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FINAL ENVIRONMENTAL IMPACT STATEMENT

DOUGLAS AND NOLICHUCKY TRIBUTARY RESERVOIRS LAND MANAGEMENT PLAN

Cocke, Greene, Hamblen, Jefferson, and Sevier Counties
Tennessee

VOLUME I

PREPARED BY:
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AUGUST 2010

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Final Environmental Impact Statement **August 2010**

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Cocke, Greene, Hamblen, Jefferson, and Sevier counties, Tennessee

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Abstract: The Tennessee Valley Authority (TVA) is developing a Douglas and Nolichucky Tributary Reservoirs Land Management Plan to guide land use decisions on TVA reservoir lands located along two tributary reservoirs in the northeast Tennessee Valley region (approximately 3,191 acres). The goal for the reservoir planning effort is to provide a clear vision of how TVA will manage TVA public lands surrounding these reservoirs and identify lands for specific uses. This process relies heavily on public input regarding land uses and on how these lands should be managed for future uses. As part of the National Environmental Policy Act (NEPA) process, TVA issued a draft environmental impact statement in March 2010 and held a public meeting on April 6, 2010, in Newport, Tennessee. TVA is considering three alternatives for managing public land under its control around Douglas and Nolichucky reservoirs. The No Action Alternative would continue the existing method of land use planning, while the two action alternatives would apply a system of allocation zones that is based upon other recent TVA land plans and is consistent with current TVA policies. The Modified Land Use Alternative is TVA's preferred alternative and the environmentally preferred alternative. The preferred alternative provides suitable opportunities for developed recreation, conservation of natural resources, and management of sensitive resources. Further, all parcels with identified sensitive resources would be allocated to the most protective land use zone, whereas only some of those parcels would be zoned for sensitive resource management under the other alternatives.

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SUMMARY

PURPOSE OF AND NEED FOR ACTION

The Tennessee Valley Authority (TVA) manages its public lands to protect the integrated operation of the TVA reservoir and power systems, to provide for appropriate public use and enjoyment of the reservoir system, and to provide for continuing economic growth in the Tennessee Valley. TVA is proposing to prepare a reservoir land management plan (RLMP) for Douglas and Nolichucky tributary reservoirs located in northeast Tennessee. The Douglas and Nolichucky Tributary Reservoirs Land Management Plan (DNTRLMP) would include plans for all public lands under TVA stewardship around these two reservoirs, which totals about 3,191 acres.

The DNTRLMP would be designed to guide land use approvals, private water use facility permitting, and resource management decisions. The Holston-Cherokee-Douglas Watershed Team would use the DNTRLMP, along with TVA policies and guidelines, to manage resources and to respond to requests for the use of TVA public land. Proposed RLMP alternatives allocate land into broad categories or "zones" including Project Operations, Sensitive Resource Management, Natural Resource Conservation, Industrial, Developed Recreation, and Shoreline Access. In the DNTRLMP, land use allocations would be determined with consideration of the social, economic, and environmental conditions around the reservoirs.

The DNTRLMP consists of three volumes. Volume I is the environmental impact statement, which addresses the environmental impacts of implementing the DNTRLMP. Volumes II and III contain individual RLMPs for Douglas and Nolichucky reservoirs, respectively. The RLMPs contain detailed descriptions of the environment around each reservoir, as well as descriptions of each parcel of land addressed in the plans.

ALTERNATIVES INCLUDING THE PROPOSED ACTION

TVA is considering three alternatives for managing public land under its control around Douglas and Nolichucky reservoirs. The No Action Alternative would continue the existing method of land use planning, while the two action alternatives would apply a system of allocation zones similar to other recent TVA land plans and consistent with current TVA policies. Alternatives were developed using information from multidisciplinary TVA technical and advisory teams, as well as comments from the public obtained during the scoping process described in Volume I, Chapter 2.

Under each of the alternatives, the following conditions would apply:

TVA would continue to conduct environmental reviews to address site-specific issues prior to the approval of any proposed development or activity on public land. Future activities and land uses will be guided by the TVA Land Policy. TVA land use allocations are not intended to supersede deeded landrights or land ownership.

Parcels allocated to Industrial (Zone 5) and Shoreline Access (Zone 7) uses remain the same under all alternatives.

Alternative A - No Action Alternative. Under the No Action Alternative, TVA would not implement an RLMP. Douglas Reservoir would continue using the Forecast System

developed in 1965, which allocated parcels to 13 land use categories, and Nolichucky Reservoir would remain unplanned.

Approximately 408 acres around the two reservoirs are uncommitted parcels (i.e., parcels having no easement, lease, or other land use agreement) that would not be planned but would be managed in accordance with the TVA Land Policy, the Shoreline Management Policy, and other administrative considerations. About 34 percent of reservoir lands would remain allocated to the equivalent of Project Operations, about 43 percent to the equivalent of Natural Resource Conservation, and 23 percent to the equivalent of Developed Recreation (Table S-1). No parcels would be allocated to Sensitive Resource Management.

Table S-1. Total Number of Acres Proposed in Each Allocation Zone Under Alternatives A, B, and C

Zone	Alternative					
	A		B		C	
	Acres	%	Acres	%	Acres	%
2 - Project Operations	1,078	33.8	1,078	33.8	1,078	33.8
3 - Sensitive Resource Management	0	0	621	19.5	713	22.3
4 - Natural Resource Conservation	1,359	42.6	980	30.7	971	30.4
5 - Industrial	3	0.1	3	0.1	3	0.1
6 - Developed Recreation	738	23.1	496	15.5	413	13.0
7 - Shoreline Access	13	0.4	13	0.4	13	0.4
Total	**3,191**	**100.0**	**3,191**	**100.0**	**3,191**	**100.0**

Alternative B - Proposed Land Use Alternative. Under Alternative B, TVA would prepare RLMPs for Douglas and Nolichucky reservoirs. To develop proposed parcel allocations, TVA reviewed existing and newly collected field data on the lands being planned. The physical capability of each parcel for supporting potential suitable uses was assessed. TVA also reviewed deeds of selected tracts previously sold to private entities to identify existing shoreline access rights. The planning team honored all existing commitments (i.e., existing leases, licenses, and easements).

Under Alternative B, the 2,783 acres previously committed to a specific use would be allocated to land use zones consistent with that specific land use. The remaining uncommitted 408 acres (26 parcels) are proposed to be allocated to Zone 2 (Project Operations), Zone 3 (Sensitive Resource Management), Zone 4 (Natural Resource Conservation), or Zone 6 (Developed Recreation). Overall, about 50 percent of reservoir land would be allocated to Natural Resource Conservation or Sensitive Resource Management. About 34 percent of reservoir land would be allocated to Project Operations, about 16 percent would be allocated to Developed Recreation, and the remainder (less than 1 percent) would be allocated to Zone 7 (Shoreline Access) or Zone 5 (Industrial).

Alternative C - Modified Land Use Alternative. Under Alternative C, TVA would prepare RLMPs for Douglas and Nolichucky reservoirs. To develop proposed parcel allocations, TVA implemented the planning process described above under Alternative B and incorporated public comments, additional field inspections and staff recommendations, and other information obtained during the scoping process. Under Alternative C, the 2,783 acres of committed lands would be allocated to land use zones consistent with the existing land use. Similar to Alternative B, the remaining uncommitted 408 acres (26 parcels) are proposed to be allocated to Project Operations, Sensitive Resource Management, Natural Resource Conservation, or Developed Recreation. Alternative C, as compared to Alternative B, represents changes in land use zones for 16 parcels. With these refinements, about 53 percent of reservoir land would be allocated to Sensitive Resource Management and Natural Resource Conservation, and about 13 percent would be allocated to Developed Recreation. The amount of land allocated to Project Operations, Industrial, or Shoreline Access would remain the same as under Alternative B. Under Alternative C, seven parcels that contain high-quality wetlands and sensitive natural resources would be allocated to Zone 3, which provides more protection than the allocation to Zones 4 or 6 under Alternative B.

AFFECTED ENVIRONMENT

Douglas and Nolichucky reservoirs are located in the northeast corner of Tennessee on the French Broad and Nolichucky rivers in Greene, Hamblen, Sevier, Jefferson, and Cocke counties in Tennessee. A total of 597 miles of shoreline surrounds these reservoirs, but the amount of shoreline directly owned and managed by TVA differs greatly between the two reservoirs, with 19 of the 36 miles of Nolichucky Reservoir shoreline being owned and managed by TVA, while only 69 of the 561 miles of Douglas Reservoir shoreline are owned and managed by TVA.

Existing land uses around the reservoirs include TVA project operations, recreation, residential, and undeveloped areas. Fifteen high-quality developed recreation facilities such as Kinser Park, Sevier County Park, and Douglas Dam Reservation are provided on TVA-managed lands, which include campgrounds, marinas, developed boat launches/ramps, picnic areas, swimming beaches, a fishing pier, and two golf courses. TVA-managed lands around the reservoirs also offer abundant opportunity for dispersed recreation.

Deciduous forests and woodlands cover approximately 35 percent of the landscape in the lower French Broad River watershed. About 8 percent of the land cover is evergreen forests and woodlands. Wetlands comprise about 2 percent of land cover, and about 29 percent is herbaceous and agricultural. In the Nolichucky River watershed, about 25 percent of the landscape is deciduous forests, and about 4 percent of the land cover is evergreen forests and woodlands. Wetlands comprise about 1 percent of land cover, and about 59 percent is herbaceous and agricultural, which is the largest segment. Wetlands on and near Douglas Reservoir are primarily riverine/floodplain forests located in the floodplains of rivers and streams. Small areas of emergent/scrub-shrub wetlands (typically less than 0.10 acre) are associated with reservoir shorelines and coves. Douglas Reservoir has extensive areas of mudflats in Rankin Bottoms and in the main stem of the reservoir near the Interstate-40 bridge. Though the Nolichucky Reservoir is much smaller in area than Douglas Reservoir, it contains wetland habitats that are larger in size and more ecologically diverse. Siltation associated with historical upstream mining activities has created extensive and unique wetland types as sediment has filled in the reservoir.

Wetlands below Nolichucky Dam are typically more riverine and associated with islands and floodplains.

No federally listed as threatened or endangered plant species, or critical habitat designated for plant species, have been recorded within 5 miles of Douglas or Nolichucky reservoirs. One federally listed species is known from the surrounding counties, but neither individuals nor habitat suitable for that species was observed during field surveys. Four plant species listed by the State of Tennessee are known to occur within 5 miles of the reservoirs, including three state-listed species identified on Nolichucky parcels during field surveys.

The variety of landforms, soils, climate, and geology across the Ridge and Valley ecoregion support an extremely diverse assemblage of terrestrial animals. The reservoirs provide abundant open water habitats and associated riparian (shoreline) zones that are used by a variety of wildlife including shorebirds, wading birds, waterfowl, amphibians, reptiles, and mammals. Although three federally listed terrestrial animal species and a federally protected terrestrial animal species are known from the Douglas and Nolichucky reservoirs area, there are no known occurrences of those species on reservoir parcels. The federally listed as threatened piping plover has been observed as a casual visitor at Rankin Bottoms Wildlife Management Area (WMA) on Douglas Reservoir during the shorebird fall migration season. The gray bat, a species federally listed as endangered, potentially forages over the reservoirs, but no roost habitat (caves) suitable for the gray bat is known on reservoir parcels. The federally listed as endangered Indiana bat also roosts in caves during the winter and typically forms summer roosts under the bark of dead or dying trees. Although suitable summer roosting habitat exists throughout the study area, Indiana bats have not been found in any known area caves. Federally protected bald eagles build nests on Douglas Reservoir and downstream of the dam, but no nests are currently known on TVA lands. Two terrestrial animal species listed by the State of Tennessee occur within 3 miles of the reservoirs.

Two federally listed as endangered, one federally listed as threatened, and three candidates for federal listing aquatic species are known to occur near Douglas and Nolichucky reservoirs. There are historic records of four other federally listed mussels near the reservoirs. In addition to the federally listed species, five state-listed fish have been recorded within the watersheds of the reservoirs.

TVA conducted surveys for archaeological sites along portions of the Nolichucky River. Additionally, TVA evaluated results of previous surveys conducted along Douglas and Nolichucky reservoirs. TVA-managed land around the reservoirs has not been systematically and completely surveyed for cultural resources. However, a number of archaeological sites have been identified on both the Douglas and Nolichucky reservoirs. Some sites are located below the full summer pool elevation. Certain sites are eligible or potentially eligible for listing in the National Register of Historic Places. Results of field surveys indicated no historic structures are located on uncommitted parcels.

Only one natural area is managed by the TVA Natural Areas Program on either Douglas or Nolichucky reservoirs. Seven managed areas are on or immediately adjacent to Douglas Reservoir and include Trotter Bluff TVA Small Wild Area, the Lower French Broad and Lower Holston River Nonessential Experimental Population Status Area, the French Broad River (one segment Nationwide River Inventory-listed and one segment designated a State Scenic River), Rankin Bottom State WMA, Henderson Island Refuge, Dandridge Municipal Park, and Sevier County Park.

The visual resources of Douglas and Nolichucky reservoirs include islands, floodplains, secluded coves, and wetlands that are framed by high wooded ridges. Since the scenic features of the landscape are not limited by land boundaries, the attractive landscape character extends across TVA public and private land alike. The natural elements together with the communities and other cultural development provide a scenic, rural countryside.

Water quality in Douglas Reservoir is typical of impoundments, which convert typical riverine environments into lakelike conditions, thereby effecting change to many aspects of the aquatic environment, such as water temperature, dissolved oxygen (DO), nutrient dynamics, algal productivity, and aquatic life, in the reservoirs themselves and the rivers downstream. The length of time water is retained in a reservoir (residence time) is about 45 days, which is one of the primary mechanisms influencing these changes. Reservoir ecological health ratings for Douglas are typically “poor” for DO because of low concentrations, chlorophyll concentrations are “good to fair” in the forebay to “poor” in midreservoir, and the sediment is rated “good to fair.”

Nolichucky Reservoir extends about 6 miles upstream from the dam. Because siltation associated with historical upstream mining activities has filled in the reservoir, creating sediment-related problems, power production has stopped. In 1995, the gates were permanently closed, and water now flows unregulated over the spillway at elevation 1,240.9 feet. The water volume in the remaining reservoir pool is estimated to be about 1,716 acre-feet below elevation 1,240.9 feet, which is probably maintained by continued scouring in the active river channel. The average residence time in Nolichucky Reservoir is less than one day. Because it is not an active reservoir, no reservoir ecological health ratings are taken for Nolichucky; however, basic water quality information is routinely collected at intervals on the Nolichucky River downstream.

Aquatic monitoring in the Nolichucky River indicates primarily fair ecological conditions, ranging from poor to good. Results of TVA’s Reservoir Vital Signs Monitoring Program in Douglas Reservoir indicate fair to poor conditions. Sport Fishing Indexes (SFI) typically indicate fair to good ratings on Douglas Reservoir. Nolichucky Reservoir is not sampled for an SFI score, but the Nolichucky River is reported to support one of the best warm water sport fisheries in the area.

Several segments of the French Broad and Nolichucky rivers systems are listed by the States of Tennessee and North Carolina as water-quality impaired under Section 303(d) of the Clean Water Act. The state-designated impaired waters include the Nolichucky and Douglas reservoirs and their tailwaters due to a loss of biological integrity from siltation. Also included are other segments of the Nolichucky River, streams or segments of streams flowing into the Nolichucky River, and streams flowing into Douglas and its tailwater. The most common sources of stream impairment are nonpoint source pollution from agriculture and some urban runoff. Reasons for the impaired designation in the Douglas tailwater include flow alteration, low DO concentrations, and thermal modification, with the source being the releases from Douglas Dam.

The State of Tennessee has issued a precautionary advisory for the consumption of largemouth bass from the upper reach of Douglas Reservoir because of elevated mercury concentrations. There is no State of Tennessee fish consumption advisory for the Nolichucky watershed. There is a statewide fish consumption advisory in North Carolina due to mercury concentrations, which includes the part of the Nolichucky River watershed

in North Carolina. There are no state advisories against swimming in either Douglas or Nolichucky reservoirs.

All of the counties containing Douglas and Nolichucky reservoirs are currently in attainment of each of the National Ambient Air Quality Standards. Under ozone standards expected to be updated in the future, some of these counties are likely to be designated nonattainment for ozone. There are four Class I areas (specially protected) within 100 kilometers (62 miles) of the reservoirs, including the Great Smoky Mountains National Park, Shining Rock Wilderness, Joyce Kilmer/Slickrock Wilderness, and Linville Gorge.

The 2000 census population of the five counties containing Douglas and Nolichucky reservoirs is estimated to be about 300,000. Between 1980 and 2008, Jefferson and Sevier counties grew much more rapidly than either the state or the nation, while the other counties have grown more slowly. Sevier County is projected to continue to grow much faster than the nation and the state between now and 2020. Except for Hamblen County, the rural population share in the area is well above the Tennessee average, which is somewhat higher than the national average. The population is predominantly non-Hispanic white, with a low average minority population compared to state and national averages.

The reservoirs are located in a relatively low-income area. Except for Sevier County, which is at the national average, the poverty levels are slightly higher than the state of Tennessee average and well above the national average. In 2008, the unemployment rate in the area was higher than the national and Tennessee rates.

ENVIRONMENTAL CONSEQUENCES

Under any of the alternatives, potential impacts to sensitive resources such as federally listed species, cultural resources, and wetlands would be identified during project-specific evaluations.

None of the three alternatives involve changes in existing land use commitments (e.g., easements, leases). About 13 percent of Douglas and Nolichucky reservoir lands are uncommitted. The primary difference between the No Action Alternative and Action Alternatives B and C are the reduction of lands allocated to Zone 6 (Developed Recreation) and the increase in lands allocated to the combination of Zone 3 (Sensitive Resource Management) and Zone 4 (Natural Resource Conservation). These changes reflect application of a land use zone that is more consistent with current uses. The primary impact of the No Action Alternative is the absence of a comprehensive plan to guide consideration of land use requests. Under Alternative A, TVA parcels would not be allocated to a current land use zone; therefore, complete alignment with current TVA policies would not occur. Over the long term, absence of comprehensive reservoir land management plans may result in land uses that do not fully optimize the goals of multiple use and stewardship to which TVA strives. Under the action alternatives, there would be no adverse effects to land use. However, there would be minor beneficial effects of long-term, comprehensive land plans.

Among all three alternatives, the variation in the combined amount of land available for developed and dispersed recreation opportunities is small. Although the No Action Alternative (Alternative A) includes the greatest amount of land designated for developed recreation (23 percent), the action alternatives contain more acres available for dispersed recreation. Adoption of Alternative A would result in minor negative effects to dispersed recreation. Under Alternative A, parcels were placed in the equivalent land use zone for

comparison with the action alternatives. Several parcels were forecasted as public recreation and were therefore placed in the equivalent land use zone as Zone 6 (Developed Recreation). Compared to Alternative A, the amount of land designated for developed recreation under Alternative B decreases due to further evaluation of those parcels placed into an equivalency zone. However, between the action alternatives, Alternative B would have slightly more land available for Zone 6 (Developed Recreation) and slightly less for dispersed recreation. Alternative C has the least amount of land designated for developed recreation due to conclusions based on field assessments that indicate the parcel is either unsuitable for developed recreation or sensitive natural resources occur on the parcel. Selection of Alternative B or C would not directly affect developed recreation because there is land designated for recreation in Alternative A that is unsuited for developed recreation. However, selection of Alternative B or C would result in minor effects to developed recreation due to lost opportunity for future development of recreational facilities. Conversely, selection of either action alternative would beneficially affect dispersed recreation.

Under any of the alternatives, potential future ground disturbance and development has potential for impacts to floodplain values, wetlands, and prime farmland. Alternative A involves the greatest potential for future ground disturbance and development. Although both action alternatives allocate substantially more land to conservation than Alternative A, there is potential for ground disturbance under the action alternatives. However, under any alternative, any development proposed in the 100-year floodplain would be subject to the requirements of Executive Order (EO) 11988 (Floodplain Management), and impacts to floodplain values would be insignificant. Adverse effects to wetlands from ground disturbance would be mitigated under EO 11990 (Protection of Wetlands) and would be insignificant. Likewise, proposed actions involving the transfer of land for development could require project-specific evaluation of impacts to prime farmland. Under any of the alternatives, adverse impacts to prime farmland would be minor.

Because the potential for ground disturbance is greatest under Alternative A, the potential for adverse impacts to archaeological sites and historic structures is greatest under that alternative. Because the amount of land allocated to natural resource conservation and sensitive resource protection would be greatest under Alternative C, the potential for impacts to archaeological sites and historic structures is slightly lower than under Alternative B. Prior to implementing any future projects on Douglas or Nolichucky reservoirs lands, TVA would comply with established procedures for identifying, evaluating, and avoiding or mitigating impacts to archaeological resources and historic structures. Specific procedures for addressing these cultural resources are described in a programmatic agreement (PA) between the Tennessee State Historic Preservation Officer, TVA, and the Advisory Council on Historic Preservation.

Under all three alternatives, the proposed DNTRLMP identifies lands for natural resource conservation and implements measures to mitigate impacts when projects are planned. Given the substantial amount of deciduous and evergreen forest around the reservoirs, none of the three alternatives would result in significant impacts to common terrestrial vegetation or common terrestrial wildlife. Both action alternatives would increase the amount of reservoir lands allocated to sensitive resource management and natural resource conservation, which would promote conservation of terrestrial plants and wildlife. Over the long term, allocation of lands to sensitive resource management and natural resource conservation, which limits ground disturbance, vegetation removal, and other development,

is likely to benefit terrestrial wildlife communities in the Nolichucky River and French Broad River watersheds.

Four federally listed as endangered, one federally listed as threatened, three candidates for federal listing, one federally protected, and five additional state-listed species are known to occur near Douglas and Nolichucky reservoirs. Potential impacts to listed terrestrial plants, terrestrial wildlife, or aquatic animal species include direct impacts associated with clearing and ground disturbance and indirect impacts from altering or fragmenting habitats, human visitation, spread of invasive species, and pollution and siltation of streams from erosion and ground disturbance activities. However, project-specific environmental reviews on any parcel would be preformed, and mitigation would be required when warranted.

No federally listed plants would be affected under any of the alternatives, and there would be no significant impacts to known state-listed terrestrial plant or animal species. However, the potential for impacts to state-listed plants known on Nolichucky parcels is greatest under Alternative A and lowest under Alternative C. Adoption of Alternative A may, but would not be likely to, impact gray and Indiana bats or listed aquatic species. Under the action alternatives, no federally listed terrestrial animals would be affected, and federally listed aquatic species would not likely be affected. In general, effects to listed species would be insignificant under all alternatives. However, Alternative A would have the greatest impact to listed species. Alternative B would have lesser impacts and Alternative C the least impacts.

The major source of potential adverse impacts to water quality and aquatic life are ground disturbance and associated erosion, clearing of shoreline vegetation, and storm water runoff. Based upon land use allocations, adoption of the No Action Alternative would result in the greatest potential for future development and associated ground disturbance. Conversely, under both action alternatives, a greater amount of reservoir land is allocated to sensitive resource management and natural resource conservation uses, which have low potential for ground disturbance. Consequently, the potential for impacts to water quality and aquatic life is greatest under Alternative A. The extent of impacts would be dependent on the specifics of future development. New facilities with permitted discharges would be required to meet permit limits specifically designed to protect water quality. Further, any proposed land use would be required to protect water quality through either restricted development or the commitment to use best management practices. Therefore, selection of any of the alternatives would result in insignificant impacts to water quality and aquatic life.

Existing managed areas such as natural areas and ecologically significant sites were considered during the parcel allocation process. No changes to the size, location, or character of natural areas would result under any alternative. Therefore, no adverse direct or indirect impacts to natural areas are expected under any of the alternatives. Under all three alternatives, preservation of managed areas on TVA-managed lands would beneficially contribute to the cumulative regional efforts to conserve natural habitats for the long term.

Adoption of Alternative A would likely result in some long-term negative impacts to visual resources and scenic integrity, which include gradual losses of visual resources, scenic attractiveness, and undeveloped natural areas, as well as negative changes in the aesthetic sense of place. Implementation of the proposed DNTRLMP under Alternative B or C would be protective of scenic areas and would reduce shoreline development, which would be

beneficial to visual resources. Under both action alternatives, impacts to visual resources would be minor.

Under any of the alternatives, there would be very low potential for impacts to air quality. An appropriate level of environmental review would be required to document the extent of expected air quality impacts from projects proposed in the future. Future projects would be subject to federal, state, and local air quality regulations. Therefore, adoption of any of the three alternatives would not result in significant impacts to air quality.

Based on the small proportion of TVA-managed public land available for development relative to the entire shoreline of the Douglas and Nolichucky reservoirs, there would be an insignificant increase in the potential for noise impacts under all three alternatives, with the lowest potential for noise expected under Alternative C.

The majority of TVA-managed shoreline on Nolichucky Reservoir is designated for recreation or sensitive resource management, whereas the majority of shoreline on Douglas Reservoir is privately owned. The availability of TVA-managed lands that are suitable for industry, TVA project operations, and developed recreation is minimal. TVA-managed lands that are suitable for TVA project operations, industry, and developed recreation are being utilized as such. None of the alternatives would be likely to have any noticeable effect on the local economy or on economic development opportunities in the area. No disproportionate impacts to disadvantaged populations are expected to occur under any of the alternatives.

Implementing any of the three alternatives would have few, if any, unavoidable adverse environmental effects. The potential to negatively affect long-term productivity of the land, as well as potential irretrievable commitments of resources, would be greater under the No Action Alternative than under either of the action alternatives. Each of the three alternatives involves use of minor amounts of energy to maintain project operations and developed recreation lands. Although the total amount of energy is small and unlikely to influence regional energy demand, the potential to consume energy is slightly greater under Alternative A compared to the two action alternatives. TVA would implement energy conservation efforts under all three alternatives.

SUMMARY OF IMPACTS

Under the No Action Alternative, the total number of acres of Douglas and Nolichucky reservoir lands designated to developed recreation uses is greater than under either of the action alternatives. Under the No Action Alternative, sensitive resource management would not be designated for any TVA-managed land.

Compared to Alternative A, the action alternatives allocate fewer total acres to developed recreation and a greater number of acres to natural resource conservation and sensitive resource management combined. Generally, the No Action Alternative has greater potential for environmental impacts than does either of the action alternatives. Because it contains slightly less land allocated to developed recreation, Alternative C has slightly less potential for impacts than Alternative B and has the lowest potential for environmental impacts overall.

No significant direct, indirect, or cumulative effects are expected to occur to any resource under any of the alternatives.

PREFERRED ALTERNATIVE

The preferred alternative is Alternative C, the Modified Land Use Alternative, which provides suitable opportunities for developed recreation, conservation of natural resources, and management of sensitive resources. The environmentally preferred alternative is also Alternative C, under which all parcels with identified sensitive resources would be allocated to the most protective land use zone; only some of those parcels would be zoned for sensitive resource management under Alternative B and none under Alternative A.

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ACRONYMS, ABBREVIATIONS, AND SYMBOLS

§	Section
<	Less than
>	Greater than
APE	Area of potential effect
ARPA	Archaeological Resources Protection Act
BMPs	Best management practices
CFR	Code of Federal Regulations
CWA	Clean Water Act
DNTRLMP	Douglas and Nolichucky Tributary Reservoirs Land Management Plan
DCH	Designated critical habitat
DEIS	Draft environmental impact statement
DO	Dissolved oxygen
DOI	U.S. Department of the Interior
EA	Environmental assessment
EO(s)	Executive Order(s)
EIS	Environmental impact statement
ESA	Endangered Species Act
FPPA	Farmland Protection Policy Act
FBRM	French Broad River Mile
HUC	Hydrologic Unit Code
IBI	Index of Biotic Integrity
MGD	Millions of gallons per day
mg/L	Milligrams per liter
MSC	Maximum shoreline contour
msl	Mean sea level
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NCDENR	North Carolina Department of Environment and Natural Resources
NEP	Nonessential Experimental Population Status
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOI	Notice of intent
NRM	Nolichucky River Mile
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
NRI	Nationwide Rivers Inventory
PA	Programmatic agreement
PCBs	Polychlorinated biphenyls
PNNL	Potential National Natural Landmark
ppm	Parts per million
PSD	Prevention of significant deterioration
RFAI	Reservoir Fish Assemblage Index
RLMP	Reservoir land management plan
SFI	Sport Fishing Index
SHPO	State Historic Preservation Officer
SMI	Shoreline Management Initiative
SMP	Shoreline Management Policy
SWA	Small wild area
TDEC	Tennessee Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
TN-EPPC	Tennessee Exotic Plant Pest Council
TWRA	Tennessee Wildlife Resources Agency

TVA	Tennessee Valley Authority
TVA Board	TVA Board of Directors
TVARAM	TVA Rapid Assessment Method
U.S.	United States
USA	United States of America
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USOSM	U.S. Office of Surface Mining
UT	University of Tennessee
WMA	Wildlife management area