

## CHAPTER 2

### 2. ALTERNATIVES

#### 2.1. Alternatives

In the 2005 Plan, TVA considered three alternatives for managing its public land around Watts Bar Reservoir. Under Alternative A (No Action), TVA would continue to use the existing 1988 Plan, with minor revisions to reflect allocation changes made over the past 19 years and current TVA policy. The action alternatives (Alternatives B and C) would have made substantial changes to the 1988 Plan to guide future land use decisions. These proposed changes were based on evaluations, collected reservoir data, public input, and technical staff input. Alternative B (Balanced Development and Recreation) would have enhanced economic and recreation potential by allocating 2,278 acres of land to Zone 5, Economic Development, and 1,476 acres to Zone 6, Developed Recreation (see Table 2.1-1). Alternative C (Balanced Conservation and Recreation) would have enhanced conservation and informal recreation potential by allocating 5,288 acres of land to Zone 4, Natural Resource Conservation, and 1,415 acres to Zone 6, Developed Recreation, and would implement all of the proposed IRM-based activities.

TVA continues to propose an update of the 1988 Plan for Watts Bar Reservoir lands. With the implementation of the November 2006 TVA Land Policy and after review of the comments on the 2005 Plan, TVA is now considering modified versions of the 2005 alternatives. These modifications are based on the template of changes described in Section 1.3, Changes to the 2005 Plan, and include the revision of natural resource management, updates of allocation Zones 5 and 6 (see Table 2.1-3) and administrative changes. The greatest difference from the original form of the alternatives is the removal of the residential component of mixed-use development, independent retail businesses, and some specific types of commercial recreation that are no longer provided for in the TVA Land Policy.

The proposed No Action Alternative (Modified Alternative A) was updated with the administrative changes that have occurred or have been corrected since the publication of the 2005 Plan. These changes are limited to acreage and landrights corrections, since the 1988 Plan has its own allocation category definitions (see Table 2.1-2), and the allocation zones proposed for the action alternatives are used only for comparison. Activities and land uses not provided for by the Land Policy would not occur.

The proposed Modified Alternative B would continue to provide suitable economic and recreation opportunities as prescribed by the TVA Land Policy. The changes described in Section 1.3 would be included. When compared to the original Alternative B this Modified Development and Recreation Alternative would allocate less land to Zone 5 (Economic Development or Industrial) and more to Zones 3, 4, and 6 (Sensitive Resource Management, Natural Resource Conservation, and Developed Recreation) than the original Alternative B, but more than the original Alternative C.

**Table 2.1-1. Proposed Land Uses for the 2005 Plan by Alternatives**

Existing (1988) Allocation Categories	2005 Land Use Zones	Alternative A		Alternative B		Alternative C	
		Acres	%	Acres	%	Acres	%
Retained Developed <sup>1</sup> Previously Unplanned <sup>2</sup>	Zone 2 - Project Operations	3,584	22	3,571	22	3,571	22
Historic Preservation, Habitat Protection, Visual Management and Protection, Small Wild Areas	Zone 3 -Sensitive Resource Management	3,465	22	3,465	22	3,465	22
Wildlife Management Forest Management Agriculture, Open Space, Right-of- Way Protection	Zone 4 - Natural Resource Conservation	3,299	20	3,002	18	5,288	32
Industrial Sites, Barge Terminal Sites, Minor Landings, Fleeting Area, Industrial Access	Zone 5 -Economic Development	1,471	9	2,278	14	52	1
Public Recreation, Commercial Recreation, Water Access, Informal Recreation	Zone 6 - Developed Recreation	1,973	12	1,476	9	1,415	8
Previously Unplanned <sup>3</sup>	Zone 7 - Shoreline Access	2,388	15	2,388	15	2,388	15
<b>Total</b>		<b>16,179</b>	<b>100</b>	<b>16,179</b>	<b>100</b>	<b>16,179</b>	<b>100</b>

Similar to the original Alternative C, the Modified Alternative C proposes a small amount of land allocated for economic development or industrial use and large portions to Zones 3 and 4 (Sensitive Resource Management and Natural Resource Conservation). The changes described in Section 1.3 would be included. This Modified Conservation and Recreation Alternative would still consider land allocations that enhance conservation and informal recreation.

Under all alternatives, TVA would continue to conduct environmental reviews prior to the approval of any proposed development or activity on public land to address site-specific issues.

TVA's selected alternative would guide TVA resource management and property administration decisions on the TVA public land surrounding Watts Bar Reservoir until the Land Plan is revised in the future, which is expected to be about 10 years.

**2.1.1. Alternative A – The No Action Alternative**

Under the No Action Alternative, TVA would continue to use the 1988 Plan that currently guides land use decisions affecting TVA lands surrounding Watts Bar Reservoir, although

<sup>1</sup> Retained development - A TWRA maintenance area (9 acres) and Kingston Pumping Station (16 acres) are the only inclusions from the 1988 Plan.

<sup>2</sup> Primarily consists of TVA project lands from dam and electric power plant reservations.

<sup>3</sup> Consists of TVA lands described as marginal strip in the 1988 Plan.

activities and uses not provided for by the Land Policy would not occur. The 1988 Plan documents actual and prospective uses indicated for TVA managed land based on 1988 information. Land use requests received from applicants are evaluated for consistency with the 1988 Plan. Land use proposals compatible with the 1988 Plan and TVA Land Policy are approved or denied based on environmental reviews and other administrative considerations.

The 1988 Plan used 19 allocation categories, to manage 10,387 acres (see Table 2.1-2). Under Alternative A, these categories would continue to be used by TVA as the basis for future land use decisions. The 1988 Plan did not allocate residential shoreline or other marginal shoreline strips along the reservoir nor did it include TVA project lands at KIF, WBN, Watts Bar Fossil Plant (retired), and Watts Bar Dam Reservation. In addition, the 1988 Plan did not include land transferred to other agencies under easement or other agreements, which TVA still owns. Therefore, under Alternative A, although some management would continue to be provided by TVA's SMP, the Watts Bar residential shoreline and marginal shoreline strips would continue to have no formal land use allocation. Activities on TVA project lands would continue to be planned independently by the business unit managing these lands.

Except for the already approved LWBU, resource management activities of land allocated for that purpose would be limited to regulatory compliance and maintaining public health and safety.

**Table 2.1-2. Allocation Category Definitions (1988)**

Allocation	Description
<p><b>1. Public Recreation</b></p>	<p>Tracts allocated for public recreation will be made available for development by a municipal, county, state, regional, or federal agency. As funds are available, TVA will consider developing selected needed public recreation facilities where no other agency can help develop them.</p> <p>Public recreation tracts are intended to support a wide range of recreation activities and may have facilities such as beaches, toilets, roads, campgrounds, parking lots, game and court areas, launching ramps, and trails. Large public recreation areas may have on-site managers.</p>
<p><b>2. Commercial Recreation</b></p>	<p>Tracts allocated for commercial recreation are reserved for developments requiring waterfronts, such as marinas, docks, launching ramps, rental cabins, rails, motels, pools, campgrounds, golf courses, restaurants, and other outdoor recreation facilities.</p> <p>On tracts allocated for new commercial recreation developments, TVA will seek private investors with the financial and managerial capability to develop large-scale facilities that can become destination points for tourists and local reservoir users. To encourage high-quality private development, TVA may provide incentives such as assisting with conceptual site planning; conducting market studies; and assisting with road building, grading, or installation of utilities.</p> <p>TVA may provide technical assistance to existing commercial operators on or near small tracts allocated for commercial recreation.</p>

Allocation	Description
<b>3. Water Access</b>	Tracts allocated for water access will be available for development of boat ramps, courtesy piers, and car and trailer parking lots to provide public boating access to the reservoir. TVA will take the lead in developing water access tracts, but development and maintenance could be shared with other federal, state, county, or local agencies.
<b>4. Informal Recreation</b>	Informal recreation tracts will be maintained for passive, dispersed activities such as hunting, hiking, bird watching, photography, primitive camping, bank fishing, and picnicking. Buildings, paved access, or development that would tend to concentrate public use will be discouraged. Forestry, agriculture, and wildlife management practices will be permitted as long as they do not limit public use of the land or drastically alter the physical land base.
<b>5. Barge Terminal Sites</b>	<p>Tracts allocated for barge terminals will be available to public or private entities for construction of transfer facilities for loading and unloading of commodities between barges and trucks, trains, storage areas, or industrial plants. These sites would be conveyed to a developer at fair market value either at public auction sale in fee or by easement.</p> <p>Each terminal site is identified in the tract descriptions as either special purpose or multipurpose. Special purpose barge terminals would be associated with specific industrial plants and owned or operated by one or more industries. Such terminals are not usually available to other shippers.</p>
<b>6. Fleeting Area</b>	Tracts allocated for barge fleeting areas will be used to anchor offshore mooring facilities (cables, buoys, or cells) used by the towing industry to switch barges between tows of barge terminals. Land-based development will be limited to anchoring devices for the offshore facilities. Fleeting areas are generally needed at the junction of two waterways, close to a large number of barge terminals, or near a navigation lock.
<b>7. Minor Commercial Landings</b>	Tracts allocated for minor commercial landings will be available for public or private development of small-scale barge facilities. These sites can be used for transferring pulpwood, sand, gravel, and other natural resource commodities between barges and trucks. Because this use is intermittent and usually not a major activity, there would generally be no significant impact of adjacent landowners.
<b>8. Industrial Sites</b>	Tracts allocated for industrial sites will be available for development of waterfront industries. These sites would be conveyed to a developer at fair market value either at public auction sale in fee or by easement. TVA technical assistance may include feasibility studies, promotional brochures, industrial site planning, and technical training.
<b>9. Industrial Access</b>	On tracts allocated for industrial access, developers of private back-lying lands could be permitted access across TVA property for water intake, wastewater discharge, or conveyance of commodities (i.e., natural gas pipelines). Industrial access is usually compatible with other uses, such as forest management and wildlife management, and these tracts may serve as a buffer between the shoreline and back-lying industrial development.

Allocation	Description
<b>10. Retained Development</b>	On tracts designated as retained development, investments have been made in permanent facilities, such as buildings or maintenance facilities. Activities that do not conflict with existing development can be permitted on the tracts.
<b>11. Right-of-Way Protection</b>	On tracts allocated for right-of-way protection, TVA has established vegetation to protect and stabilize the integrity of road cuts or fills. These tracts will be managed to maintain the vegetative cover.
<b>12. Forest Management</b>	Tracts allocated for forest management will be managed to maximize production of forest products and economic returns while enhancing or complementing other uses, such as wildlife management and recreation. All technically acceptable silvicultural and harvesting treatments may be applied in appropriate circumstances. Such treatments could include thinning, improvement cuts, selection, group selection, shelter wood, and clear-cut silvicultural and harvest methods. Additional resource management activities such as timber stand improvement, planting, controlled burning, cattle exclusion, road construction, kudzu control, and other measures would be applied as appropriate. A multidisciplinary TVA team will decide which management treatments to apply on each tract to benefit the forest resources and complementary uses.
<b>13. Wildlife Management</b>	<p>Tracts allocated for wildlife management will be managed to protect and enhance wildlife habitats and restore depleted or regionally rare populations of certain species. To accomplish these management objectives, TVA will work closely with federal and state fish and wildlife agencies. In cases where TWRA can most effectively manage wildlife habitat, TVA will make tracts available for state management, with tenure based on demonstrated need and submission of acceptable wildlife management plans.</p> <p>Each tract allocated for wildlife management will be managed for a featured group or groups of wildlife species (upland wildlife, wetland wildlife, or waterfowl) or, in some cases, a particular wildlife species. Existing habitat conditions on each tract were analyzed during the data-gathering phase of this planning process to determine the major wildlife group or species to be featured on each tract. Tract-specific, detailed management plans will be developed to enhance or preserve habitat conditions required by the featured group or species.</p> <p>Habitat improvement will be achieved through wildlife provisions in agricultural license agreements, forest management prescriptions, and activities funded by TVA's Wildlife and Natural Heritage program. Selected tracts may be used to demonstrate or develop innovative wildlife management activities such as creation of nesting habitat for resident Canada geese, management of existing wading bird colonies, and expansion of raptor restoration work. Tracts containing unique concentrations of easily observed wildlife may be developed as public wildlife observation areas. In some cases, especially on small or disjunct tracts, protection or maintenance of existing habitat conditions will be the best management alternative.</p>

Allocation	Description
<p><b>14. Agriculture</b></p>	<p>Tracts allocated for agriculture will be managed to protect their potential for agricultural use, promote increased agricultural productivity for row crops or pasture, and demonstrate multiple-use developments compatible with preservation of agricultural lands. They contain a significant amount of prime farmland or farmland of statewide importance. These tracts will be available for agricultural licensing to local farmers, with restrictions to protect topsoil, prevent erosion, and benefit wildlife.</p> <p>In addition to those tracts specifically allocated for agriculture, many tracts allocated for other long-term uses are suitable for interim agricultural licensing. In these cases, the tract description will indicate that portions of the tract will be considered for agricultural licensing.</p>
<p><b>15. Small Wild Areas</b></p>	<p>Tracts allocated for small wild areas have exceptional natural, scenic, or aesthetic qualities and will be available for informal, low-impact types of outdoor recreation such as hiking, primitive camping, nature photography, and bird watching. Motorized vehicles will be prohibited. Development may include foot trails, signs, parking areas, and primitive camping sites. Efforts will be made to encourage public use and to interpret the natural features of these areas for visitors.</p>
<p><b>16. Habitat Protection</b></p>	<p>Tracts allocated for habitat protection areas will be managed to protect populations of species that have been identified as threatened or endangered by the USFWS or that are considered rare in Tennessee. Unusual or exemplary biological communities or unique geological features are also placed in this category for protection. Tracts allocated for this use cannot accommodate any management activities that are not specifically designated to perpetuate the featured species or that would jeopardize the ecological quality of the site. Heavy public use will be discouraged. Motorized vehicles will be prohibited.</p>
<p><b>17. Visual Management and Visual Protection</b></p>	<p>Proposals for management or development of tracts for visual management must include provisions for maintaining or enhancing the quality of the visual resources of the tract, in accordance with Visual Resource Management Recommendations (Appendix C of the 1988 Plan). This designation does not preclude any otherwise acceptable management or development activity.</p> <p>However, on tracts allocated for visual protection, TVA intends to restrict activities that would alter the unique or important visual resources. This is generally a single-use allocation, considered incompatible with other developmental uses.</p>
<p><b>18. Historic Preservation</b></p>	<p>On all tracts allocated for historic preservation, TVA will protect or interpret significant remnants of the prehistoric and historic past. These may be archaeological sites, buffers to preserve the settings of structures of historic or architectural significance, and historically significant boat landings or trails. This designation precludes any uses that would damage or destroy the cultural resources or diminish the public's appreciation of the cultural values of the tract.</p>
<p><b>19. Open Space</b></p>	<p>Tracts allocated for open space are generally narrow strips of public land adjacent to the shoreline that, in their natural state, contribute to the overall aesthetics of the reservoir.</p>

### 2.1.2. The Planning Process for the Action Alternatives

The modified action alternatives were developed in accordance with TVA policy using information obtained from the public meetings and scoping meetings with stakeholders, community leaders, and peer groups as described in Sections 1.5 and 1.6 and Appendix C. In addition, TVA considered collected field data on land conditions, and natural and cultural resources. Each parcel of land was reviewed to determine its physical capability for supporting certain uses, other potential suitable uses of such land, and the needs of the public expressed during the scoping process. Based on this information, the planning team allocated land parcels to one of seven allocation zones for each of the modified action alternatives (see Tables 2.1-4 and B-1).

TVA Shoreline or Marginal Strip Land. In the 1988 Plan, TVA did not “plan” its marginal strip property. Over the years, when TVA sold land on Watts Bar Reservoir, a strip of land (marginal strip) was retained lying between either the 750- or 745-foot contour and the water’s edge. The majority of this public land is encumbered by outstanding shoreline access rights that give back-lying property owners the right to construct private water use facilities subject to TVA’s approval under Section 26 of the TVA Act. To be consistent with the other planned lands on Watts Bar Reservoir and with other TVA reservoir land plans, TVA intends to manage or “plan” its marginal strip property. Under the Modified Action Alternatives (B and C), TVA would manage these lands in Zone 7, Shoreline Access, as defined under SMI.

Committed Land. In the 1988 Plan, TVA did not manage lands designated for project operations or lands committed through legal tenure, including easements, leases, license agreements, outstanding landrights, and designated natural areas. Under the Modified Action Alternatives (B and C), lands committed in the 1988 Plan to a specific use would be allocated to a zone designated for that use unless there is a need to make a change. Possible reasons to change allocations would be ongoing adverse impacts or a request by a license or easement holder. Land with projects such as the TVA dam reservation and public works projects would be allocated to Zone 2, Project Operations. Approximately 12,000 acres of the TVA land surrounding Watts Bar Reservoir are committed due to existing TVA projects and existing land use agreements (see Appendix B). Agricultural licenses are not considered to be committed uses because they are an interim use of TVA public land.

**Table 2.1-3. Land Use Zone Definitions**

Zone		Definition
1	<b>Non-TVA Shoreland</b>	<p>Shoreland located above summer pool elevation that TVA does not own in fee or land never purchased by TVA. TVA is not allocating private or other non-TVA land. This category is provided to assist in comprehensive evaluation of potential environmental impacts of TVA’s allocation decision. Non-TVA shoreline includes:</p> <ul style="list-style-type: none"> <li> <p><b>Flowage easement land</b>—Privately or publicly owned land where TVA has purchased the right to flood and/or limit structures. Flowage easement rights are generally purchased to a contour elevation. Since construction on flowage easement land is subject to TVA’s 26a permitting requirements, the SMP guidelines discussed in the definition of Zone 7 would apply to the construction of residential water use facilities fronting flowage easement land.</p> </li> </ul>

Zone		Definition
		<p>SMP guidelines addressing land-based structures and vegetation management <b>do not</b> apply.</p> <ul style="list-style-type: none"> <li>• <b>Privately owned reservoir land</b>—This was land never purchased by TVA and may include, but is not limited to, residential, industrial, commercial, or agricultural land. This land, lying below the 500-year flood elevation, is subject to TVA’s 26a approvals for structures.</li> </ul>
2	<b>Project Operations</b>	<p>All TVA reservoir land currently used for TVA operations and public works projects includes:</p> <ul style="list-style-type: none"> <li>• <b>Land adjacent to established navigation operations</b>—Locks, lock operations and maintenance facilities, and the navigation work boat dock and bases.</li> <li>• <b>Land used for TVA power projects operations</b>—Generation facilities, switchyards, and transmission facilities and rights-of-way.</li> <li>• <b>Dam reservation land</b>—Areas used for developed and informal recreation, maintenance facilities, watershed team offices, research areas, and visitor centers.</li> <li>• <b>Navigation safety harbors/landings</b>—Areas used for tying off commercial barge tows and recreational boats during adverse weather conditions or equipment malfunctions.</li> <li>• <b>Navigation dayboards and beacons</b>—Areas with structures placed on the shoreline to facilitate navigation.</li> <li>• <b>Public works projects</b>—Includes fire halls, public water intakes, public treatment plants, etc. (These projects are placed in this category as a matter of convenience and may not relate specifically to TVA projects.)</li> <li>• <b>Land planned for any of the above uses in the future.</b></li> </ul>
3	<b>Sensitive Resource Management</b>	<p>Land managed for protection and enhancement of sensitive resources. Sensitive resources, as defined by TVA, include resources protected by state or federal law or executive order and other land features/natural resources TVA considers important to the area viewscape or natural environment.</p> <p>Recreational natural resource activities, such as hunting, wildlife observation, and camping on undeveloped sites, may occur in this zone, but the overriding focus is protecting and enhancing the sensitive resource the site supports. Areas included are:</p> <ul style="list-style-type: none"> <li>• TVA-designated sites with potentially <b>significant archaeological resources</b>.</li> <li>• TVA public land with <b>sites/structures listed on or eligible for listing on the National Register of Historic Places</b>.</li> <li>• <b>Wetlands</b>—Aquatic bed, emergent, forested, and scrub-shrub wetlands as defined by TVA.</li> <li>• <b>TVA public land under easement, lease, or license to other agencies/individuals for resource protection purposes</b>.</li> <li>• <b>TVA public land fronting land owned by other agencies/individuals for resource protection purposes</b>.</li> </ul>



Zone		Definition
		<ul style="list-style-type: none"> <li>• <b>Habitat Protection Areas</b>—These TVA Natural Areas are managed to protect populations of species identified as threatened or endangered by the USFWS, state-listed species, and any unusual or exemplary biological communities/geological features.</li> <li>• <b>Ecological Study Areas</b>—These TVA Natural Areas are designated as suitable for ecological research and environmental education by a recognized authority or agency. They typically contain plant or animal populations of scientific interest or are of interest to an educational institution that would utilize the area.</li> <li>• <b>Small Wild Areas</b>—These TVA Natural Areas are managed by TVA or in cooperation with other public agencies or private conservation organizations to protect exceptional natural, scenic, or aesthetic qualities that can also support informal, low-impact types of outdoor recreation.</li> <li>• <b>River corridor with sensitive resources</b>—A river corridor is a linear green space along both stream banks of selected tributaries entering a reservoir managed for light boat access at specific sites, riverside trails, and interpretive activities. These areas will be included in Zone 3 when identified sensitive resources are present.</li> <li>• <b>Significant scenic areas</b>—These are areas designated for visual protection because of their unique vistas or particularly scenic qualities.</li> <li>• <b>Champion tree site</b>—Areas designated by TVA as sites that contain the largest known individual tree of its species in that state. The state forestry agency “Champion Tree Program” designates the tree, while TVA designates the area of the sites for those located on TVA public land.</li> <li>• <b>Other sensitive ecological areas</b>—Examples of these areas include heron rookeries, uncommon plant and animal communities, and unique cave or karst formations.</li> <li>• <b>Land planned for any of the above uses in the future.</b></li> </ul>
4	<b>Natural Resource Conservation</b>	<p>Land managed for the enhancement of natural resources for human use and appreciation. Management of resources is the primary focus of this zone. Appropriate activities in this zone include hunting, timber management to promote forest health, wildlife observation, and camping on undeveloped sites. Areas included are:</p> <ul style="list-style-type: none"> <li>• <b>TVA public land under easement, lease, or license</b> to other agencies for wildlife or forest management purposes.</li> <li>• <b>TVA public land fronting land owned by other agencies</b> for wildlife or forest management purposes.</li> <li>• <b>TVA public land</b> managed for wildlife or forest management projects.</li> <li>• <b>Informal recreation areas</b> maintained for passive, informal recreation activities, such as hunting, hiking, bird watching, photography, primitive camping, bank fishing, and picnicking.</li> </ul>

Zone	Definition
	<ul style="list-style-type: none"> <li>• <b>Shoreline Conservation Areas</b>—Narrow riparian strips of vegetation between the water’s edge and TVA’s back-lying property that are managed for wildlife, water quality, or visual qualities.</li> <li>• <b>Wildlife Observation Areas</b>—TVA Natural Areas with unique concentrations of easily observed wildlife that are managed as public wildlife observation areas.</li> <li>• <b>River corridor without sensitive resources present</b>—A river corridor is a linear green space along both stream banks of selected tributaries entering a reservoir managed for light boat access at specific sites, riverside trails, and interpretive activities. River corridors will be included in Zone 4 unless sensitive resources are present (see Zone 3).</li> <li>• <b>Islands of 10 acres or less.</b></li> <li>• <b>Land planned for any of the above uses in the future.</b></li> </ul>
5	<p><b>Industrial</b></p> <p>Land managed for economic development including businesses in distribution/processing/assembly and light manufacturing. Preference will be given for businesses requiring water access. Parcel descriptions should describe the primary type of use.</p> <p style="text-align: center;"><b>Access for water supply or structures associated with navigation such as barge terminal, mooring cell, etc.</b></p> <p style="text-align: center;"><b>Land-based development potential.</b></p> <p>Areas included are:</p> <ul style="list-style-type: none"> <li>• <b>TVA public land under easement, lease, or license to other agencies/individuals</b> for purposes described above.</li> <li>• <b>TVA public land fronting land owned by other agencies/individuals for industrial</b> purposes described above.</li> <li>• <b>Sites planned for future use supporting sustainable development</b></li> </ul> <p>Types of development that can occur on this land are:</p> <ul style="list-style-type: none"> <li>• <b>Business Parks</b>—TVA waterfront land which would support businesses and light manufacturing activities. Business parks should not include retail, service-based businesses like laundry, fast food, grocery stores, gas stations, daycares, or any walk-in-type businesses.</li> <li>• <b>Industrial access</b>—Access to the waterfront by back-lying property owners across TVA property for water intakes, wastewater discharge, or conveyance of commodities (i.e., pipelines, rail, or road). Barge terminals are often associated with industrial access corridors.</li> <li>• <b>Barge terminal sites</b>—Public or private facilities used for the transfer, loading, and unloading of commodities between barges and trucks, trains, storage areas, or industrial plants.</li> <li>• <b>Fleeting areas</b>—Sites used by the towing industry to switch barges between tows or barge terminals which may have both offshore and onshore facilities.</li> </ul>

Zone	Definition
	<p><b>Minor commercial landing</b>—A temporary or intermittent activity that takes place without permanent improvements to the property. These sites can be used for transferring pulpwood, sand, gravel, and other natural resource commodities between barges and trucks.</p>
6	<p><b>Developed Recreation</b></p> <p>The designations below are based on levels of development and the facilities available to the public, graduating from informal use to more developed uses. Parcel descriptions should describe the primary type of use and identify access potential for infrastructure and potential for development.</p> <p><b>Water Access</b> – small parcels of land, generally less than 10 acres, and typically shoreline areas conveyed to public agencies for public access.</p> <p><b>Public</b> – more recreational opportunities, some facilities more than just launching a boat and typically greater than 10 acres. This includes areas conveyed for public recreation.</p> <p><b>Commercial</b> – property suitable and capable to support commercial water-based operations. This includes areas conveyed for commercial recreation.</p> <p>All reservoir land managed for concentrated, active recreational activities that require capital improvement and maintenance, including:</p> <ul style="list-style-type: none"> <li>• <b>TVA public land under easement, lease, or license to other agencies/individuals for recreational purposes.</b></li> <li>• <b>TVA public land fronting land owned by other agencies/individuals for recreational purposes.</b></li> <li>• <b>TVA public land developed for recreational purposes, such as campgrounds, day use areas, etc.</b></li> <li>• <b>Land planned for any of the above uses in the future.</b></li> </ul> <p>Types of development that can occur on this land are:</p> <p><b>Water access</b> – e.g., areas that tend to be informal and can include: launching ramp, courtesy pier, canoe access, parking areas, picnic area, trail, etc.</p> <p><b>Public recreation</b> – recreation on publicly owned land. These areas typically have facilities or uses developed by a public agency and provide amenities open to the general public. Facilities at “public recreation” areas could include: playgrounds/play structures, picnic facilities, tennis courts, horseshoe areas, play courts, recreation center, athletic fields, trails, natural areas, amphitheaters, food concessions (vending, snack bar), access to water for fishing and boating, swimming areas and swimming pools, marina facilities owned by the public entity, parking, and campgrounds.</p>

Zone	Definition
	<p>Public recreation, will not include residential use, cabins, or other overnight accommodations (other than campgrounds) except if a recreation area is owned by a state agency and operated as a component of a state park system in which case cabins and other overnight accommodations will be permitted, e.g., local, state, and federal parks and recreation areas.</p> <p>Public recreation uses typically include areas and facilities owned and operated by the federal, state, county, or local government (municipalities/communities) and in some cases by park and school districts. However, private entities may operate recreation facilities on public property as concessionaires under agreement with the public entity controlling the property. Recreation uses may be structured and formal or unstructured and informal. These may be offered free or for a fee. This does not allow for public/private partnership where facilities are owned by private investors. All structures and facilities should be owned by the public entity.</p> <p><b>Commercial Recreation</b> – is defined as recreation amenities that are provided for a fee to the public intending to produce a profit for the owner/operator. These primarily water-based facilities typically include: marinas and affiliated support facilities like restaurants and lodges; campgrounds; cabins; military vessel attractions; and excursion tour vessels (restaurant on the water). These uses and activities can be accommodated through changes in existing conveyance agreements. These areas do not include residential use, long-term accommodations or individually owned units. Where applicable, TVA will request appropriate compensation for use of the property.</p> <p><b>Greenways</b> – e.g., linear parks or developed trails located along natural features, such as lakes or ridges, or along man-made features, including abandoned railways or utility rights-of-way, which link people and resources together.</p>
7	<p><b>Shoreline Access</b></p> <p>TVA-owned land where Section 26a applications and other land use approvals for private shoreline alterations are considered. Requests for private shoreline alterations are considered on parcels identified in this zone where such use was previously considered and where the proposed use would not conflict with the interests of the general public. As provided for in the SMP, shoreline access would be divided into three categories based on the presence of sensitive ecological resources and navigation restrictions. The categories are: (1) Shoreline Protection, where no shoreline access alterations would be permitted; (2) Shoreline Access Mitigation, where special analysis would be needed; and (3) Managed Shoreline Access, where no known sensitive resources exist. Types of development/management that can occur on this land are:</p> <ul style="list-style-type: none"> <li>• <b>Private water use facilities</b>, e.g., docks, piers, launching ramps/driveways, marine railways, boathouses, enclosed storage space, and nonpotable water intakes.</li> <li>• <b>Shoreline access corridors</b>, e.g., pathways, wooden steps, walkways, or mulched paths which can include portable picnic tables and utility lines.</li> </ul>

Zone	Definition
	<ul style="list-style-type: none"> <li>• <b>Shoreline stabilization</b>, e.g., bioengineering, riprap and gabions, and retaining walls.</li> <li>• <b>Shoreline vegetation management</b> on TVA-owned shoreline access shoreland.</li> <li>• <b>Conservation easements</b> for protection of the shoreline.</li> <li>• <b>Other activities</b>, e.g., fill, excavation, grading, etc.</li> </ul>

If sensitive resources were identified on a parcel with an existing land use agreement (leases, licenses, etc.), that parcel would remain zoned for the committed use, unless an ongoing adverse impact is found. However, TVA review would be needed prior to future activities that could impact the identified sensitive resources on that parcel to ensure the proposed activity would not significantly impact the identified sensitive resources.

Uncommitted Land. Uncommitted public land on Watts Bar Reservoir was considered for reevaluation. Field data were collected on many uncommitted parcels by technical specialists, such as archaeologists, historic architects, wetland specialists, and biologists to identify areas containing sensitive resources. Using maps that identified the location of sensitive resources (e.g., cultural resources, wetlands, threatened and endangered species, and visual resources) and the data collected during the scoping process, the capability and suitability for potential uses of each parcel were discussed.

Representatives from different TVA organizations including power generation, navigation, resource stewardship, recreation, and economic development (the planning team) met to allocate the parcels into the new planning zones. The proposed allocations for each alternative were made by consensus of the planning team members and approved by TVA management (see Table B-1 in Appendix B). Maps showing the location of land parcels and allocation proposals are included in the back of this document.

Property Administration. The existing and proposed reservoir land plans take into consideration TVA policy, guidelines, and environmental laws and regulations in developing a strategy to manage resources by identifying suitable uses for each tract of land. As administrators of TVA public land, the watershed team uses the plan along with TVA policies and guidelines to manage resources and to respond to requests for the use of TVA public land. All inquiries about, or requests for the use of TVA public land on Watts Bar Reservoir should be made to TVA's Watts Bar/Clinch Watershed Team, 260 Interchange Park Drive, Lenoir City, Tennessee, 37772-5664, phone 865-632-1320.

TVA will consider changing a land use designation outside of the normal planning process only for water-access purposes for industrial or commercial recreation operations on privately owned back-lying land or to implement TVA's SMP.

Access corridors for public works/utility projects proposed on any TVA public land that do not affect the zoned land use or sensitive resources would not require an allocation change so long as such uses would be compatible with the use of the allocated zone. (An access corridor is a linear pathway extending between TVA and the adjacent landowner to the water. It is located in a way that minimizes removal of trees or other vegetation and potential for erosion. The corridor should be stabilized and revegetated with native

species.) Any other requests involving a departure from the planned uses would require the approval of the TVA Board of Directors.

Proposals consistent with TVA's policy, the allocated use, and otherwise acceptable to TVA will be reviewed in accordance with NEPA, other applicable environmental regulations, and other legal authorities.

### **2.1.3. Modified Action Alternative Allocation Proposals**

Under the Modified Action Alternatives B and C, TVA would allocate reservoir land parcels into one of the land zones (Table 2.1-3) based on resource data, land and deed records, stakeholder input, and TVA staff input to propose land allocations for each alternative (see Table 2.1-4). Land designated as Zone 1, private land that adjoins the reservoir, over which TVA has flowage easement or other rights is not included in these allocations. Alternatives B and C include about 6,000 acres not planned in 1988. This previously unplanned land includes sites with license agreements, Watts Bar Dam, Watts Bar Fossil Plant and WBN, KIF, and other Project Operations land, and the marginal strips of retained land fronting TVA sale tracts. These retained strips of TVA land encumbered with water access rights have been allocated to Shoreline Access (Zone 7), based on predetermined access rights as documented in TVA's 1998 SMI.

Minor alterations were made to parcel boundaries and acreages to incorporate mapping corrections and updated information about deed rights. Included are minor land additions and disposals. These alterations total less than 100 acres out of the total land on Watts Bar Reservoir.

During the scoping period, TVA received 12 proposals to allocate 32 parcels (about 3,650 acres) of TVA public land for private or public projects. The proposals ranged from economic development with mixed-use (commercial, recreation, and residential) development to natural resource conservation. After review of these proposals following the issue of the 2005 Plan and the implementation of the TVA Land Policy, TVA has determined that several of them are no longer feasible and are therefore no longer being considered. In addition, the allocation of several of these parcels could not be reasonably changed to the requested land use zones, because they are committed land for TVA project operations, protect significant resources, or have deeded access rights, which would be impractical to consider for these allocations.

### **2.1.4. Action Alternative B – Modified Development and Recreation**

Under Action Alternative B, Modified Development and Recreation, TVA proposes land use allocations for each land parcel (see Appendix B). Under this alternative, TVA would help promote some industrial development and commercial recreation by allocating 1,253 acres of land for industrial use and 1,622 acres to recreation totaling about 18 percent of TVA owned land on Watts Bar Reservoir. About 7,500 acres (46 percent) of land would be allocated for sensitive and natural resource use (see Tables 2.2-1 and 2.2-2). The Modified Alternative B would also include the minor changes and alterations as described in Section 2.1.3. TVA would seek to engage partners to help implement natural resource management activities and facilitate opportunities on lands allocated for Zone 2, Project Operations, Zone 3, Sensitive Resource Management, Zone 4, Natural Resource Conservation, and Zone 6, Developed Recreation.

This alternative provides compliance with the TVA Land Policy and provides compromise between conservation of natural resources and economic development. Although natural resource conservation and informal recreation would predominate on the reservoir, industrial development and developed recreation would occur on TVA land where those activities are most suitable and have the greatest opportunity for success.

**Table 2.1-4. Comparison of Proposed Zone Allocations, by Alternatives**

Parcel Number	Alt. A Zone	Alt. A Acres	Alt. B Zone	Alt. C Zone	Alt. B and C Acres	Proposed Allocation or Action Description
1	6	10.5	2	2	10.5	TVA-managed boat ramp and parking; TVA management in Alternatives B and C.
9	6	122.5	6	4	122.5	Fooshee Pass Recreation Area, potential expansion of campground in Alternatives A and B.
10	6	78.4	6	4	78.4	Fooshee Pass Recreation Area, campground operations in Alternatives A and B.
15a	n/a	n/a	3	3	4.1	New parcel for protection of forested wetlands in Alternatives B and C, formerly part of Parcel 15 (Zone 7).
16a	n/a	n/a	3	3	3.0	New parcel for protection of significant bottomland hardwood forested wetland in Alternatives B and C, formerly part of Parcel 16 (Zone 7).
17	3	1.4	3	3	2.6	Protection of historic structures, Alternatives B and C add 1.2 acres from Parcel 16 (Zone 7).
57	3	8.1	3	3	9.5	Protection of historic and cultural resources, Alternatives B and C add 1.4 acres from Parcel 56 (Zone 7).
70a	n/a	n/a	2	2	1.3	New parcel for navigation safety landing in Alternatives B and C, formerly part of Parcel 70 (Zone 4).
90	7	1.4	2	2	1.4	Changed 1.4 acres to Zone 2 for Navigation Safety Harbor in Alternatives B and C, add remainder to Parcel 89 (Zone 4).
91	3	16.2	3	3	11.9	Marble Bluff Habitat Protection Area decreased 4.8 acres in Alternatives B and C and adds to Parcel 92 (Zone 4).
92	4	33.9	4	4	34.9	Natural Resource Conservation, Alternatives B and C give 3.8 acres to Parcel 94 (Zone 3) and add 4.8 acres from Parcel 91 (Zone 3)
94	3	9.2	3	3	11.2	Polecat Creek Slopes Habitat Protection Area, Alternatives B and C add 3.8 acres from Parcel 92 (Zone 4) and give 1.8 acres to Parcel 96 (Zone 4).
98	6	9.4	4	4	9.4	Fronts Tennessee National Golf Course, recreation activity not supported on TVA Land.
122	2	9.0	2	2	16.6	Kingston Pump Station, Alternatives B and C add 7.6 acres from Parcel 121 (Zone 6).
127a	n/a	n/a	2	2	1.9	New parcel for navigation safety landing in Alternatives B and C, formerly part of Parcel 127 (Zone 7).
137a	n/a	n/a	2	2	2.8	New parcel for navigation safety landing in Alternatives B and C, formerly part of Parcel 142.
140	5	7.8	4	4	7.8	No longer considered suitable for Zone 5 in Alternatives B and C (per industrial assessment).
142	5	319.5	5	4	302.5	Former Clinch River Breeder Reactor site, Alternatives B and C give 14.2 acres to Parcel 144 (Zone 3) and 2.8 acres to create a new navigation safety landing Parcel 137a (Zone 2).
143	5	391.3	5	4	181.6	Former Clinch River Breeder Reactor site, Alternatives B and C give 42.6 acres to Parcel 145 and 166.7 acres to Grassy Creek Habitat Protection Area, Parcel 146 (Zone 3).

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Parcel Number	Alt. A Zone	Alt. A Acres	Alt. B Zone	Alt. C Zone	Alt. B and C Acres	Proposed Allocation or Action Description
144	3	48.0	3	3	62.2	Former Clinch River Breeder Reactor site, protection for wetlands and cultural resources; Alternatives B and C add 14.2 acres from Parcel 142 as a shoreline buffer.
145	5	332.9	5	4	375.7	Former Clinch River Breeder Reactor Site, Alternatives B and C add 42.6 acres from Parcel 143.
146	3	98.6	3	3	265.3	Grassy Creek Habitat Protection Area; Alternatives B and C add 166.7 acres from Parcel 143.
152a	n/a	n/a	4	4	2.2	New parcel Natural Resource Conservation in Alternatives B and C, formerly part of Parcel 152 Sugar Grove Habitat Protection Area (Zone 3); no sensitive resources are present.
159	3	3.4	3	3	5.7	Protection of wetlands on small islands, Alternatives B and C add a 2.3-acre island from Parcel 189 (Zone 4).
172	4	21.2	4	4	26.8	Natural Resource Conservation, Alternatives B and C add 5.6 acres from Parcel 170; no longer suitable for Zone 5.
175	6	3.4	6	6	23.3	City of Harriman public recreation area, Alternatives B and C add 19.9 acres from Parcel 174 (no longer suitable for Zone 5) and 1.5 acres from Parcel 176 (no longer needed for protection of cultural resources).
176	3	3.3	3	3	1.8	Protection of cultural resources, decreased by 1.5 acres in Alternatives B and C, not needed to protect resource.
181a	n/a	n/a	3	3	3.5	New parcel for protection of rare plants in Alternatives B and C, formerly part of Parcel 181 (1.4 acres, Zone 5) and Parcel 179 (2.2 acres, Zone 4).
205	3	5.0	4	4	5.0	Change from Zone 3 to 4 in Alternatives B and C; no wetlands present.
207a	n/a	n/a	3	3	7.1	New parcel for the protection of sensitive cultural resources; formerly part of Parcel 207 (Zone 2).
218	5	61.4	6	4	61.4	Potential city of Rockwood industrial, recreation, or natural resource conservation area.
224a	n/a	n/a	2	2	4.9	New parcel for navigation safety harbor in Alternatives B and C; formerly part of Parcel 224.
229a	n/a	n/a	2	2	0.3	New parcel for a road right-of-way in Alternatives B and C; formerly part of Parcels 229 and 230.
243	6	2.9	7	7	2.9	Bill's Pier, change from Zone 6 to 7 in Alternatives B and C; no longer used for commercial recreation.
255	6	8.7	4	4	8.7	Sand Island changes from Zone 6 to 4 in Alternatives B and C; to be managed for informal recreation use and protection of cultural resources.
297	5	245.0	5	4	245.0	Suitable for industrial use to support water-based industries.
298	5	34.4	5	4	34.4	Potential barge terminal site; suitable for industrial use to support water-based industries.
299	6	370.3	4	4	423.4	'The Pines,' change to Zone 4 from 6 in Alternatives B and C; to be managed for informal recreation use and conservation of natural resources; add 53.0 acres from Parcel 300.
300	6	237.4	6	6	184.3	Watts Bar Resort in Alternatives B and C give 53.0 acres to Parcel 299; to align area with commercial recreation license.

Alt. = Alternative(s)  
n/a = Not Applicable



### **2.1.5. Action Alternative C – Modified Conservation and Recreation**

Under Action Alternative C, Modified Conservation and Recreation, TVA proposes land use allocations for each land parcel (see Appendix B). Under Modified Alternative C, TVA would help promote conservation of natural resources, and informal and developed recreation by allocating about 8,900 acres of land for Sensitive and Natural Resource use and 1,360 acres to Developed Recreation totaling about 63 percent of TVA-owned land on Watts Bar Reservoir. Only those lands with existing industrial facilities, about 90 acres (less than 1 percent) would be allocated for industrial use (see Tables 2.2-1 and 2.2-2).

The Modified Alternative C would also include the minor changes and alterations described in Section 2.1.3. TVA would seek to engage partners to help implement natural resource management activities and facilitate opportunities on lands allocated for Zone 2, Project Operations, Zone 3, Sensitive Resource Management, Zone 4, Natural Resource Conservation, and Zone 6, Developed Recreation.

Under this alternative, natural resource conservation and informal recreation would predominate on TVA land suitable for those activities. Some developed recreation would occur on TVA land where those activities are most suitable and have the greatest opportunity for success.

## **2.2. Comparison of Alternatives**

This section compares the environmental impacts of the three alternatives based on the information and analyses provided in Chapter 3, the Affected Environment, and Chapter 4, Environmental Consequences.

Section 101 of the NEPA declares that it is the policy of the federal government to use all practicable means and measures, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations. TVA believes that all alternatives would be consistent with this policy, and TVA has interpreted the regulations and laws governing it to be consistent with this policy, as required by Section 102(1). Because of the environmental safeguards in each alternative, a wide range of beneficial uses of the environment could be obtained without degradation or unintended consequences under each alternative.

Direct comparison of parcel land uses between Modified Alternative A (No Action Alternative) and the Modified Alternatives B and C are difficult because the 1988 Plan land allocation definitions and the proposed Modified Alternatives B and C plan definitions are not the same. The 1988 Plan used 19 land use allocations to manage 10,238 acres of land. Many of the parcels were designated for multiple uses. The 1988 Plan did not allocate almost 3,600 acres of TVA lands at Watts Bar Dam and electric power plant reservations or the nearly 2,400 acres of residential shoreline or other marginal shoreline strips along the reservoir. The proposed action alternatives allocate all marginal shoreline strips with existing shoreline access rights to Zone 7 (Shoreline Access) and all project lands to Zone 2 (Project Operations). Despite these differences, the allocated land uses in the 1988 Plan (Alternative A) and the proposed Modified Action Alternatives (B and C) for each TVA parcel are identified and compared in Appendix B. For comparison purposes, an approximate relationship between the 1988 allocation categories and the current planning zones is shown in Table 2.2-1.

**Table 2.2-1. Comparison of Land Uses by Alternatives**

Existing (1988) Allocation Categories	Current Land Use Zones	Modified Alternatives					
		A		B		C	
		Acres	%	Acres	%	Acres	%
Retained Developed <sup>1</sup> Previously Unplanned <sup>2</sup>	Zone 2 - Project Operations	3,578	22.0	3,601	22.2	3,601	22.2
Historic Preservation, Habitat Protection, Visual Management and Protection, Small Wild Areas	Zone 3 - Sensitive Resource Management	3,474	21.4	3,666	22.6	3,666	22.6
Wildlife Management Forest Management Agriculture, Open Space, Right-of-Way Protection	Zone 4 - Natural Resource Conservation	3,357	20.7	3,810	23.4	5,233	32.1
Industrial Sites, Barge Terminal Sites, Minor Landings, Fleeting Area, Industrial Access	Zone 5 - Industrial	1,531	9.4	1,253	7.7	92	0.6
Public Recreation, Commercial Recreation, Water Access, Informal Recreation	Zone 6 - Developed Recreation	2,003	12.3	1,622	10.0	1,360	8.4
Previously Unplanned <sup>3</sup>	Zone 7 - Shoreline Access	2,303	14.2	2,294	14.1	2,294	14.1
<b>Total</b>		<b>16,246</b>	<b>100.0</b>	<b>16,246</b>	<b>100.0</b>	<b>16,246</b>	<b>100.0</b>

<sup>1</sup> Retained development - A TWRA maintenance area (9 acres) and Kingston Pumping Station (16 acres) are the only inclusions from the 1988 Plan.

<sup>2</sup> Primarily consists of TVA project lands from dam and electric power plant reservations.

<sup>3</sup> Consists of TVA lands described as marginal strip in the 1988 Plan.

In implementing Modified Alternative A, actual uses for land with multiple allocations would be decided on a case-by-case basis, making the assessment of impacts speculative. Therefore, for comparison purposes, a single allocation zone has been assigned that best represents the intended use (see Table 2.2-1). Under Modified Alternative A, 3,474 acres of land could be allocated to sensitive resource management-type uses; 3,357 acres could be allocated to natural resource conservation-type uses; 1,531 acres could be allocated to industrial uses; and 2,003 acres could be allocated to developed recreational use. The actual allocation would be determined on a case-by-case basis as requests are received.

Under Modified Alternative B, less land would be allocated for industrial use at both the former Clinch River Breeder Reactor and Lowe Branch sites than under Modified Alternative A. Potential impacts to threatened or endangered species are expected to be slightly less than Modified Alternative A, but still minor and insignificant, and could be further reduced for aquatic species by the use of best management practices (BMPs) for soil disturbances. There would be lesser but still insignificant potential for impacts to water quality. Under Modified Alternative B, 3,666 acres of land could be allocated to sensitive resource management-type uses; 3,810 acres could be allocated to natural resource conservation-type uses; 1,253 acres could be allocated to industrial development uses; and 1,662 acres could be allocated to developed recreational use.

Under Modified Alternative C, more acreage is allocated for sensitive and natural resource uses than is designated under Modified Alternatives A and B (see Table 2.2-2). Under Modified Alternative C, approximately 1,500 to 2,200 acres of land would be allocated to more protective uses (Zones 3 and 4) than under Modified Alternatives A and B. Approximately 90 acres are proposed to be allocated to Industrial Development. A large number of sites previously allocated for access for future industrial development would be allocated to more protective categories.

In addition, approximately 2,300 acres of marginal shoreline strip, not included in the 1988 Plan, would be allocated for Shoreline Access due to existing deeded rights for water access. Under Modified Alternative C, approximately 1,400 to 1,900 acres that were previously allocated to Industrial and Recreation Development under Alternatives A and B would be allocated to Natural Resource Conservation.

**Table 2.2-2. Comparison of Acres Allocated to Sensitive and Natural Resource Uses**

<b>Modified Alternative</b>	<b>Allocation</b>	<b>Acres</b>
Alternative A	Historic Preservation, Habitat Protection, Visual Management and Protection, Small Wild Areas, Wildlife Management, Forest Management, Agriculture, Open Space, Right-of-Way Protection	6,831
Alternative B	Zone 3 – Sensitive Resource Management Zone 4 – Natural Resource Conservation	7,476
Alternative C	Zone 3 – Sensitive Resource Management Zone 4 – Natural Resource Conservation	8,899

### 2.3. Impacts Summary

Modified Alternative A has greater acreages of land allocated to developed uses, including Industrial and Developed Recreation, than the other alternatives. Adoption of Modified Alternative B would allow greater recreational and industrial development than Modified Alternative C but slightly less than Modified Alternative A. Therefore, Modified Alternative B would have greater potential for impacts to natural resource than Alternative C, but less than Modified Alternative A. Implementation of Modified Alternative C would result in the largest amount of acres allocated to Zone 4, Natural Resource Conservation. A qualitative rating of the potential impacts of the alternatives with respect to different potentially affected resources is provided in Table 2.3-1. Mitigation measures to further reduce impacts are included in Section 4.20.

**Table 2.3-1. Summary of the Environmental Impacts of the Alternatives**

<b>Environmental Impacts Summary</b>				
<b>Resource</b>	<b>Potential Impacts</b>	<b>Modified Alternative A</b>	<b>Modified Alternative B</b>	<b>Modified Alternative C</b>
<b>Terrestrial Ecology</b>	Loss and fragmentation of terrestrial habitat by clearing and alteration of vegetation could impact the composition and abundance of species.	Potential for up to 1,500 acres of habitat alteration from industrial use.  Eventual loss of 3,200 acres of high-quality habitat.	Potential for up to 1,250 acres of habitat alteration from industrial use.  Eventual loss of 3,200 acres of high-quality habitat.	Minimal industrial use.  Retention of high-quality habitat, beneficial impacts.
<b>Threatened and Endangered Plants</b>	Clearing and alteration of vegetation could impact the composition and abundance of sensitive, rare, and listed species.	No federally listed as threatened and endangered plants impacted. Potential impact for state-listed plant species insignificant.	No federally listed as threatened and endangered plants impacted. Slightly lesser impacts than Alternative A to state-listed plants.	No federally listed as threatened and endangered plants impacted. Least impacts to state listed species.

<b>Environmental Impacts Summary</b>				
<b>Resource</b>	<b>Potential Impacts</b>	<b>Modified Alternative A</b>	<b>Modified Alternative B</b>	<b>Modified Alternative C</b>
<b>Threatened and Endangered Animals</b>	Clearing and alteration of vegetation could impact the composition and abundance of species.	Not likely to adversely affect federally listed terrestrial animals; some impacts to state-listed species.	Not likely to adversely affect federally listed terrestrial animals; lesser impacts than Alternative A.	Beneficial impacts to federally listed and state-listed species.
<b>Threatened and Endangered Aquatic Animals</b>	Pollution and siltation from erosion and ground disturbance activities.	Not likely to adversely affect federally listed aquatic animals.		Greatest protection to sensitive aquatic species.
<b>Managed Areas and Sensitive Ecological Sites</b>	Incompatible land use on adjacent areas. Impacts on sensitive resources.	Insignificant and temporary Impacts.	Beneficial Impacts.	Beneficial Impacts.
<b>Water Quality</b>	Toxic substances, erosion, and nutrient loading.	Insignificant adverse impacts from commercial, industrial, and recreation development.	Lesser adverse impacts.	Beneficial Impacts.
<b>Aquatic Ecology</b>	Alteration of aquatic habitat, primarily from shoreline modification.	Generally no change from existing conditions.	Improvement of conditions over Alternative A.	Least impacts and most beneficial improvement.
<b>Wetlands</b>	Adverse effects to or destruction of wetlands from land clearing and ground disturbance.	Adverse impacts mitigated under Section 404 and EO 11990; insignificant impacts.		
<b>Floodplains</b>	Adverse impacts to floodplain values in floodplain.	Minor and insignificant impacts.		
<b>Land Use</b>	Impacts to and loss of TVA's public lands.	Insignificant adverse impacts to public lands.	Lesser impacts to public lands.	Maintains public ownership of land.
<b>Prime Farmland</b>	Conversion of prime farmland. A farmland rating required before development.	Some potential loss of prime farmland. Insignificant impact to region.	Less potential loss of prime farmland. Insignificant impact to region.	Least potential loss of prime farmland. Insignificant impact to region.
<b>Cultural Resources</b>	Potential for activities to affect archaeological and historic properties.	Insignificant impacts with implementation of the programmatic agreement with the Tennessee State Historic Preservation Officer and the Advisory Council on Historic Preservation.		
<b>Air Quality</b>	Emissions from construction and development activities.	Insignificant adverse impacts depending on the industries recruited.	Fewer but still insignificant impacts.	Least impacts to air quality.
<b>Navigation</b>	Interference with commercial navigation.	No change from existing conditions.	Minor impacts from loss of Parcel 218 barge terminal. Beneficial designation of safety harbor land.	Same impacts as Alternative B and loss of future potential barge terminal on Parcel 298.
<b>Recreation</b>	Availability of recreational	Largest amount of Zone 6 land. Loss	Minor loss of Zone 6 land offset by	Greatest loss of Zone 6 land and

<b>Environmental Impacts Summary</b>				
<b>Resource</b>	<b>Potential Impacts</b>	<b>Modified Alternative A</b>	<b>Modified Alternative B</b>	<b>Modified Alternative C</b>
	opportunities.	of existing informal recreation at some sites, reduction of diverse recreation opportunities.	increase in Zone 4 land.	beneficial increase in Zone 4 land.
<b>Visual Resources</b>	Minor effects on Scenic Quality. Gradual degradation of visual resources.	No change in present conditions of insignificant impacts.	Lesser impacts than Alternative A.	Least impacts and greatest protection.
<b>Socioeconomic Impacts and Environmental Justice</b>	Effects to the local economy and communities. Dependent on the nature of future proposals.	No change in opportunities for future beneficial development. No impacts to environmental justice.	Impacts similar but slightly less than Alternative A. No impacts to environmental justice.	Almost no opportunities for future industrial development. Beneficial impacts to environmental justice.
<b>Other Issues</b>	Impacts from noise.	Some insignificant noise impacts from future industrial or recreation development.	Lesser insignificant impacts from noise.	Least impacts from noise.

## 2.4. The Preferred Alternatives

The preferred alternative is Modified Alternative B, which provides suitable opportunities for the conservation of natural resources and economic development. The environmentally preferred alternative is Alternative C, which has the least adverse impact on the environment of all the alternatives.