater operator training effective July 1, 1994, which is mandatory for those born after July 1, 1980, in order to address concerns for boater safety (Table 4).

**Table 4: Boating Accidents and Incidents Investigated by TVA and Mississippi Department of Wildlife Fisheries and Parks (MDWF&P) on Yellow Creek Embayment**

TVA	2003	2004	2005
Boating Accidents	2	2	0
Boating Incidents	23	12	5
<b>MDWF&amp;P</b>			
Boating Accidents	0	1	0

## 4: Findings

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### Schedule and Work

The primary work was to apply the WROS methodology to assess and classify the YCESA and to review the "Range of Boating Capacity Coefficients" (low end to high end) appropriate for that classification and determine the appropriate range (acres/boat) to assign YCESA. The work schedule allocated 2 months to the project and required time for WROS technical training, field evaluation and analysis, boat counts, boat ramp vehicle-trailer counts, interview time, boating accident/incident review and final analysis and report writing. (Appendix 1, pages 36-39 and 94 & 95), the full document can be accessed at: [www.usbr.gov/pmts/planning/wros/wros\\_report.pdf](http://www.usbr.gov/pmts/planning/wros/wros_report.pdf)

### Data Highlights

Much has been learned during this study about how much and how often boaters use YCESA on Pickwick Reservoir. We have found that the perception of crowding relate to the characteristics of boaters and how they react to proposed changes around the reservoir and in what they perceive to be quality recreation opportunities. The field counts and interview methods used were successful in obtaining a wide variety of baseline information about boater types and numbers using the YCESA.

### Key Findings

The primary finding related to the **weekend** boat counts for YCESA and the approximate average use level observed on a typical summer weekend day. The average summer weekend peak use in the YCESA is 117.75 boats for the Labor Day Holiday counts with a blended average of 83.2 when the peak use holiday is counted in with the typical weekend and 60.17 boats per typical summer weekend when the holiday counts are excluded from the count (Table 1). These numbers for boats would be considered a "low" use level resulting in 22.74, 32.19 and 44.51 acres per boat respectively (Table 1).

As expected, **weekday** boat traffic was found to be lighter than weekend traffic with an average summer weekday count of 10.17 boats or about 263.32 acres per boat (Table 1). Overall, weekday use levels in this Service Area were considerably lower than the amount of weekend use levels. The number of weekday boats observed would be considered a "very low" use level. Although all the weekday counts were lower than weekends, the **weekday** counts were quite consistent across the YCESA for the same time of day.

An additional primary finding of applying WROS to the question of boating capacity for the YCESA was that the area classification when tabulated resulted

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in an overall evaluation score of "2" or border line "Suburban-Urban". This classification when correlated with the "Range of Boating Coefficients" would result in an anticipated 1 to 10 acres per boat (Appendix 1, pages 36-39 and 94 & 95). The median evaluation approach would provide a value of five acres per boat for the YCESA or 536 recreational boats however the conservative approach would provide for ten acres per boat or 268 recreational boats. This leads to, the conclusion that the YCESA, as a whole, has *not* reached the critical threshold for boating capacity of around 268 (at ten-acres per boat) for recreational boats when compared with the current averages of (117.75 boats for a holiday weekend or a blended average of 83.2 boats, including the holiday weekend or 60.17 boats for typical summer weekend). The conservative estimate is that the YCESA could provide and support recreational boating opportunities for an additional 207 recreational boaters on a typical summer weekend (268 - 60.17=207). This number of recreational boats, when compared with the estimate of potential additional boats launched from the proposed Pickwick Pines Marina and Resort at 20-33% of total boats stored would add 66-107 recreational boats to YCESA, well below the typical summer weekend threshold capacity available of 207. In addition, boating accidents/incidents have declined over the past three years from 2003-2005 (Table 4).

Individuals who are, relative newcomers (i.e., those with less than five years of boating experience in specific areas) may accept higher density conditions and more frequent conflicts because they do not have a reference point, perceptions and misconceptions based on previous conditions and area history when boaters were less prevalent. However, as these boaters become a larger part of the boating population, and more long-time users stop using the reservoir, complaints about crowding and conflicts may actually decrease, even though density may be increasing.

### **Management Strategies**

As stated in Chapter 1 of this document, the purpose of the YCESA Boating Capacity Study was to select and apply a process (WROS) for determining the boating capacity of a TVA reservoir service area. The methodology has proven to be a useful tool and helpful to TVA managers in making land use and permitting decisions for YCESA on Pickwick Reservoir.

Analysis of the study information has revealed several important considerations for developing management strategies on reservoirs. Reservoir management is a complex task for which conflicting recreation needs must be balanced with the constant changes occurring in resource and social conditions. Management actions designed to meet diverse needs can be evaluated based on their effects on the recreation opportunities and experiences that TVA intends to provide. The following questions could be asked regarding each proposed management action: "What effect will this action have on the recreation opportunities the reservoir provides, and will those effects hinder or facilitate boaters' attainment of their desired experiences?"

*CHAPTER 4*

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Following are some examples of strategies that are strongly suggested by the study information which can serve as a springboard for improving future recreational boating conditions on Pickwick Reservoir:

Using the study information and applying WROS to the YCESA, reservoir managers can anticipate, with greater confidence, how new development will likely affect recreational water-based activity within a specific reach of the reservoir. In general, WROS Classifications can assist managers to find areas with adequate water surface area and adjacent reservoir shoreline to sustain additional watercraft activity and shoreline growth. Therefore, a key management strategy for reservoirs with development pressures would include applying the WROS Classification System and direct development to those areas with potential for sustainable growth patterns; e.g. growth without congestion.

The study results provide a road map for state and local law enforcement officials to redirect their use of limited resources for boating regulations on YCESA of Pickwick Reservoir particularly as weekday use is compared to weekend. Efficiencies can be gained by coordinating reservoir patrol schedules between law enforcement agencies (MDWFP and TVA, as well as county officers) based on knowledge of boating numbers and areas.

WROS can be used to identify and classify quiet areas of the reservoir (e.g. Rural Natural # 6, infrequent/occasional developments through Primitive #11, least/no development) is particularly important for the reservoirs because they are important to many of the users/groups.

Results from the WROS methodology and apply it to field data to develop a boating capacity study and help guide future allocations made in the Land Plan. Managers can use the WROS methodology in conjunction with the Land Plan as a tool to help formulate defensible decisions in regard to requests for shoreline development.

In order to keep informed about potential changes affecting future reservoir conditions, it is essential that TVA Watershed Teams continue to meet and communicate with concerned citizens, interest/user groups, peer agencies, political leaders, developer and realtor associations, and local utility distributors. Collecting intelligence from these sources can provide TVA managers with advanced knowledge and an opportunity to develop an appropriate management strategy, budget, and schedule to meet the needs of TVA and its reservoir recreation users.

### **Water Quality**

The relationship of water quality to recreational boating on TVA reservoirs was raised during this study. The concern was whether water quality would be impacted if a reservoir becomes crowded or exceeds its boat capacity (more than one boat per five-ten surface acres). Some potential impacts include increased shoreline erosion, decreased water clarity, discharge of petroleum products, and presence of pathogens associated with septic discharges. Determination and

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qualification of impacts is complicated due to the interaction of many physical, biological, and chemical processes. Many agencies continue to study these impacts and the results, as they become available, will be useful to resource managers responsible for protecting reservoir water quality. A discussion of the potential impacts from recreational boating activities on water quality follows:

TVA has developed the Tennessee Valley Clean Marina Initiative to address activities such as sewage management, oil and gas control, marina locations and erosion prevention at marina sites. The program certifies marinas that are in compliance with pollution-control standards and allows them to use the Clean Marina logo and flag. TVA also participates in the National Clean Boating Campaign, which is sponsored by federal agencies, conservation organizations, and the boating industry. Each summer TVA's seven Watershed Teams help organize Clean Boating events at Tennessee Valley marinas and boat ramps. Boaters learn about proper fueling techniques and about products like bilge socks that can help keep pollutants out of the water. In addition, TVA's Shoreline Management Policy (SMP) provides policy guidance for improving the protection of shoreline and aquatic resources, in part, through the promotion of best management practices for the construction of docks, management of vegetation, stabilization of shoreline erosion, and other shoreline alterations. TVA's Watershed Teams also work in cooperation with other agencies and groups to implement bank stabilization projects.

Pickwick Reservoir is a discharge reservoir, however the YCESA is a no discharge area and marinas in and around the YCESA operate sewage pumpout facilities as would be required of the new facility being proposed. TVA and other agencies are working to have the reservoir designated a no discharge reservoir. This would mean that only legal marine sanitation devices are Type III holding tanks that must be pumped into sewage treatment systems. No sewage, treated or untreated, is allowed to be discharged into these water bodies. Sewage is to be discharged at shore-based disposal sites. Currently there are six marinas on Pickwick Reservoir with boat sewage pumpout facilities. As a part of TVA's Clean Marina Initiative, TVA, in cooperation with local marinas, area boating groups and local, state and federal agencies are seeking to establish additional pumpout facilities on Pickwick Reservoir.

## 5: Supporting Information

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### Project Participants

#### Study Team

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Jon Riley, ES&P-RR&ES, Landscape Architect  
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#### Cooperating Agencies

Mississippi Wildlife, Fisheries and Parks-Boating Law Administrator  
U.S. Army Corps of Engineers

#### Partners

Thomas Phillips, TVA Police

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**APPENDIX 1: WATER RECREATION OPPORTUNITY SPECTRUM  
(WROS) PROCESS “INVENTORY ATTRIBUTES AND PROTOCOL”  
& “BOATING CAPACITY COEFFICIENTS”**

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## The WROS Inventory Attributes and Protocol

The WROS inventory produces a map delineating the type and location of the current WROS classes; that is, a map that shows the current supply of available recreation opportunities. This section explains the WROS inventory protocol and the attributes used in the inventory and details the steps necessary for a WROS inventory of the current situation.

**Figure 12. The WROS Inventory Protocol**

### WROS Inventory Protocol

Mapping the Supply of  
Recreation Opportunities



Name of Water Resource: \_\_\_\_\_ Date: \_\_\_\_\_

Your Name and Title: \_\_\_\_\_

Inventory Site No: \_\_\_\_\_ Local Name: \_\_\_\_\_

GPS Coordinates: \_\_\_\_\_

Planning Period Under Consideration: \_\_\_\_\_

As previously described in chapter 1, a recreation setting consists of physical, social, and managerial attributes that affect the quality or nature of the recreation experience (See figure 4.) Since it is not practical to inventory every possible setting attribute, WROS uses 15 attributes as the basis for delineating the type and location of the existing WROS classes. Five physical, six social, and four management attributes have been chosen because each can have a major influence on the type of recreation opportunity that is currently available. With due deliberation and justification, there also may be situations where managers add or delete attributes to the inventory protocol.

The inventory attributes are packaged into the WROS Inventory Protocol (Protocol). The Protocol is an inventory "booklet" completed by each trained person at each inventory site. Figure 12 depicts the front page of the Protocol. Inside the Protocol is a page for each of the physical, social, and

managerial attributes. Figures 13, 14, and 15 show the three pages in the Protocol, the 15 inventory attributes used to delineate the WROS class, and the scale of degree previously discussed in chapter 1. (Note that the scale of degree presented in figure 10 is reversed for two attributes and is replaced with a mileage measurement for the distance attribute.)

**Figure 13. WROS Physical Inventory**

Physical attributes are features that are relatively permanent or fixed within the landscape and are not likely to change soon.

**Field Notes:**

*Circle the degree, extent, or magnitude that the following attributes are present at this site.*

<b>Degree of Development</b> Degree that dams, major bridges, marinas, parks, resorts, highways, or other municipal, industrial, or commercial structures are present.	Extensive, dominant 80-100%	Very prevalent or widespread 50-80%	Prevalent, common, or apparent 20-50%	Occasional, infrequent, or periodic 10-20%	Minor, little, or seldom 3-10%	Very minor, very little, or rare 0-3%
<b>Sense of Closeness to a Community</b> Degree that visitors sense that they are close to the sights, sounds, and smells typical of a community.	Extensive, dominant 80-100%	Very prevalent or widespread 50-80%	Prevalent, common, or apparent 20-50%	Occasional, infrequent, or periodic 10-20%	Minor, little, or seldom 3-10%	Very minor, very little, or rare 0-3%
<b>Degree of Natural Resource Modification</b> Degree that the visitors are aware that the natural resources have been altered by human activity, technology, or development.	Extensive, dominant 80-100%	Very prevalent or widespread 50-80%	Prevalent, common, or apparent 20-50%	Occasional, infrequent, or periodic 10-20%	Minor, little, or seldom 3-10%	Very minor, very little, or rare 0-3%
<b>Distance from Development on or Adjacent to the Water Resource</b> Mileage from dams, major bridges, marinas, resorts, or other municipal, industrial, commercial, or residential areas.	Less than 0.5 mile	0.5-2 Miles	2-5 Miles	5-8 Miles	8-10 Miles	More than 10 miles
<b>Degree that Natural Ambiance Dominates the Area.</b> Degree that there is a sense of tranquility and opportunity to see, hear, and smell nature.	Very minor, very little, or rare 0-3%	Minor, little, or seldom 3-10%	Occasional, infrequent, or periodic 10-20%	Prevalent, common, or apparent 20-50%	Very prevalent or widespread 50-80%	Extensive, dominant 80-100%
Circle the number that best represents your overall judgment of the area. Scores with one decimal point such as 5.5 are acceptable.	1 <b>Urban</b>	2 3 <b>Suburban</b>	4 5 <b>Rural Developed</b>	6 7 <b>Rural Natural</b>	8 9 <b>Semi Primitive</b>	10 11 <b>Primitive</b>

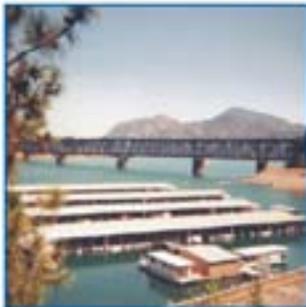
<b>Figure 14. WROS Social Inventory</b>											
Social attributes are features associated with visitor's activities, behaviors, and perceptions of the area.											
<u>Field Notes:</u>											
<i>Circle the degree, extent, or magnitude that the following attributes are present at this site.</i>											
<b>Degree of Visitor Presence</b> Degree that the sights, sounds, and smells of other visitors, their equipment, their impacts, or litter are present.	Extensive, dominant 80-100%	Very prevalent or widespread 50-80%	Prevalent, common, or apparent 20-50%	Occasional, infrequent, or periodic 10-20%	Minor, little, or seldom 3-10%	Very minor, very little, or rare 0-3%					
<b>Degree of Visitor Concentration</b> Degree that visitors congregate on the shore or water in the area (e.g., coves, launches, swim areas, good fishing spots, camp areas).	Extensive, dominant 80-100%	Very prevalent or widespread 50-80%	Prevalent, common, or apparent 20-50%	Occasional, infrequent, or periodic 10-20%	Minor, little, or seldom 3-10%	Very minor, very little, or rare 0-3%					
<b>Degree of Recreation Diversity</b> Degree that there is a mixture of recreation activities being participated in or equipment being used.	Extensive, dominant 80-100%	Very prevalent or widespread 50-80%	Prevalent, common, or apparent 20-50%	Occasional, infrequent, or periodic 10-20%	Minor, little, or seldom 3-10%	Very minor, very little, or rare 0-3%					
<b>Degree of Visitor Comforts</b> Degree that visitors know that conveniences, comforts, safety, and security are nearby.	Extensive, dominant 80-100%	Very prevalent or widespread 50-80%	Prevalent, common, or apparent 20-50%	Occasional, infrequent, or periodic 10-20%	Minor, little, or seldom 3-10%	Very minor, very little, or rare 0-3%					
<b>Degree of Solitude and Remoteness</b> Degree that visitors view themselves as being alone and far away from civilization in a wild and remote place.	Very minor, very little, or rare 0-3%	Minor, little, or seldom 3-10%	Occasional, infrequent, or periodic 10-20%	Prevalent, common, or apparent 20-50%	Very prevalent or widespread 50-80%	Extensive, dominant 80-100%					
<b>Degree of Non-Recreational Use, if Any</b> Degree that the sights, sounds, and smells of non-recreational use and users are present (i.e., activities associated with commerce, work places, industry, roads, airplanes, agriculture, or communications).	Extensive, dominant 80-100%	Very prevalent or widespread 50-80%	Prevalent, common, or apparent 20-50%	Occasional, infrequent, or periodic 10-20%	Minor, little, or seldom 3-10%	Very minor, very little, or rare 0-3%					
Circle the number that best represents your overall judgment of the area. Scores with one decimal point such as 5.5 are acceptable.	1	2	3	4	5	6	7	8	9	10	11
	<b>Urban</b>	<b>Suburban</b>		<b>Rural Developed</b>		<b>Rural Natural</b>		<b>Semi Primitive</b>		<b>Primitive</b>	

<b>Figure 15. WROS Management Inventory</b>											
Management attributes are those features that are provided for, managed, and can be changed by the managing agency or its partners.											
<b>Field Notes:</b>											
<i>Circle the degree, extent, or magnitude that the following attributes are present at this site.</i>											
<b>Degree of Management Presence</b> Degree that management personnel, boat patrols, signage, equipment, buoys, water markers, buoys, entry stations, wakeless zones, closures, speed zones, regulations, security lighting, administrative offices and compounds, or interpretive programs are present.	Extensive, dominant 80-100%	Very prevalent or widespread 50-80%	Prevalent, common, or apparent 20-50%	Occasional, infrequent, or periodic 10-20%	Minor, little, or seldom 3-10%	Very minor, very little, or rare 0-3%					
<b>Degree of Public Access</b> Degree that developed access facilities are present such as boat ramps, paved roads and trails, or swim beaches.	Extensive, dominant 80-100%	Very prevalent or widespread 50-80%	Prevalent, common, or apparent 20-50%	Occasional, infrequent, or periodic 10-20%	Minor, little, or seldom 3-10%	Very minor, very little, or rare 0-3%					
<b>Degree of Developed Recreation Facilities and Sites</b> Degree that developed campgrounds, pump stations, paved parking, amphitheaters, picnic sites, play areas, nature trails, flush toilets, showers, docks, piers, visitor centers, marinas, or resorts are present.	Extensive, dominant 80-100%	Very prevalent or widespread 50-80%	Prevalent, common, or apparent 20-50%	Occasional, infrequent, or periodic 10-20%	Minor, little, or seldom 3-10%	Very minor, very little, or rare 0-3%					
<b>Degree of Visitor Services and Conveniences</b> Degree that restaurants, fuel, boat rentals, guide services, food stores, medical services, utilities, lighting, telephones, or fax machines are within a few miles.	Extensive, dominant 80-100%	Very prevalent or widespread 50-80%	Prevalent, common, or apparent 20-50%	Occasional, infrequent, or periodic 10-20%	Minor, little, or seldom 3-10%	Very minor, very little, or rare 0-3%					
Circle the number that best represents your overall judgment of the area. Scores with one decimal point such as 5.5 are acceptable.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
	<b>Urban</b>	<b>Suburban</b>		<b>Rural Developed</b>		<b>Rural Natural</b>		<b>Semi Primitive</b>		<b>Primitive</b>	

## Reasonable recreation boating capacity coefficients

To help managers make better and more defensible boating capacity decisions, a set of boating capacity coefficients has been developed based on collaborative expert opinion, professional experience, published articles and plans, sound professional judgment, the rule of reasonableness, and the sliding scale rule of analysis discussed in chapter 1 of this guidebook. The boating coefficients in Figure 24 would be reasonable for a Level 1 analysis (see Figure 9).

*A boating capacity coefficient is defined as the number of water surface acres adequate for each recreational boat in a particular WROS class. These coefficients can be multiplied by the suitable or available water surface acres for each WROS class on a body of water to help justify and defend a boating capacity decision. Additional scientific study and monitoring can help refine these boating capacity coefficients.*



Boating capacity decisions are important.

*A boating capacity is defined as the number of recreational boats at one time (BAOT) that will be accommodated in an area, or the BAOT for an area. BAOT refers to the number of boats that are untethered from the shoreline or any docking apparatus whose occupants are pursuing recreational opportunities. The following coefficients do not account for the inactive recreational boats moored at a dock, marina, or along the shoreline, nor do they account for non-recreational boating activity (e.g., commercial fishing, shipping, and law enforcement).*

Because of the many factors that influence a boating capacity decision, a range of reasonable coefficients is provided for each WROS class in figure 24. A decision tool is also provided in figure 25 to help ensure that important factors are duly considered by managers deciding what part of the range may be most appropriate for the area in question.

Figure 24. A Range of Reasonable Boating Capacity Coefficients

WROS Class	Range of Boating Coefficients	
	Low end of range	High end of range
Urban	1 acre/boat	10 acres/boat
Suburban	10 acres/boat	20 acres/boat
Rural developed	20 acres/boat	50 acres/boat
Rural natural	50 acres/boat	110 acres/boat (1/4 sq. mi.)
Semi primitive	110 acres/boat	480 acres/boat (3/4 sq. mi.)
Primitive	480 acres/boat	3,200 acres/boat (5 sq. mi.)

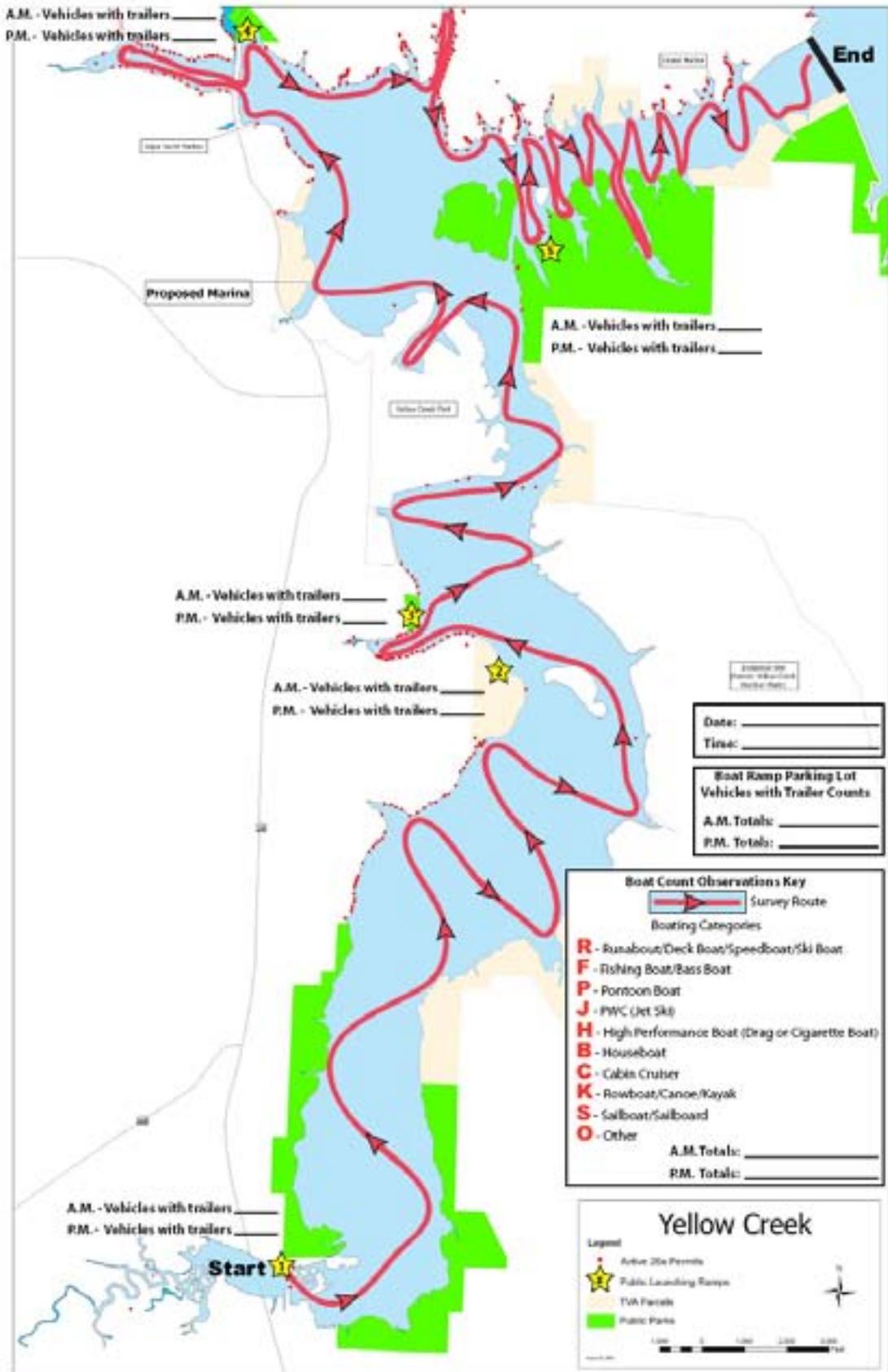
**Figure 25. A Boating Capacity Range Decision Tool**

The purposes of this decision tool are to help ensure that managers consider important factors affecting boating capacity and to help document the reasoned analysis used in making a boating capacity decision. For each WROS zone, consider the following factors that may affect boating capacity. *Circle the descriptor that best matches the situation.* The preponderance of the answers will indicate which part of the capacity range may be more reasonable.

Typical size of boats	<15 feet	16 to 25 feet	>25 feet
Typical speed of boats	<10 mph	10 to 25 feet	>25 feet
Diversity of boating: 1. different types of boats 2. different size of boats 3. different speed of boats	low low low	moderate moderate moderate	high high high
Boater visitation pattern	simple/ predictable	moderate	complex/ unpredictable
Level of boater stewardship/ civility/respect for resource and others visitors	high	moderate	low
Shoreline configuration	simple/ circular	moderate	complex/ meandering
Boater destination or pass-through area	pass-through corridor/in-transit	mixed	destination area/overnight area
Extent of sensitive resources/ potential for impact	low	medium	high
Compatibility with adjacent recreation/non-recreation land uses	high	moderate	low
Islands/shallows/hazards	infrequent	occasional	frequent
Historic public safety record/ accidents/complaints/conflicts	infrequent	occasional	frequent
Level of boater management/rules/ information/education/compliance	high	moderate	low
Other factors:			
<b>Suggested capacity range</b>	<b>lower end (more boats)</b>	<b>mid-range</b>	<b>higher end (fewer boats)</b>

**APPENDIX 2: YELLOW CREEK EMBAYMENT SERVICE AREA  
BOAT COUNT MAP**

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**APPENDIX F – SCENIC VALUE CRITERIA FOR SCENERY  
INVENTORY AND MANAGEMENT**

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**TVA VISUAL RESOURCES  
SCENIC VALUE CRITERIA  
FOR SCENERY INVENTORY AND MANAGEMENT**

The criteria for classifying the quality and value of scenery has been adapted from a scenic management system developed by the U.S. Forest Service and integrated with current planning methods used by the Tennessee Valley Authority. The classification process is also based on fundamental methodology and descriptions adapted from Landscape Aesthetics, A Handbook for Scenery Management, Agriculture Handbook Number 701, U.S. Forest Service, U.S.D.A. 1995.

The process and criteria are used to compare the value of scenery to other resource values during inventory and land planning tasks. They are also used to evaluate the extent and magnitude of visual changes that could result from proposed projects, as part of the environmental review required under NEPA. In addition they can be useful to help establish management objectives for improving or maintaining the scenic quality of managed lands.

**Scenic Attractiveness - 3 levels**

Attractiveness is a measure of scenic quality based on human perceptions of intrinsic beauty as expressed in the forms, colors, textures, and visual composition of each landscape. The combination of rock outcrops, water bodies, landforms, vegetation patterns, and other natural features that shape landscape character also help define scenic importance. The presence or absence of these features, along with valued attributes such as variety, uniqueness, mystery, pattern, order, vividness, harmony, and balance are used to classify the scenic attractiveness of a landscape.

**Category 1:** Distinctive - Areas where the variety of land forms, rock, vegetation patterns, water, and other features have outstanding or unique visual quality. These areas have strong, positive attributes that are relatively uncommon in the characteristic landscape. This category also includes areas in visually strategic locations that have somewhat more common attributes.

**Category 2:** Common - Areas where the land forms, rock, vegetation patterns, water, and other features have ordinary or common visual quality. These areas have generally positive but typical attributes, with a basic variety of forms, colors, and textures that are normally seen throughout the characteristic landscape.

**Category 3:** Minimal - Areas where the natural features have little change in form, line, color or texture resulting in low visual quality. Rock forms and vegetation patterns of any consequence are often not present, and these areas generally have weak or missing attributes. All areas not classified as 1 or 2 are included in this category.

**Scenic Integrity - 4 levels**

Integrity is a measure of scenic importance based on the degree of visual unity and wholeness of the natural landscape character. Human alteration can sometimes raise integrity, such as an impounded water body that unifies the landscape while adding variety, mystery, harmony, and balance. Most often scenic integrity is lowered by human alteration and the addition of visually disruptive elements. The presence and degree of discordant alteration is used to classify the scenic integrity of a landscape.

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**High:** Areas where the valued landscape character appears to be intact and unaltered, with very minor deviation. Any deviation present must repeat the form, line, color, texture and pattern of the landscape so closely and at such a scale that they are not evident.

**Moderate:** Areas where the valued landscape character appears to be slightly altered. Noticeable deviations must be visually subordinate to the landscape being viewed, and borrow much of the natural form, line, color, texture and pattern.

**Low:** Areas where the valued landscape character appears to be modestly altered. Deviations begin to dominate the landscape being viewed, but the alterations should share natural color, shape, edge pattern, and vegetation characteristics in order to remain compatible or complimentary.

**Very Low:** Areas where the valued landscape character appears to be heavily altered. Deviations strongly dominate the landscape and may not share any of the visual attributes. The alterations may be visually disruptive and provide significant negative contrast to the natural landscape characteristics.

### **Scenic Visibility - 2 parts, 3 levels each**

Landscape visibility is a measure of scenic importance based on several essential interrelated considerations which include viewer context and sensitivity, number of viewers, frequency and duration of view, level of detail seen, and seasonal variation. A large number of highly concerned viewers who view the landscape for a long time period may raise the scenic importance significantly. The importance may be much lower when only a few viewers with low concern see the landscape for a brief period. These considerations are combined in two parts which are used to classify the scenic visibility of a landscape.

Sensitivity : The level of scenic importance based on expressed human concern for the scenic quality of land areas viewed. Sensitivity may be derived/confirmed by resident and visitor surveys.

**Level 1:** Areas seen from the reservoir, lake shore residents, and lake view residents, where the number of viewers and concern for scenic quality are normally quite high.

**Level 2:** Areas seen from principle roadways, use areas, and other public viewing areas. Concern for scenic quality is generally high while the number of viewers, view frequency and duration are moderate.

**Level 3:** Areas seen from secondary travel routes, use areas, and any not included in the other levels. Concern may be high in some areas, but number of viewers is generally low.

View Distance: A principal indicator of scenic importance based on the distance an area can be seen by observers, and the degree of visible detail within that zone.

**Foreground:** From 0 feet to ½ mile. A distance zone where the individual details of specific objects are important and easily distinguished. Details are most significant within the immediate foreground, 0 - 300 feet.

**Middleground:** From ½ mile to 4 miles. The zone where most object characteristics are distinguishable, but their details are weak and they tend to merge into larger patterns. When landscapes are viewed in this zone they are seen in broader context. Human alteration may contrast strongly with the larger patterns and make some middleground landscapes more sensitive than the foreground.

**Background:** From 4 miles to the horizon. The distant landscape, where specific features are not normally discernible unless they are especially large, standing alone, or have a substantial color contrast. Details are generally not visible and colors are lighter.

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**Scenic Value Class - 4 levels**

The value class of a landscape is determined by combining the levels of scenic attractiveness, scenic integrity and visibility. The table below shows the various combinations and the resulting scenic class. It is a general guide, and is intended to complement both a thorough field analysis and careful review of the visual absorption capacity.

- Excellent:** Areas with outstanding natural features that appear unaltered. Very minor deviations may be present but are generally unnoticeable even in the foreground. These areas are highly visible in the foreground and middleground from both land and water. Unaltered areas that may be less outstanding but are in a visually strategic location also have excellent scenic value.
- Good:** Areas with attractive but common scenic quality and no distinctive natural features. Minor human alteration may be seen in the foreground but is barely noticeable in the middleground. These areas have relatively high visibility from both land and water.
- Fair:** Areas of common or minimal scenic quality with little or no interesting features. Moderate human alteration is seen in the foreground but is less distinct in the middleground due to compatible form and color. These areas have relatively high visibility from both land and water.
- Poor:** Areas that have very little scenic importance and/or visually significant disturbances resulting from human activity. The alterations provide discordant contrast in the natural landscape due to incompatible size, shape, color, and material. The areas are clearly visible in the foreground and middleground, and have relatively high visibility from both land and water.

Scenic Value Class Selection Table													
Visibility Levels:	Sensitivity View Distance	1 foreground			1 midground			2 foreground			2 midground		
		1	2	3	1	2	3	1	2	3	1	2	3
Scenic Attractiveness Categories													
Scenic Integrity Levels	High	E	G	F	E	E	G	E	G	F	E	E	G
	Moderate	G	G	F	E	G	F	G	G	F	E	G	F
	Low	F	F	P	F	F	P	F	F	P	F	F	P
	Very low	P	P	P	F	P	P	P	P	P	F	P	P
<b>Scenic Value Class:</b> E = Excellent; G = Good; F = Fair; P = Poor													

**Visual Absorption Capacity**

Absorption capacity indicates the relative ability of a landscape to accept human alteration with the least loss of landscape character and scenic value. These indicators are useful to help predict potential difficulty or success with proposed development and scenic management. They are based on characteristics of the physical factors found in a landscape. Each characteristic has a capacity range from less to more, and the primary ones are shown in the list below. Visual absorption is also affected by the variety of landscape patterns, and the amount of screening provided by landforms, rock, water bodies, and vegetation.

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<u>Factor</u>	<u>Least Capacity to Absorb Change</u>	<u>Greatest Capacity to Absorb Change</u>
Slope	Steep Unstable geology	Level Stable geology
Vegetation	Sparse cover Low cover, grasses and shrubs Few species, little or no pattern	Dense cover Tall cover, trees Multiple species, diverse pattern
Landforms	Simple shape	Diverse shapes, heavily dissected
Soils	Easily eroded Poor, slow revegetation	Erosion resistant Rich, fast revegetation
Shoreline	Simple line, little or no interruption	multiple interruptions, diverse features
Color	Narrow range of indigenous colors	Broad range of indigenous colors

**Desired Landscape Character**

Scenic attractiveness and the existing level of scenic integrity serve as the foundation for selecting the preferred landscape character. Lake adjacency and ecosystem trends should be considered along with the historic visual character to help any changes be more complete, attractive, and sustainable. Several types of landscape character and the related long range objectives for scenic integrity are described below.

Natural Evolving landscape character expressing the natural change in ecological features and processes with very limited human intervention.

Natural Appearing landscape character that expresses predominantly natural qualities but includes minor human interaction along with cultural features and processes that are relatively unobtrusive.

Pastoral landscape character expressing dominant human developed pasture, range, and meadow, along with associated structures, reflecting historic land uses, values, and lifestyles.

Rural landscape character that expresses sparse but dominant human residential and recreational development, along with associated structures and roadways that reflect current lifestyles.

Urban landscape character expressing concentrations of human activity in the form of commercial, residential, cultural, and transportation, facilities, along with supporting infrastructure.

**Visual Management Objectives**

Based on the scenic value class, management objectives may be developed to accomplish or maintain the visual character desired for each area.

**Preservation:**

Areas classified Excellent, and managed for a natural evolving landscape character. Only very low impact recreational and scientific activities are allowed, and no facilities are permitted.

**Retention:**

Areas classified Good, and managed for a natural appearing landscape character. Permitted activity or minor development should repeat the natural form, line, color, and texture of the area and remain visually subordinate to the surrounding landscape. Changes in the size, intensity, direction and pattern of activity should be unobtrusive and not readily evident.

**Modification:**

Areas classified Good or Fair, and managed for pastoral or rural landscape character. Permitted activity and development may dominate the original character but should remain visually compatible with the remaining natural landscape. Vegetation and landform alterations should repeat the natural edges, forms, color, and texture of the surrounding area. The scale and character of structures, roads, and other features should borrow naturally established forms, lines, lines, colors and patterns to provide the greatest possible visual harmony.

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**Maximum Modification:**

Areas classified Fair or Poor, and managed for urban landscape character. Permitted activity and development generally dominates the original visual character. Vegetation and landform alterations should remain visually harmonious with the adjacent landscape. When seen in the foreground and middleground, they may not fully borrow the surrounding natural forms, lines, colors and textures. Likewise, development features seen from the same distances may be out of scale and have significant details that are discordant with the natural landscape character. Overall development should be directed toward achieving the greatest possible visual harmony.

**Enhancement:**

Any area classified less than Excellent, with a relatively short term management objective intended to restore and/or improve the desired scenic quality. Rehabilitation activities may include alteration, concealment, or removal of obtrusive and discordant elements. Enhancement activities may include addition or modification of natural elements and man-made features to increase the variety and attractiveness of spaces, edges, forms, colors, textures, and patterns.

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## **APPENDIX G – AGENCY RESPONSES**

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November 20, 2006

Mr. Thomas O. Maher  
Tennessee Valley Authority  
400 West Summit Hill Drive  
Knoxville, Tennessee 37902-1401

RE: Proposed 26A Permit Request, Proposed Commercial Marina, Pickwick Reservoir, MDAH Project  
Log #11-013-06, Tishomingo County

Dear Mr. Maher:

We have reviewed your request for a cultural resources assessment for the above referenced project in accordance with our responsibilities under Section 106 of the National Historic Preservation Act and 36 CFR Part 800. After reviewing the information provided, it is our determination that no properties listed in or eligible for listing in the National Register of Historic Places will be affected. Therefore, we have no reservations with the proposed project. Please note that we sent a clearance letter for essentially the same project to Mr. Ken Hardwick, Pickwick Pines Resort, on November 18, 2005.

Should there be additional work in connection with the project, or any changes in the scope of work, please let us know in order that we may provide you with appropriate comments in compliance with the above referenced regulations. If we can be of further assistance, please do not hesitate to contact this office.

Sincerely,

H.T. Holmes  
State Historic Preservation Officer

By: Jim Woodrick  
Review and Compliance Officer

c: Clearinghouse for Federal Programs



STATE OF MISSISSIPPI  
LLOYD BROWER  
GOVERNOR  
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY  
COURT HOUSE BUILDING, 1000 BUREAU BLVD.

October 10, 2006

Certified Mail No. 7005 1160 0004 1776 8809

Mr. David McMeans  
Pickwick Pines Marina, Inc.  
11 Ashley Avenue  
Iuka, Mississippi 38852

Dear Mr. McMeans:

Re: Pickwick Pines Marina, Inc.  
Tishomingo County  
COE No. 0587  
WQC No. WQC2005113

Pursuant to Section 401 of the Federal Water Pollution Control Act (33 U. S. C. 1251, 1341), the Office of Pollution Control (OPC) issues this Certification, after public notice and opportunity for public hearing, Pickwick Pines Marina, Inc., an applicant for a Federal License or permit to conduct the following activity:

Pickwick Pines Marina, Inc.: The applicant proposes to construct a public marina with harbor limits, 228 boat slips with floating wave breaks, fuel dock, villa mooring dock, boat ramp, dredging, retaining wall and bulkhead for a boat lift dry stack storage facility, one dolphin; and associated upland development. The applicant proposes to develop approximately 31-acres of TVA land through a commercial recreation easement. The proposed development would be called Pickwick Pines Marina. The proposed action was originally advertised by public notice 05-87 on October 19, 2005. The original layout plan has been revised and is proposed as follows:

Harbor limits would be established by the TVA Navigation Program. The proposed harbor limit would be around the perimeter of the marina structures with permitted buoys for a 50-foot no-wake zone on the three sides of the fuel dock. There would be no additional no-wake zones. The marina docks would be protected by a lighted dolphin at the southeast corner of the marina. The dolphin would be comprised of two concrete-filled 8-inch diameter pipes and one would be mitigation for the potential for a wind-blown tow collision

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AN EQUAL OPPORTUNITY EMPLOYER

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between tows serving the neighboring Ergon asphalt terminal and the marina structure. The docks would be tethered to the dolphin with cables.

The proposed activity would require the dredging of approximately 3,000 cubic yards of lake bottom materials from below the 414 Normal Summer Pool (NSP) Elevation at the following two locations:

Area 1: Approximately 9,000-square feet for access to the dry stack dock and boat ramp.

Area 2: Approximately 9,950-square feet for restaurant deck and access. Dredging would be required to create a 6-foot water depth at the Normal Winter Pool (NWP).

The proposed activity would also require the discharge of clean fill material for the following:

1. 1,000 cubic yards of clean rock for 1,800 linear feet of bank stabilization. The riprap would extend lakeward to Elevation 410.
2. 155 cubic yards of fill material (concrete & clean fill) below the NSP 408 Elevation for a dry stack storage bulkhead and adjacent 12-foot wide service boat launching ramp.

The 30-foot by 40-foot by 14-foot high dry stack bulkhead would have a top elevation of 416, would extend approximately 10-feet in to the water from the shoreline and would be used for loading and unloading boats for storage. The bulkhead and ramp would be constructed using a coffer dam system to temporarily dam and drain the construction area to ensure that no construction would be accomplished under water. A 6-foot wide by 100-foot long dock for boats awaiting storage would be constructed along the shoreline adjacent to the bulkhead.

The proposed marina would be constructed according to the TVA Clean Marina Standards. All slips 40-feet and larger would provide in-slip pump-out in accordance with R.S. Guidelines 4.5.3 - Marina Sewage Pump-out Stations and Holding Tanks. All docks would have water, electrical and sewer service. All sewer lines would have shutoffs and check valves. The fuel dock would have pump-out facilities in accordance with R.S. Guidelines 4.5.3 - Marina Sewage Pump-out Stations and Holding Tanks. Fuel tanks would be constructed in accordance with R.S. Guidelines 4.5.5 Storage Tanks (USTS and ASTS). All fuel lines would be flex piping with cutoffs installed.

Plans for the upland property include the construction of roads, a paved trail, residential villas, marina store, restaurant, pool, golf cart storage, and a dry stack boat storage facility. A fixed 12-foot wide timber deck constructed for seating would be adjacent to the restaurant. The deck would be constructed on treated wood pilings.

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The proposed project is located at Tennessee-Tombigbee Waterway Mile 448.4 Left Bank, Yellow Creek at Tennessee River Mile 215 Left Bank, Pickwick Lake, Tishomingo County, Mississippi [0587,WQC2005113].

The Office of Pollution Control certifies that the above-described activity will be in compliance with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act and Section 49-17-29 of the Mississippi Code of 1972, if the applicant complies with the following conditions:

1. The final Stormwater Quality Management Plan shall be submitted within 60 days prior to the start of any construction activities for review and approval. The final Stormwater Quality Management Plan shall be consistent with the initial conceptual plan.
2. Prior to commencement of construction activities (land clearing, grading, filling, etc), the applicant shall contact the Office of Pollution Control to obtain coverage under an NPDES permit. No construction activities shall begin until all proper permits are obtained.
3. The development shall connect to an Office of Pollution Control approved wastewater collection and treatment system.
4. The channel depth shall gradually increase toward open water and shall not exceed the controlling navigational depth. No "sumps" shall be created by proposed dredging.
5. The excavated material shall be disposed in the contained upland disposal site and stabilized to prevent movement of sediment into adjacent drainage areas.
6. Best management practices should be used at all times during construction to minimize turbidity at both the dredge and spoil disposal sites. The disposal sites shall be constructed and maintained in a manner that minimizes the discharge of turbid waters into waters of the State. Best management practices should include, but not limited to, the use of staked hay bales, staked filter cloth, sodding, seeding and mulching; staged construction; and the installation of turbidity screens around the immediate project site. Any effluent from the disposal area should be routed through a return swale system and filtered through a series of hay bales and silt fences so as to reduce the turbidity of the effluent.
7. All timber pilings or bulkhead materials shall be steel, concrete, plastic, or timber treated with chromated copper arsenate (CCA).

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8. The marina shall provide a wastewater pump-out facility. The marina shall prominently display a sign showing the location of the pump-out facility as well as other appropriate waste disposal information.
9. The pump-out facility shall be tied into a collection and treatment system approved by the Office of Pollution Control.
10. All docked vessels with Type I and Type II marine sanitation devices shall be notified of and comply with a "locked head" policy. There shall be no discharge of either gray or black water from a docked vessel.
11. No persons shall live on boats moored at the marina unless the boats are equipped with a Type III (non-discharging) marine sanitation device (MSD).
12. Appropriate contingencies shall be made for spill clean-up and remediation, including necessary materials and employee/operator training.
13. Proper notification of any appreciable fuel leaks/spills or other contaminant releases occurring at the facility shall include contacting representatives of the Short-Coleman Water Association which operates a public surface water system intake on Pickwick Lake. This notification process shall occur after any incidences of release that may adversely impact Short-Coleman's potable water supply. The applicant shall actively seek participation on any future Source Water Protection committees and/or advisory boards that pursue enhancing the protection of the potable water supply used by the Short-Coleman Water Association.
14. Covered waste receptacles shall be properly installed and maintained.
15. Turbidity outside the limits of a 750-foot mixing zone shall not exceed the ambient turbidity by more than 50 Nephelometric Turbidity Units.
16. No sewage, oil, refuse, or other pollutants shall be discharged into the watercourse.

The Office of Pollution Control also certifies that there are no limitations under Section 302 nor standards under Sections 306 and 307 of the Federal Water Pollution Control Act which are applicable to the applicant's above-described activity.

This certification is valid for the project as proposed. Any deviations without proper modifications and/or approvals may result in a violation of the 401 Water Quality Certification. If we can be of further assistance, please contact us.  
If we can be of further assistance, please contact us.

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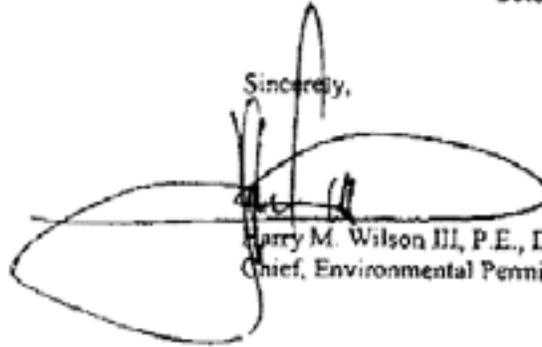
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October 10, 2006

Sincerely,

A large, stylized handwritten signature in black ink, appearing to read 'Harry M. Wilson III', is written over the typed name and title.

Harry M. Wilson III, P.E., DEE  
Chief, Environmental Permits Division

HMW:rs

cc: Ms. Kathleen Kuna, U.S. Army Corps of Engineers, Nashville District  
Mr. Stephen Williams, Tennessee Valley Authority  
Mr. Ron Mikulak, Environmental Protection Agency  
Ms. Janet Riddell, Office of Budget & Fund Management

23216 WQC20060001



STATE OF MISSISSIPPI  
DEPARTMENT OF FINANCE AND ADMINISTRATION

## MEMORANDUM

TO: TENNESSEE VALLEY AUTHORITY  
1101 MARKET ST., MR 2T-C  
CHATTANOOGA TN 37402 2801

DATE: JUL 1 2 2006

FROM: STATE CLEARINGHOUSE FOR FEDERAL PROGRAMS

SUBJECT: REVIEW COMMENTS - Activity:  
DRAFT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT ON PICKWICK  
PINES MARINA, INC. PROPOSAL TO CONSTRUCT NEW MARINA FACILITY  
IN YELLOW CREEK EMBAYMENT AT MILE 448.4R ON TENNESSEE-TOM-  
BIGEE WATERWAY, PICKNICK RESERVOIR, TISHOMINGO COUNTY, MS.  
DIRECT COMMENTS TO KENNETH PARR (FAX: 423/751-3230)  
State Application Identifier Number MS060616-001

Location: TISHOMINGO

Contact: KENNETH PARR

The State Clearinghouse, in cooperation with state agencies interested or possibly affected, has completed the review process for the activity described above.

## INTERGOVERNMENTAL REVIEW PROCESS COMPLIANCE:

- We are enclosing the comments received from the state agencies for your consideration and appropriate actions. The remaining agencies involved in the review did not have comments or recommendations to offer at this time. A copy of this letter is to be attached to the application as evidence of compliance with Executive Order 12372 review requirements.
- Conditional clearance pending Archives and History's approval.
- None of the state agencies involved in the review had comments or recommendations to offer at this time. This concludes the State Clearinghouse review, and we encourage appropriate action as soon as possible. A copy of this letter is to be attached to the application as evidence of compliance with Executive Order 12372 review requirements.
- The review of this activity is being extended for a period not to exceed 60 days from the receipt of notification to allow adequate time for review.

## COASTAL PROGRAM COMPLIANCE (Coastal area activities only):

- The activity has been reviewed and complies with the Mississippi Coastal Program. A consistency certification is to be issued by the Mississippi Department of Marine Resources in accordance with the Coastal Zone Management Act.
- The activity has been reviewed and does not comply with the Mississippi Coastal Program.



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
446 Neal Street  
Cookeville, TN 38501

**RECEIVED**  
Environmental Policy and Planning

July 10, 2006

JUN 13 2006

Doc. Type: \_\_\_\_\_  
Index Field: \_\_\_\_\_  
Project Name: \_\_\_\_\_  
Project No.: \_\_\_\_\_

Mr. Jon Loney  
Tennessee Valley Authority  
NEPA Administration  
Environmental Policy and Planning  
400 West Summit Hill Drive  
Knoxville, Tennessee 37902-1499

Re: FWS #06-0964

Dear Mr. Loney:

Thank you for your letter and enclosures of June 13, 2006, concerning the draft supplemental environmental assessment (SEA) to evaluate the impacts of the proposed Pickwick Pines Marina project at Tennessee-Tombigbee Waterway Mile 448.4L, Pickwick Lake, Tishomingo County, Mississippi. The draft SEA indicates that the commercial water use facilities would include the construction of a 228-slip marina, one fuel dock, a villa mooring dock, one boat ramp, a dolphin, and a dry-stack dock and bulkhead. The proposed activity would require the dredging of approximately 3,000 cubic yards of material from the lake bottom. It would also require 1,800 linear feet of bank stabilization with rip-rap, and placement of 155 cubic yards of material below the normal summer pool elevation for a dry-stack storage access bulkhead and service boat launching ramp. Fish and Wildlife Service personnel have reviewed the information submitted and we offer the following comments.

Endangered species collection records available to the Service do not indicate that federally listed or proposed endangered or threatened species occur within the impact area of the project. We note, however, that collection records available to the Service may not be all-inclusive. Our data base is a compilation of collection records made available by various individuals and resource agencies. This information is seldom based on comprehensive surveys of all potential habitat and thus does not necessarily provide conclusive evidence that protected species are present or absent at a specific locality. However, based on the best information available at this time, we believe that the requirements of section 7 of the Endangered Species Act of 1973, as amended, are fulfilled. Obligations under section 7 of the Act must be reconsidered if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

Assuming all special conditions and routine conditions listed in Chapter 6 of the draft SEA are strictly followed during construction and throughout the life of the project, we concur that the proposed actions would result in no significant adverse impacts to fish and wildlife species.

These constitute the comments of the U.S. Department of the Interior in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Please contact Robbie Sykes (telephone 931/528-6481, ext. 209) of my staff if you have questions regarding the information provided in this letter.

Sincerely,



*for* Lee A. Barclay, Ph.D.  
Field Supervisor