

1. PURPOSE AND NEED FOR ACTION

1.1 Background

Guntersville Reservoir is the second largest of 23 multipurpose reservoirs operated by the Tennessee Valley Authority (TVA) for navigation, flood control, power production, recreation and other uses (Figure 1-1). The 76-mile-long reservoir is located in Jackson and Marshall Counties, Alabama, and Marion County, Tennessee. TVA originally acquired 109,671 acres of land for the construction of Guntersville Reservoir (TVA's third Tennessee River mainstream dam) which was begun in 1935 and completed in 1939. Of that, 56,300 acres are covered by water during normal summer pool (595 mean sea level [msl]). Subsequent transfer of land by TVA for economic, industrial, residential, or public recreation development has resulted in a current balance of 40,236 acres of TVA public land on Guntersville Reservoir. These 40,236 acres above full pool elevation are considered in this land management plan.

TVA is comparing alternatives for updating the 1983 Guntersville Reservoir Land Management Plan (1983 Plan) and allocating additional TVA public land on the reservoir that was not considered in the 1983 Plan to reflect community needs and current TVA policies. This additional land is generally narrow shoreline strips but also includes the 1,300-acre Murphy Hill site, which is the undeveloped site of a proposed coal gasification plant (described in Section 1.3), and the 84-acre Honeycomb Quarry Cave site.

1.2 Purpose and Need for Proposed Action

TVA manages public land on Guntersville Reservoir to generate prosperity, support a thriving river system, stimulate economic growth and improve the quality of life in the Tennessee Valley. This TVA public land, together with adjoining private land, is used for public and commercial recreation, industrial development, natural resource management, and to meet a variety of other community needs. The purpose of the land planning effort is to apply a systematic method of evaluating and identifying the most suitable use of TVA public land under TVA stewardship. Public input, resource data, suitability and capability analyses, and TVA staff expertise are used to allocate land to the following land management categories: TVA Project Operations, Sensitive Resource Management, Natural Resource Conservation, Industrial/Commercial Development, Developed Recreation and Residential Access (see Table 2-2). These allocations are then used to guide the types of activities that will be considered on each parcel. The Guntersville Reservoir Land Management Plan (Plan) is submitted for approval to the TVA Board of Directors and adopted as policy to provide for long-term land stewardship and accomplishment of TVA responsibilities under the TVA Act of 1933.

Figure 1-1 Map of Guntersville Reservoir



Plans have been completed and implemented for seven Tennessee River mainstream reservoirs and five tributary reservoirs. Older plans are being updated for selected mainstream reservoirs including Guntersville Reservoir.

The purpose of this Environmental Impact Statement (EIS) is to assess environmental impacts of a reasonable range of alternatives for allocating TVA TVA public land on Guntersville Reservoir and to provide a means for involving the public in the decision-making process.

1.3 Other Pertinent Environmental Reviews or Documents

Memphis to Atlanta Corridor Study. In July 2001, the Federal Highway Administration and Alabama Department of Transportation released a DEIS on the proposed Memphis to Atlanta controlled access highway. TVA was a cooperating agency in preparation of the EIS. This project would cross Guntersville Reservoir between Scottsboro and Guntersville. Alternatives 1, 3, 4, 7, and 8 in the DEIS would cross Guntersville Reservoir between Tennessee River Miles 368 and 369 and affect the Pine Island Subdivision on the west side of the reservoir and a portion of Parcel 206 (Murphy Hill) on the eastern side of the reservoir. Alternative 2 in the DEIS would cross Guntersville Reservoir at TRM 375 and would affect Parcels 93 and 94 on the western side of the Reservoir and Parcels 282g and 199 in the South Sauty Creek area on the eastern side of the Reservoir near Langston. As stated in the DEIS, the proposed crossings of Guntersville Reservoir were designed to avoid wetland and sensitive resource impacts.

Shoreline Management Initiative (SMI): An Assessment of Residential Shoreline Development Impacts in the Tennessee Valley (TVA, 1999a). TVA completed an EIS on possible alternatives for managing residential shoreline development throughout the Tennessee River Valley. Under the Shoreline Management Policy (SMP), the alternative selected, sensitive natural and cultural resource values of reservoir shorelines will be conserved and retained by preparing a shoreline categorization for individual reservoirs; by voluntary donations of conservation easements over flowage easement or other shore land to protect scenic landscapes; and by adopting a “maintain and gain” public shoreline policy to ensure no net loss (and preferably a net gain) of undeveloped public shoreline when considering requests for additional residential access rights. The Guntersville Reservoir Land Management Plan EIS will tier from the Final Shoreline Management Initiative EIS.

In accordance with SMP, TVA categorized the residential access shoreline of Guntersville Reservoir based on resource data collected from field surveys of sensitive species and their potential habitats, archaeological resources, and wetlands along the residential access shoreline of Guntersville Reservoir.

The shoreline categorization is composed of three categories:

Shoreline Protection for shoreline segments that support sensitive ecological resources, such as federal-listed threatened or endangered species, high priority state-listed species, wetlands with high function and value, archaeological or historical sites of national significance, and certain navigation restriction zones. Within this category, all significant resources will be protected.

Residential Mitigation for shoreline segments where resource conditions or certain navigation restrictions would require analyses of individual development proposals, additional data, or specific mitigation measures.

Managed Residential for shoreline segments where no sensitive resources or navigation restrictions are known to exist. Standard environmental review would be completed for any proposed action.

The residential access shoreline on Guntersville Reservoir comprises 100.9 miles or 10.6 percent of the total 949 miles of shoreline. Approximately 55.9 percent of the residential access shoreline has archaeological resources; 17.3 percent of the residential shoreline has wetland vegetation; 13.7 percent has sensitive plant and/or animal resources present and 2.0 percent has navigation restrictions. Depending on the sensitivity of the resource, these shoreline reaches were placed in either the Shoreline Protection or Residential Mitigation categories. When these four resources are placed in the appropriate shoreline categories, the result is that no residential shoreline is in the Shoreline Protection Category, approximately 64.6 percent is in the Residential Mitigation Category, and approximately 35.4 percent is in the Managed Residential Category.

Docks and other residential access shoreline development would not be permitted on land within the Shoreline Protection Category because of the sensitive nature of the resources contained in this area or because of navigation restrictions. Section 26a applications for docks and other residential shoreline development in the Residential Mitigation Area would be reviewed by TVA for compliance with the SMP (TVA, 1999a) and the Section 26a regulations. Development restrictions or mitigation measures may be necessary in this shoreline category. Section 26a applications for docks and other shoreline development in the Managed Residential Area would also be reviewed for compliance with the SMP and Section 26a regulations.

As new data are collected on the spatial location and significance of endangered species, wetlands, cultural resources, or navigation restrictions, adjustments to category boundaries may be necessary. Property owners should check with the TVA Guntersville Watershed Team office for the current status of an area.

Production of Tritium in a Commercial Light Water Reactor. In 1999, the U.S. Department of Energy (DOE), with TVA as a cooperating agency, completed an

EIS on the production of tritium in commercial light water reactors. One of the sites evaluated was the Bellefonte Nuclear Plant site. However, DOE decided that its preferred alternative was to use the existing Sequoyah and Watts Bar reactor facilities for tritium production. TVA subsequently agreed, by Record of Decision, (ROD) on April 24, 2000, to enter into an interagency agreement to provide irradiation services for producing tritium in Watts Bar and Sequoyah Nuclear Plant reactors on Chickamauga Reservoir.

Bellefonte Nuclear Plant Conversion Project. TVA is currently supplementing a 1997 EIS on options for converting a portion of the Bellefonte facility on Guntersville Reservoir to a fossil-fueled power plant. The supplemental EIS (SEIS) is addressing construction and operation of an integrated gasification combined cycle (IGCC) power plant. The primary fuels for the proposed plant would be coal and petroleum coke. The preferred alternative in the 1997 EIS was conversion of Bellefonte to a natural gas combined cycle plant with a generating capacity of 2,400 Megawatts. In addition to using the existing water intake, plant cooling facilities, and electrical switchyard on Guntersville Reservoir, coal would be delivered to the site by barges, and natural gas as a backup fuel would be provided through a natural gas pipeline, which would have to be constructed. The SEIS will review in more detail the air quality, water quality, ecological, cultural, and socioeconomic impacts of the proposed IGCC power plant.

Aquatic Plant Management Program. In a 1972 EIS and a 1993 SEIS, TVA evaluated alternatives for control of aquatic plants. TVA found that populations of watermilfoil, hydrilla, naiad, and other species had increased to problem levels and had the potential to create significant mosquito habitat as well as conflicts with navigation, recreation, and water supply uses. Accordingly, TVA decided to continue its integrated Aquatic Plant Management Program. TVA decided to limit herbicide use to those areas where excessive plant growth conflicts with legitimate uses of the TVA reservoir system. Working in partnership with the Guntersville Stakeholder Group has enabled the development of yearly implementation plans that effectively balance conflicting views on how aquatic plants should be managed.

Chip Mill Terminals on the Tennessee River. In a 1993 EIS, TVA evaluated the environmental impacts of three proposed chip mills between Bridgeport, Alabama, and Nickajack Dam. Following evaluation of the requests of Parker Towing, Donghae Pulp Company of Alabama, and Boise Cascade Corporation, TVA decided not to make its land available to access the proposed barge terminals and not to approve the siting of a chip mill in Nickajack Port. Without the ability to access their proposed facilities on TVA public land, all three barge terminals were also denied TVA Section 26a approvals

Nickajack Port Industrial Park and Barge Terminal. In 1992, TVA completed an environmental assessment (EA) on the sale and conveyance of TVA public land on Guntersville Reservoir approximately 0.6 mile downstream of Nickajack Dam.

The sale of land and construction of a barge terminal were part of a cooperative industrial development effort of the cities of South Pittsburg and New Hope, the General Assembly of the state of Tennessee, the Appalachian Regional Commission, and TVA. In conveying the land, TVA established environmental standards for new industries locating in the industrial park. Nickajack Port Authority sends information about each proposed industry locating in the park to TVA, which then reviews each project for consistency with the environmental standards.

In recent years, TVA completed EAs on the following projects:

- Conners Island Park, north of Guntersville
- Camp Barber deed modification, west of Guntersville
- Fort Payne water intake, near Stevenson
- U.S. Gypsum Industrial Easement, Gas Pipeline, and Dredging, near Bridgeport
- CSX Railroad Bridge, at Bridgeport

With the exception of the CSX Railroad Bridge replacement, these decisions led to changes in land uses along the reservoir.

Guntersville Reservoir Land Management Plan (TVA, 1983). The 1983 Plan sets forth the permissible uses for approximately 33,000 acres of TVA public land on Guntersville Reservoir. The most suitable uses for each parcel of TVA public land around the reservoir identified in 1983 were described. The 1983 Plan currently serves as guidance for all administrative land use requests and resource management decisions on Guntersville Reservoir.

TVA Coal Gasification Project. In 1981, TVA completed an EIS on alternative sites for coal gasification in the Tennessee Valley. TVA's preferred site was the Murphy Hill site (Parcel 206) on Guntersville Reservoir. TVA proposed to develop a commercial-scale gasification plant capable of processing eastern, high-sulfur coal into approximately 600 million standard cubic feet per day of medium-Btu product gas. However, incentives from the Synthetic Fuels Corporation and private sector financing did not materialize. Accordingly, the project was never completed. Since the 1980s, TVA has managed the site for natural resource conservation and enhancement.

1.4 The Scoping Process

From March 1, 2000, to April 24, 2000, TVA sought comments from citizens, agencies and organizations. TVA advertised public participation opportunities through news releases and newspapers, and individuals were invited to comment by letter, electronic mail (e-mail), or by telephone (1-800-288-2483). Stakeholder organizations and agencies were contacted for scoping meetings. Additionally, TVA hosted three public meetings: one at South Pittsburg High School, Tennessee (March 20, 2000); one at Scottsboro High School, Alabama (March 21, 2000); and one at Guntersville High School, Alabama (March 23, 2000). At each

meeting, all attendees were invited to participate in small discussion groups where they were asked to provide input on which parcels of land in the 1983 Plan should be designated for uses other than their currently designated use. Participants were also asked to provide input on how TVA should manage the public land under each designation.

TVA received approximately 32 letters, e-mails, and phone calls as well as one petition. Comments were recorded during the three public meetings, which were attended by 112 individuals. Participants were invited to complete a questionnaire (see Appendix A-2) concerning their preferences about management of TVA public land surrounding Guntersville Reservoir. Additional information was compiled from meetings with approximately 40 stakeholder groups and organizations. Comments recorded during public meetings and scoping meetings were compiled and analyzed and are presented in Appendix A-2.

Subsequent to the public meetings, TVA determined that the development of an EIS would allow a better understanding of the impacts of the alternatives. Accordingly, TVA published a Notice of Intent to prepare an EIS in the *Federal Register* on December 20, 2000.

Issue Identification – TVA internal review of current and historical information, resource condition data collected, and public input (which included comments from the general public, focus groups, public officials, stakeholders, and peer agencies) were used to identify the following resources/issues for evaluation in this EIS:

- Aquatic Ecology
- Cultural Resources
- Land Use
- Navigation
- Noise and Air Quality
- Prime Farmland
- Recreation
- Sensitive (Endangered and Threatened) Species
- Significant Natural Areas
- Socioeconomic Impacts
- Terrestrial Ecology (Plant and Animal Communities)
- Visual Resources
- Water Quality
- Wetlands and Floodplains

The following issues, which were also identified in scoping, are not likely to be issues affected by the proposed alternatives.

- Public Works Projects and Utilities
- Shoreline Erosion Control

Approximately 550 comments were received on the DEIS. These comments primarily related to recommendations for proposed uses of TVA public land. TVA responses to the comments are provided in Appendix E.

1.5 The Goals of the Plan

The goals of the Guntersville Plan include the following:

Goal 1: Apply a systematic method of evaluating and identifying the most suitable uses of TVA public land using resource data, stakeholder input, suitability and capability analyses and TVA staff input.

Goal 2: Use identified land use zone allocations to balance competing demands for the use of TVA public land.

Goal 3: Optimize public benefits to support a thriving river system, stimulate economic growth, and generate prosperity in the valley.

Goal 4: Provide the mechanism by which TVA will respond to requests for use of TVA public land.

Goal 5: Comply with federal regulations and Executive Orders (EOs).

1.6 TVA Decision

The TVA Board of Directors will decide whether to adopt an updated Guntersville Plan (Alternatives B1, B2 or B3) or continue the use of the existing 1983 Plan (Alternative A).

1.7 Necessary Federal Permits or Licenses

No federal permits are required to develop a Plan. Site-specific information on reservoir resources has been characterized in this EIS and potential impacts on these resources were considered in making land use allocation recommendations. Appropriate agencies regulating wetlands, endangered species, and historic resources have been consulted during this planning process. When specific actions such as a dock, building, road or walking trail are proposed, additional environmental reviews for these actions would be undertaken.