

CHEROKEE OUTDOOR RESORT BY THE SMOKIES (FORMERLY NAMED SEQUOYAH LODGE AND LAKE RESORT)

Draft Supplemental Environmental Assessment

Tellico Reservoir
Monroe County, Tennessee

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CHAPTER 1 – PURPOSE AND NEED FOR ACTION

1.1 The Proposed Action

In 2004, the Tennessee Valley Authority (TVA) conveyed an easement on 41.8 acres of TVA public land on Tellico Reservoir to the Eastern Band of Cherokee Indians (EBCI) for the use of a commercial recreation complex. The land is within the town of Vonore, in Monroe County, Tennessee. The EBCI also requested approval from TVA under Section 26a of the TVA Act and from the U.S. Army Corps of Engineers (USACE) under Sections 401 and 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbor Act to construct water use facilities and install riprap for shoreline stabilization. TVA reviewed these actions in an EA in compliance with the National Environmental Policy Act, wherein TVA concluded that the proposal would not result in significant environmental impacts; a finding of no significant impact was issued in June 2004 (TVA, 2004). The USACE served as a cooperating agency on the EA.

Since 2004, after TVA conveyed an easement to EBCI, only portions of the planned development have been constructed. The unimproved portion of the property consists of approximately 35 acres situated along the southeastern side of Tennessee State Route 411, just southwest of the Niles Ferry Bridge over the Tellico River (TVA Tract XTTEL-43RE, Map 19C, Tellico River Mile 0.4L).

In 2020, TVA received a new Land Use Permit Application as well as a Section 26a joint application, with USACE, to allow the completion of the development, under a revised plan. The EBCI continues to hold an easement from TVA that allows development of the parcel. In addition to the easement area, TVA granted EBCI certain rights to construct and maintain water use facilities on the abutting TVA shoreline property between the 820-foot contour elevation and the waters of Tellico Reservoir.¹

The EBCI project is now referred to as “Cherokee Outdoor Resort by the Smokies.” TVA is considering granting a land use permit for all proposed facilities on the parcel above the floodplain and granting a Section 26a permit on proposed facilities within the floodplain and on the reservoir shoreline.

As described in greater detail in Section 2.1.2, numerous changes to the original development plan that TVA reviewed in the 2004 EA are being proposed, including the following:

- Expansion of and new layout for the campground/RV resort on approximately 26.5 acres;
- Construction of a welcome center facility;
- Reduction in the number of cabins that would be constructed;
- Abandoning the proposal to construct a 300-room Lodge and Hotel;

¹ TVA maintains the right to flood between the 820-foot mean sea level contour and the waters of Tellico Reservoir.

- Relocation of swimming and beach facilities;
- Addition of water-based amenities, including a “Wibit” inflatable playground placed in the reservoir and a floating dock;
- Reduction in parking spaces that would be installed; and
- Addition of rip rap and vegetative armoring along the reservoir banks.

Because of the changes to the development plan, TVA is supplementing the analysis in the 2004 EA to address the potential environmental effects associated with the revised project plan and to consider whether there is significant new information relating to the proposed action.

1.2 Purpose and Need

The purpose and need for the proposed actions remains the same as those defined by TVA in its 2004 EA. The Cherokee Outdoor Resort by the Smokies is a commercial operation intended to add new recreation opportunities for the surrounding community and region and to generate revenue for the EBCI. Under the current proposal, the EBCI has partnered with a third-party that would be responsible for managing and operating the resort. In addition to the commercial interests of the EBCI and the operator, the project would result in other public benefits including economic development and increased tourism.

Since 2004, the EBCI revised the original proposal because market evaluations show that the commercial lodging and hotel uses were not suitable uses for the site. Certain aspects of the original master plan (e.g., hotel and lodging) also do not comply with TVA’s Land Policy and Commercial Recreation Guidelines issued since 2004. EBCI has since determined that recreational vehicle resort use is more commercially viable. When combined with existing and additional rental cabin amenities and additional water-based recreation amenities, the proposed modified resort plan would serve as the EBCI’s best and highest use of the property.

Although TVA has previously conveyed an easement for this development, TVA must consider the issuance of a land use permit to the EBCI, consistent with applicable TVA regulations and land use policies. Section 26a of the TVA Act requires that TVA approval be obtained prior to the construction, operation, or maintenance of a structure or activity affecting navigation, flood control, or public lands. This approval process ensures that the proposed activities do not interfere with TVA’s management of the Tennessee River system. TVA’s interest in this project arises from these obligations under TVA land use policies and under Section 26 of the TVA Act as well as its commitment to support economic growth within the Tennessee River Valley region and to provide for commercial recreational opportunities.

1.3 Related Environmental Reviews

As noted above, this document supplements the 2004 EA of the original EBCI proposal. The 2004 EA is incorporated herein by reference.

The use of the parcel for developed recreation is consistent with TVA's *Tellico Reservoir Final Environmental Impact Statement and Land Management Plan* (RLMP) completed in 2000 (TVA, 2000). The properties included in the request are TVA Parcel 94 (37.5 acres) and a portion of TVA Parcel 95, as designated in the RLMP. Both parcels are allocated for recreation purposes in the RLMP; the EBCI proposal would be compatible with this allocation.

1.4 Interagency Coordination, Permits and Approvals

TVA is the lead federal agency in the preparation of this supplemental EA. The USACE is serving as a cooperating agency. As noted above, in addition to the Section 26a approval that the EBCI requires, the ECBI is also seeking approval from the U.S. Army Corps of Engineers (USACE) under Sections 401 and 404 of the CWA and Section 10 of the Rivers and Harbor Act to construct water use facilities and install riprap for shoreline stabilization. Before the USACE can issue a permit, the General Aquatic Resources Alteration Permit for the proposed beach area and bank stabilization must be issued by the Tennessee Department of Environment and Conservation (TDEC) Division of Water Resources pursuant to Section 401(a)(1) of CWA, that applicable state water quality standards would not be violated by the work.

In addition, a general construction storm water permit from TDEC (in accordance with National Pollutant Discharge Elimination System (NPDES) requirements) would be needed because more than 1 acre would be disturbed. Coverage would require development of a site-specific Stormwater Pollution Prevention Plan (SWPPP), which would detail applicable best management practices to minimize surface water impacts from erosion of sediment, solid waste, chemicals usage, equipment usage and maintenance, dust control, and septic issues.

Should hydrostatic test discharges occur, coverage would be obtained under the 2021 NPDES General Permit for Discharges of Hydrostatic Test Water (TN670000).

In addition to the federal and state environmental permits identified above, the developer would also be required to obtain a Water Main Extension Permit and Sanitary Sewer Main and Lift Station/Force Main Permit. If required, the developer would also obtain TDEC approval for the engineering plan and obtain a pretreatment or discharge permit from the publicly owned treatment works.

As described in the 2003 EA, TVA consulted with the Tennessee Historical Commission in April 2002 and June 2004, consistent with Section 106 of the National Historic Preservation Act, and gained their concurrence that the project area contained no archaeological resources eligible for listing in the National Register of Historic Places (NRHP) and that an historic property to the west of the project area would not be adversely affected by the proposal. In February 2021, TVA consulted with the Tennessee Historical Commission and federally-recognized Indian tribes regarding the revised proposal. TVA received concurrence from the Tennessee Historical Commission once more that there were no

properties listed or eligible for the NRHP and had no objections to the undertaking. One tribe provided a comment to TVA, stating that it had no objection to the proposal.

The proposal has been reviewed by local entities as well. On March 8, 2020, the proposed RV resort use received a special exception approval from the Town of Vonore pursuant to its zoning ordinance.

1.5 Public Involvement

When completing the EA in 2003 and 2004, TVA provided notice to the public, held a public comment period, and hosted a public meeting (December 18, 2003). TVA received no significant opposition to the EBCI proposal.

On March 25, 2021, the USACE and TVA issued a joint public notice to solicit input to support the decision making process. The USACE received two comment submittals during the period and provided the submittals to TVA. In one submittal, the U.S. Fish and Wildlife Service stated that records indicate that the federally endangered Anthony's river snail (*Athearnia anthonyi*) has been known to occur in the general vicinity of the proposed project site. TVA addresses this species in Section 3.2.1 below. In another submittal, the Watershed Association of the Tellico Reservoir (Water Quality Improvement Committee) submitted comments relating to mitigation and management of stormwater runoff into Tellico Reservoir and the collection, treatment, and disposal of sewage at the proposed recreation development. TVA addresses these issues in Section 2.1.2(II)(V) and Section 3.3 below.

In addition to the joint public notice issued in March 2021, TVA is issuing the draft supplemental EA for public review. The availability of the draft supplemental EA will be announced in a media release and the EA will be posted on TVA's website. TVA's agency involvement includes notification of the availability of the draft supplemental EA to local, state and federal agencies and federally recognized tribes as part of the review. Comments are being accepted during the public review period via mail, e-mail, and via TVA's website. TVA will carefully review any comments received on the draft supplemental EA and address them, as appropriate, in the final supplemental EA.

CHAPTER 2 – ALTERNATIVES

In the Supplemental EA, TVA will consider changes to the Action Alternative that was analyzed in the 2004 EA, and will consider any new information relating to this Alternative. TVA will also analyze the No Action Alternative.

2.1 Description of Alternatives

2.1.1 Alternative A – The No Action Alternative

The previous Section 26a permit and easement granted to the EBCI for development of the resort would remain valid. TVA considers the No Action Alternative to be the same as the No Action analyzed in its 2004 EA, with one difference. Under the current No Action scenario, the portion of the resort that was constructed (at and adjacent to the marina location) would remain in operation under the revised No Action Alternative.

2.1.2 Alternative B – Modified Development Proposal (Cherokee Outdoor Resort by the Smokies)

Under Alternative B, TVA would issue a land use permit and Section 26a permit to the EBCI to construct and operate the proposed facilities on 41.8 acres of TVA land. Generally, Alternative B would be similar to the Action Alternative reviewed by TVA in its 2004 EA. However, the EBCI has proposed numerous changes to its initial proposal analyzed in the 2004 EA, which are discussed in greater detail below. This alternative is preferred by TVA.

I. Recreation Vehicle Resort / Campground

Under the proposal, the EBCI would construct a Recreation Vehicle (RV) Resort on approximately 26.5 acres of the southern portion of the property, providing up to 250 RV sites. See Figure 1 below. Currently, the EBCI has proposed 203 RV sites and 17 glamping² sites. However, the EBCI would have the right to modify the mix of units provided the maximum number of units does not exceed 250. The glamping sites may consist of tent platforms, Yurts, teepee units or other mixes of luxury camping sites. The units would all be for transient, short-term rental. Certain RV sites may be developed with “park models”³ on selected sites.

The RV Resort portion of the development would have a separate entrance, across from the existing intersection of Route 411 and Industrial Boulevard. The EBCI is working with local, State and private entities to determine whether installation of a four-way traffic light at the intersection is feasible.

At the Resort entrance, EBCI would construct a Welcome Center (approximately 11,500 square feet) with an adjacent stacking area for RVs and motor vehicles during check-in. This facility would provide a check-in reception area, offices for administrative and operational personnel, a rental reservation area, and possibly a store for campers.

² Glamping is short for glamorous camping, which combines resort-style amenities and services with tent camping.

³ A park model RV is a unique trailer-type RV that is designed on a single chassis, mounted on wheels and has a gross trailer area not exceeding 400 square feet in set-up mode.

A “main street” with two-way traffic is proposed through the central part of the development. The remaining interior traffic flow would be accommodated by one-way streets. The design of the private road system would comply with all Town of Vonore zoning standards.

Each RV site would, at a minimum, meet all of the requirements of the Town of Vonore zoning ordinance. Fire hydrants would be located in conformance with the requirements of the local ordinance, and trash would be handled consistent with the ordinance.

II. Recreational Amenities

Under the proposal, as shown in Figure 2 below, recreational amenities would be developed on the parcel between the cabin area and the RV Resort area. The proposed Lake Clubhouse would be centrally located within the recreational area and above the 820-foot elevation. The Lake Clubhouse may include a restaurant/snack bar area and small retail sales area, as well as lockers, dressing areas, rest rooms and other supporting uses. Terraces would be available for special events and general viewing. A swimming pool and kid’s splash pool would be constructed and operated at the Lake Clubhouse.

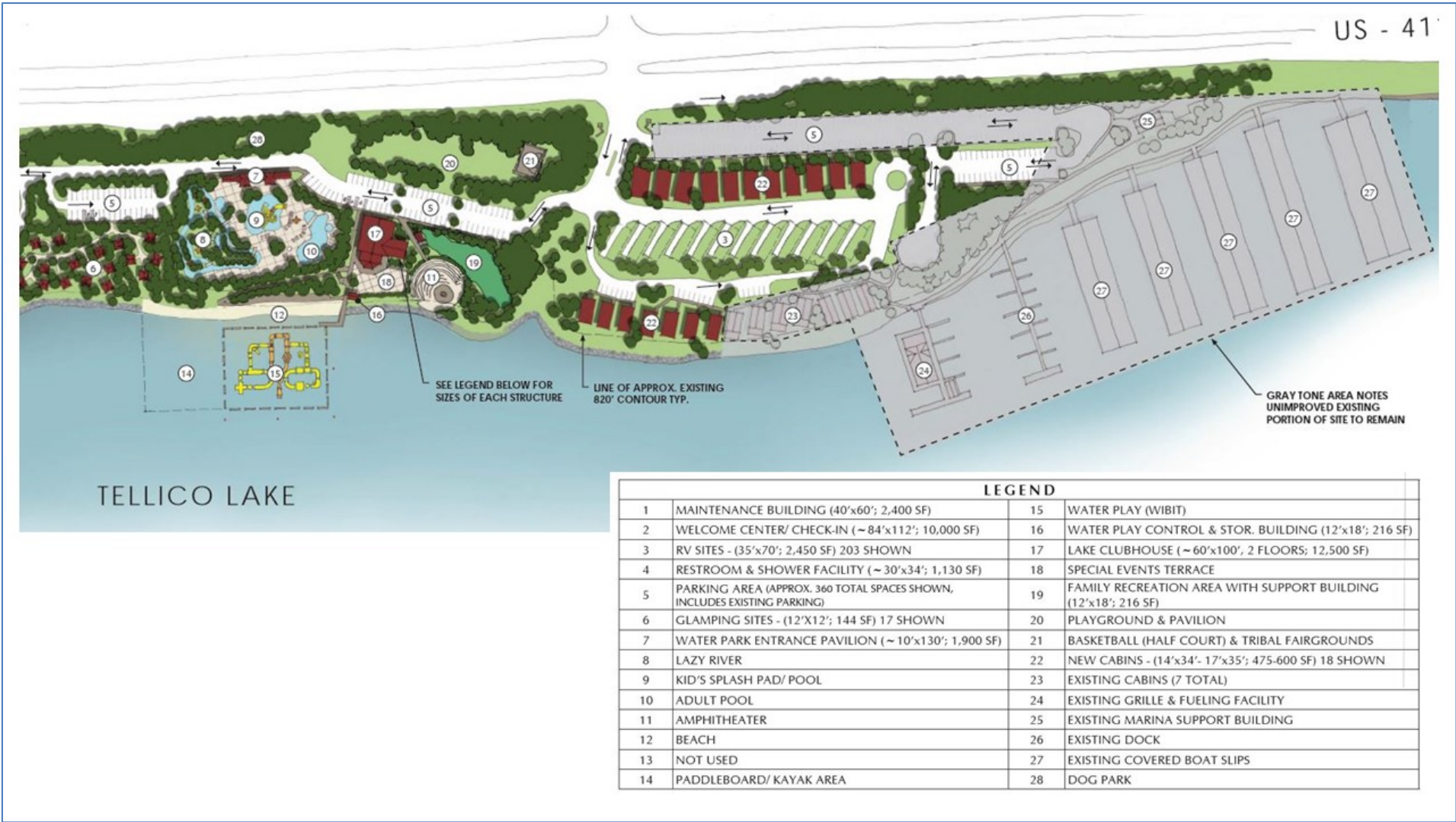
A beach area is proposed for a shoreline area below the Lake Clubhouse for swimming, paddle boarding, kayaking and canoeing. The beach would extend above and below the 820-foot elevation. The beach would be constructed by creating a small wall and grading approximately 3,400 cubic yards of dirt at the location and placing approximately 900 cubic yards of sand.

A floating inflatable water-based playground (called a Wibit) is proposed to be installed and operated in an area off the beach and in the reservoir. There would be one floating dock adjacent to the beach. The beach area to the north of the dock would be utilized to access the Wibit structure and for paddle boarding, kayaks, canoes and other water related activities. This dock would delineate the restricted swimming area, and allow observation of the Wibit on the north, and the kayaking, paddle boarding and canoeing. Approximately 55 concrete buoys would anchor the Wibit to the reservoir bottom. The design of the Wibit is still being finalized, but together with protective buoys, would be located within 173 feet of the 820-foot elevation along the shoreline. The EBCI is requesting the harbor limits in the Section 26a permit be extended to 175 feet from the 820-foot shoreline elevation to encompass the beach area as detailed on the Master Concept Plan.

Figure 1. Proposed RV Resort (Campground).



Figure 2. Proposed Recreation Amenities, Parking and Cabins.



Recreational amenities that would be constructed around the Lake Clubhouse include a lazy river, a themed playground and pavilion, an amphitheater and tribal fair grounds for special events, a basketball court, and a dog park. In addition, a multi-use “Family Recreation Area” would be constructed in the area adjacent to the Lake Clubhouse. The Family Recreation Area would provide an area for visitors to gather and relax. The area would be handicap accessible and accommodate interchangeable uses that may vary from time to time, including but not limited to: croquet, corn hole games, aeroball, spider climb, a giant chess set, a gaga pit, archery tag, pedal carts and track, jumping pillows, a rope course, obstacle course, axe throws, hay bowling, nine square, water wars, and other similar recreational uses.

These recreational amenities would be available only to guests of the RV Resort and cabins. The EBCI is considering whether to apply an additional charge for access to certain amenities that require personnel to operate the amenity (e.g., the Wibit, the lazy river) or that involve equipment rental (e.g., kayaking, paddle-boarding, canoeing).

III. Cabins:

After approval was granted in 2004, seven large cabins were constructed. The seven existing large cabins are located on the adjacent improved part of the easement area, which includes the marina, floating restaurant and marine fuel station. Under the proposal, an additional 18 cabins would be constructed with dimensions varying from 476 to 600 square feet.

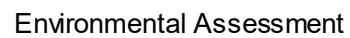
IV. Shoreline Armoring:

The proposal includes installation of 2,250 linear feet of rip-rap and 1,000 linear feet of vegetative armor to protect the shoreline from erosion. This stabilization would be in addition to 1,213 linear feet of existing rip-rap near the marina. See Figure 3 below.

V. Stormwater and Wastewater Management

As noted in Section 1.4, the applicant must gain approval from the State of Tennessee for construction storm water management and would develop and implement a Storm Water Pollution Prevention Plan to identify specific measures to address construction-related activities that would be adopted to minimize storm water impacts. In addition, wastewater from the facility would be discharged and handled by a local publicly owned treatment works. The applicant would obtain approvals from local authorities to connect the proposed facilities to the public sewer system to manage wastewater.

Environmental Assessment



Comparison of Original Proposal (2004) to New Proposal (2021)

TVA has prepared Table 1 to compare the original concept plan (2004) to the revised concept plan (2021) that is under consideration in this supplemental EA.

Table 1. Comparison of Original Proposal (2004) to New Proposal (2021)

#	Original Proposal (2004 EA)	Revised Master Concept Plan (2021)	Existing/ Previously Permitted	Requested/Comments
1	46 cabins	Decrease to 25 cabins in total proposed.	7 cabins have previously been constructed; 18 new cabins would be constructed.	Requesting modification with this 26a/land use application; proposed new cabins will be smaller than 7 existing cabins (476 to 600 ft ²).
2	160 Room Lodge	Eliminated, removed from concept plan.	Not existing, currently an existing parking lot	The lodge area would be used for new cabins; requested with this 26a/land use application
3	140 Room Hotel	Eliminated, removed from concept plan.	Not existing; currently an existing parking lot and open space	The hotel area would be used for new cabins and recreation amenities; requested with this 26a/land use application
4	Free Standing Restaurant	Eliminated, removed from concept plan.	Not existing, not permitted	A restaurant may be added to the Lake Clubhouse.
5	Swim Club Facilities and Beach	Relocated and renamed as the "Lake Clubhouse"	Not existing	Requesting approval of proposed Lake Clubhouse and water-based amenities, including beach with this 26a/land use application.
6	137 RV sites, kayak and canoe center	Expanded to 203 RV sites, into an adjacent area to the north; kayak and canoe center moved to the Lake Clubhouse use area and beach.	Not existing	Request approval of expanded area, removes kayak and canoe centers-incorporated into new Lake Clubhouse facility (see above) with this 26a/land use application. Some of the sites may have park models on the RV sites.
7	40,000 sf retail & restaurant	Eliminated from concept plan. A restaurant may be added to Lake Clubhouse. Replace area with Tribal Fairgrounds, Playground, Pavilion & Sports Courts	Not existing	Not existing. Restaurant may be added to Lake Clubhouse.
8	RV Clubhouse & Service Center	Replaced & relocated as RV Welcome Center near southern entranceway.	Not Existing. Replace Clubhouse & Service Center with RV Welcome Center to	Not Existing. Request approval of changes with this 26a/land use application. The Welcome Center would

#	Original Proposal (2004 EA)	Revised Master Concept Plan (2021)	Existing/ Previously Permitted	Requested/Comments
			be located near entranceway	handle the rental of all RV sites, glamping sites and cabin rentals; may include small retail area and accessories for guests
9	Quad Units (Lakefront Cabins/Villas)- Section 2 between Kayak and Canoe Center)	Eliminated from concept plan; replaced with 17 proposed glamping lots	Not existing.	Request approval of 17 glamping lots with this 26a/land use application. Glamping sites may include teepees, luxury tent platforms, yurts, and other forms of luxury camping. The EBCI may install up to 25 glamping sites, depending on the area needed to support the amenities. The glamping area would be free of cars; a central parking area for vehicles would be constructed.
10	Canoe Lodge & Sailing Center	Eliminated from concept plan, although canoeing and paddle board facilities would be provided at the Lake Clubhouse.	Not existing	Canoe & kayaking operated out of accessory building to the Lake Clubhouse. Request approval with this 26a/land use application.
11	785 parking spaces	360 parking spaces (including 127 existing parking spaces and an additional 233 parking spaces (lined and paved)).	The 127 existing parking spaces and a graveled, unpaved unlined parking area for overflow from the existing marina and the floating restaurant.	Requesting with this 26a/land use application. Each RV pad provides for the parking of RVs and accessory vehicles but are not considered parking spaces. The elimination of the Lodge and Hotel substantially reduce the need for parking spaces and therefore permit the property to be developed with fewer parking spaces.
12	Office	Eliminated from concept plan	Not existing. Permitted but never built.	Not a part of this 26a/land use application.
13	Sand Beach	Sand Beach would be relocated.	Not existing.	Within the 100-year floodplain and Flood Storage Zone. Requesting approval of sand beach adjacent to Lake Clubhouse with this 26a/Land Use Application. The 2004 EA analyzed two sand beaches, one at the Kayak

#	Original Proposal (2004 EA)	Revised Master Concept Plan (2021)	Existing/ Previously Permitted	Requested/Comments
				Center and another at the Swim Club. The two beaches and the Canoe & Sailing Center are combined into a single larger beach at the Lake Clubhouse.
14	Launching Ramp	Eliminated from concept plan.	Not existing. Permitted but not built	Not a part of this 26a/land use application
15	Shoreline stabilization (5,200 linear feet of rip-rap, then modified to 2,500 feet).	3,463 feet of riprap in total (including 1,213 feet of rip-rap that was installed in the existing marina area and an additional 2,250 feet of rip-rap) and 1,000 feet of vegetative armor to complete the remainder of the lake bank, except for approximately 400 feet of beachfront to be created	1,213 feet of rip-rap was installed. Part of Permit #195655 (Originally permitted for 5,200', then modified to 2,500')	Within the 100-year floodplain and Flood Storage Zone. Requesting approval to add approximately 2,250 feet rip-rap and 1,000 feet of vegetative armor with this 26a/land use application. The original permit provided for 5,200 feet of rip-rap. Originally, EBCI requested and obtained approval to only rip-rap the initial phases and actually installed the 1,213 feet of existing rip-rap. The EBCI is requesting 26a approval for 2,250 linear feet of new rip-rap similar to the existing rip-rapped area along the entire shore line area of the property, except where the beach would be located (approximately 400 linear feet). See Figure 3, Bank Armoring Plan.
16	No floating playground	Installation of a Wibit floating playground	Not existing	Within the 100-year floodplain and Flood Storage Zone. Requesting approval with this 26a/land use application. A Wibit is a water based inflatable playground that would be anchored onto the floor of Tellico Lake and accessed from the northern part of the beach area at the Lake Clubhouse. The outer edges of the Wibit would be protected by safety buoys anchored less than 175 linear feet from the shoreline. To address navigation concerns, the playground would not extend beyond 235 feet into the reservoir.

#	Original Proposal (2004 EA)	Revised Master Concept Plan (2021)	Existing/ Previously Permitted	Requested/Comments
17	Numerous floating docks at Canoe and Sailing Center and Kayak and Outfitting Center.	Replaced in concept plan by one L-shaped floating dock. To be anchored at the north end of the beach area.	Not existing	Requesting approval with this 26a/land use application. Within the 100-year floodplain and Flood Storage Zone. L-shaped floating dock anchored at the north end of the beach area would provide a border for protected, restricted swimming beach area.

The 2004 EA reviewed the construction of a marina, floating restaurant, marina fuel dock, boat slips and piers that have since been constructed. These are permitted under TVA Permit #195655 and not addressed in this supplemental EA. The marina operators are contemplating future expansion; however, any future expansion will be considered as a separate project. In addition, to address potential impacts to public access, TVA required in the 2004 EA (Commitment #5) that access to the reservoir be provided on TVA Parcel 95. Since 2004, the EBCI has satisfied this commitment by constructing a paved access road, 18-car parking lot, access walkway, and a 150-foot fishing pier on Parcel 95.

2.2 Comparison of Alternatives

Table 2. Summary and Comparison of Alternatives by Resource Area

Resource Area	Effects From Alternative A No Action Alternative	Effects From Alternative B Cherokee Outdoor Resort
Terrestrial Ecology (Animals)	No effects	Temporary effects from construction and permanent loss of terrestrial habitat. Impacts to bat and bird species reduced due to seasonal clearing requirement.
Aquatic Ecology	No effects	Minor effects during construction, reduced by best management practices and permitting requirements. Minor permanent effects.
Water quality	No effects	Minor effects during construction, reduced by BMPs and permitting requirements. No effects of wastewater due to connection to municipal water works. Minor permanent effects from increased runoff.
Floodplains	No effects	Minor impacts to floodplains, with 0.06 acre-foot of fill located within the 100-year floodplain and a negligible amount located within the Power Storage and Flood Storage zones. Proposal is consistent with EO 11988 and TVA Flood Storage Loss Guidelines. Several mitigation measures would reduce floodplain impacts and flood risk.
Recreation	No effects	Minor increase in recreational opportunities.
Navigation	No effects	No effects on navigation from the proposed water-based play area.

2.3 Identification of Mitigation Measures

In addition to the requirements of any necessary permits, which include mitigation measures and best management practices (BMPs), TVA would implement numerous measures to avoid, minimize, or resolve adverse impacts on the environment. Construction activities would be subject to environmental requirements of the State of Tennessee and applicable regulations. Construction-related BMPs would be critical to ensuring that environmental resources are not affected.

BMPs include the appropriate measures to control erosion, stabilize disturbed areas, minimize storm water impacts, and reduce sedimentation. BMPs also ensure that construction-related waste is properly contained so that environmental impacts are avoided. All wastes would be managed in accordance with applicable waste management laws and regulations.

As noted above, since greater than one acre of land would be disturbed at a given time, the applicant would need to obtain approval under the 2016 NPDES General Permit for Discharges Associated with Construction Activity (TNR100000) and a Section 401 water quality certification (ARAP) from TDEC to address potential impacts to water quality.

Activities involving chemical or fuel storage or resupply and equipment and vehicle servicing would be handled in such a manner as to prevent these items from reaching a watercourse. Earthen berms or other effective means are expected to be installed to protect nearby surface waters from direct surface runoff. Servicing of equipment and vehicles is expected to be done with care to avoid leakage, spillage, and subsequent surface or groundwater contamination. Oil waste, filters, and other litter are expected to be collected and disposed of properly.

Should hydrostatic test discharges occur during construction, coverage would be obtained under the 2021 NPDES General Permit for Discharges of Hydrostatic Test Water (TN670000).

To address potential impacts to federally listed bat species, the EBCI would remove suitable summer roosting habitat for Indiana bat and NLEB only during the winter clearing window (October 15 – March 31) when bats are not present on the landscape. In addition, the applicant would implement the specific conservation measures identified on Table 4 of the TVA Bat Strategy Project Review Form (Appendix A). The seasonal clearing restriction would also address potential impacts to the nesting habitat of several migratory bird species of conservation concern.

Should burning activities occur, the third party developer would comply with local burn permits, conservation measures identified in TVA's Bat Strategy Project Review Form (Appendix A), and the requirements in TDEC Air Pollution Control Rule 1200-3-4, which provides open burning prohibitions, exceptions, and certification requirements. To control fugitive dust during construction activities, the third-party developer would comply with the

TDEC Air Pollution Control Rule 1200-3-8 and implement reasonable precautions and applicable BMPs.

By adhering to the following measures, the proposed actions would have no significant impact on floodplains and their natural and beneficial values:

- All floating facilities, including the Wibit, would be securely anchored to prevent them from floating free during major floods.
- The shoreline stabilization would be placed no more than two feet thick, and no more than 2 feet from the existing shoreline at June 1 flood guide, and extend from elevation 806 to 815, and be on a 2-to-1 or steeper slope.
- No flood-damageable equipment or items would be stored in the beach area.
- Any excess excavated material would be disposed of on land lying and being above the 500-year flood elevation 817.8.
- The land-based retaining wall would be designed to withstand flooding with minimum damage.

Permits issued under Section 26a of the TVA Act also include standard conditions to which applicants must adhere. TVA would ensure that the EBCI is aware of these requirements if TVA approves the implementation of the proposed activities.

CHAPTER 3 – AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

After a field survey of the project area in 2004, TVA dismissed several environmental issues from the 2004 EA review because they were not present:

- Archaeological/cultural resources
- Threatened and endangered plants and terrestrial or aquatic animals
- Wetlands

The 2004 EA addressed a boat ramp, floating boat slips, land-based structures, and a beach. From the floodplains and flood risk perspective, the original review is still valid for those facilities and activities.

The potential environmental impacts on the following resources were addressed by TVA in the 2004 EA:

- Terrestrial Ecology
- Water Quality and Aquatic Ecology
- Recreation
- Navigation

The scope of this supplemental EA will consider whether the information and analysis for each resource in the 2004 EA remains valid for the revised proposal. The analysis will describe whether the revised proposal would result in different impacts than those described previously. TVA will also determine whether, since 2004, new circumstances or information exists related to the presence of sensitive resources in the project area. For example, since 2004, an additional bat species that has been identified as threatened under the Endangered Species Act is addressed in the Terrestrial Ecology supplemental analysis below.

The project area is essentially the same as reviewed in 2004, except that the area includes a portion of the reservoir where the floating playground would be anchored and the area excludes the marina area, which has already been developed.

3.1 Terrestrial Ecology

3.1.1 Affected Environment

3.1.1.1 Animals

Habitat assessments for terrestrial animal species were conducted in the field on January 12, 2021. The project footprint totals approximately 41.8 acres. Landscape features within and surrounding the project area consist of a variety of fragmented forest habitat, ephemeral stream crossings, early successional habitat (i.e., field and scrub-shrub), and developed or otherwise disturbed areas.

Deciduous and mixed deciduous-evergreen forests occupy approximately 21 acres, making up the majority of the acreage within the project footprint. These forest types provide habitat for an array of common terrestrial animal species. Birds typical of this habitat include Acadian flycatcher, chuck-will's-widow, downy and hairy woodpecker, eastern screech-owl, eastern wood-pewee, great horned-owl, red-headed woodpecker, red-tailed hawk, summer tanager, wood thrush, wild turkey, and yellow-billed cuckoo (National Geographic, 2002). This area also provides foraging and roosting habitat for several species of bat, particularly in areas where the forest understory is partially open. Bat species likely found within this habitat include eastern red bat, evening bat, and tricolored bat. Eastern chipmunk, gray fox, and woodland vole are other mammals likely to occur within this habitat (Whitaker 1996). Eastern black kingsnake, black ratsnake, eastern box turtle, and ring-necked snake are common reptiles of deciduous forests in this region (Dorcas and Gibbons 2005).

Early successional, herbaceous habitat (i.e., field and scrub-shrub) comprises approximately 14.5 acres of the project footprint. Common inhabitants of this type of early successional habitat include brown-headed cowbird, brown thrasher, common yellowthroat, eastern bluebird, eastern kingbird, eastern meadowlark, field sparrow, grasshopper sparrow, and indigo bunting (National Geographic 2002). Bobcat, coyote, eastern cottontail, eastern mole, and red fox are mammals typical of fields and cultivated land (Whitaker 1996). Reptiles, including northern copperhead and northern black racer are also known to occur in this habitat type (Dorcas and Gibbons 2005).

Developed areas, and areas otherwise previously disturbed by human activity make up approximately 6.3 acres of the project footprint. This habitat type is home to a large number of common species. American robin, Carolina chickadee, blue jay, European starling, house sparrow, mourning dove, northern cardinal, northern mockingbird, black vulture, and turkey vulture are birds commonly found along road edges, industrial properties, and residential neighborhoods (National Geographic 2002). Mammals found in this community type commonly include eastern gray squirrel, northern raccoon, and Virginia opossum (Whitaker 1996). Roadside ditches and ephemeral streams provide potential habitat for amphibians including American toad, upland chorus frog, and spring peeper. Reptiles potentially present include eastern black kingsnake, eastern garter snake, and midland brown snake (Dorcas and Gibbons 2005).

Review of the TVA Regional Natural Heritage Database in December 2020 indicated the presence of one osprey nest within three miles of the action area, approximately 0.53 miles outside of the APE. No additional aggregations of migratory birds or wading bird colonies have been documented within three miles of the project area and none were observed during field surveys. Additional review of the US Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) online database resulted in the potential for the following five migratory bird species of conservation concern within the project footprint: bald eagle, prairie warbler, red-headed woodpecker, wood thrush, and yellow-bellied sapsucker. Suitable nesting and foraging habitat exists within the project footprint

for prairie warbler, red-headed woodpecker, wood thrush and yellow-bellied sapsucker. An abundance of similarly suitable foraging habitat also occurs across the adjacent landscape. No bald eagles or their nests were observed in or adjacent to the APE during field surveys; see Threatened and Endangered Species section for review of potential impacts to bald eagle.

3.1.1.2 *Threatened and Endangered Species*

The Endangered Species Act (ESA) requires federal agencies to conserve endangered and threatened species and to determine the effects of proposed actions on endangered and threatened species and Designated Critical Habitat. Endangered species are those determined to be in danger of extinction through all or a significant portion of their range. Threatened species are those determined to likely become endangered within the foreseeable future. Section 7 of the ESA requires federal agencies to consult with the USFWS when proposed actions may affect endangered or threatened species or Designated Critical Habitat.

Review of the TVA Natural Heritage Database on December 13, 2020, resulted in records for one state-listed species (hellbender) but no federally listed species within three miles of the project footprint. One federally protected species (bald eagle) and four federally listed species (Carolina northern flying squirrel, Indiana bat, northern long-eared bat, and Rusty-patched bumble bee) are known from Monroe County, Tennessee. Additional review of the USFWS' IPaC online database determined that the federally listed gray bat also has the potential to occur within the project area, as such, this species has been included in this assessment. See Table 3 below.

Table 3. Federally listed terrestrial animal species reported from Monroe County, Tennessee and other species of conservation concern documented within three miles of the Cherokee Outdoor Resort by the Smokies (Tellico) ¹

Common Name	Scientific Name	Status ²	
		Federal	State (Rank ³)
Amphibians			
Hellbender	<i>Cryptobranchus alleganiensis</i>	PS	E(S3)
Birds			
Bald eagles ⁴	<i>Haliaeetus leucocephalus</i>	DM	D(S3)
Invertebrates			
Rusty-patched bumble bee ⁴	<i>Bombus affinis</i>	E	--(S1)
Mammals			
Carolina northern flying squirrel ⁴	<i>Glaucomys sabrinus coloratus</i>	E	E(S1S2)
Gray bat ⁵	<i>Myotis grisescens</i>	E	E(S2)
Indiana bat ⁴	<i>Myotis sodalis</i>	E	E(S1)
Northern long-eared bat ⁴	<i>Myotis septentrionalis</i>	T	T(S1S2)

¹ Source: TVA Regional Natural Heritage Database, extracted 12/13/2020; USFWS Information for Planning and Consultation (IPaC) resource list (<https://ecos.fws.gov/ipac/>), accessed 12/13/2020; Tennessee Bat Working Group County Occurrence Maps (TNBWG.org), accessed 12/13/2020.

² Status Codes: D = Deemed in Need of Management; DM = Recovered, Delisted, and Being Monitored; E = Endangered; T = Listed Threatened; PS = Partial Status.

³ State Ranks: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable.

⁴ Federally listed or protected species known from Monroe County, Tennessee, but not within three miles of the project footprint.

⁵ Federally listed species whose known range includes Monroe County, but that has no known documented presence from Monroe Co., to date.

Hellbender favor fast-flowing, clear, rocky creeks and rivers with water temperatures that are ideally less than or equal to 20°C, where there are large shelter rocks, bedrock shelves, crevices, and logs. The nearest known hellbender record occurs approximately 0.76 miles from the project footprint. This is a pre-impoundment record from 1964; this species is believed to have been extirpated from the area by the formation of the Tellico Reservoir. Suitable hellbender habitat is not present within the project area.

Bald eagles are protected under the Bald and Golden Eagle Protection Act (USFWS 2013). This species is associated with larger mature trees capable of supporting its massive nests. These are usually found near larger waterways where the eagles forage (USFWS 2007). Records document the occurrence of three bald eagle nests in Monroe County, Tennessee, the nearest of which occurs approximately 3.9 miles from the project area. No bald eagles or their nests were observed in or adjacent to the project area during field surveys, although suitable foraging and nesting habitat exists for bald eagle within the project area.

Carolina northern flying squirrel inhabit a mixture of high-elevation conifer and northern hardwood forests (usually greater than 4,000 feet in elevation). This species forages in the conifers and dens in hardwood trees. Optimal conditions are cool, moist, mature forest with abundant standing and down snags (Natureserve, 2021). One Carolina northern flying

squirrel record was documented in Monroe County, approximately 21.9 miles from the APE in Cherokee National Forest. The project footprint occurs between the waters of the Tellico River and the 900-foot contour line. As such, suitable habitat is not present for Carolina northern flying squirrel within the project area.

Gray bats roost in caves year-round and migrate between summer and winter roosts during spring and fall (Brady et al. 1982, Tuttle 1976). Bats disperse over bodies of water at dusk where they forage for insects emerging from the surface of the water (Harvey 2011). While the USFWS' IPaC online database determined that gray bat have the potential to occur within the project area, known gray bat presence has not been documented from Monroe County, to date. One cave is known within three miles of the project footprint, approximately 2.5 miles from the action area. No additional caves were observed during field reviews in January 2021, and known caves would not be impacted by the proposed project activities. No additional suitable roosting habitat was observed for gray bat during field surveys.

Indiana bats hibernate in caves in winter and use areas around them for swarming (mating) in the fall and staging in the spring, prior to migration back to summer habitat. During the summer, Indiana bats roost under the exfoliating bark of dead snags and living trees in mature forests with an open understory and a nearby source of water (Pruitt and TeWinkel 2007, Kurta et al. 2002). Indiana bats are known to change roost trees frequently throughout the season, while still maintaining site fidelity, returning to the same summer roosting areas in subsequent years (Pruitt and TeWinkel 2007). Although less common, Indiana bats have also been documented roosting in buildings (Butchkoski and Hassinger 2002). Indiana bats eat terrestrial and aquatic insects while foraging in forested stream corridors, upland and bottomland forests, forested wetlands, and along wooded edges of agricultural fields, pastures, and impounded bodies of water at night (USFWS 2021a). Seventeen records of Indiana bat have been documented from Monroe County, Tennessee. The nearest known Indiana bat record was documented from a mist net capture approximately 5.3 miles away in Cherokee National Forest. Suitable foraging and summer roosting habitat are present within the project footprint for Indiana bat.

Northern long-eared bat (NLEB) predominantly overwinters in large hibernacula such as caves, abandoned mines, and cave-like structures. During the spring and fall, NLEB utilize entrances of caves and the surrounding forested areas for swarming and staging. In the summer, NLEBs roost individually or in colonies beneath exfoliating bark or in crevices of both live and dead trees (typically greater than 3 inches in diameter). Roost selection by NLEB is similar to that of Indiana bat, however northern long-eared bats are thought to be more opportunistic in roost site selection. This species also roosts in abandoned buildings and under bridges. Northern long-eared bats emerge at dusk to forage below the canopy of mature forests on hillsides and roads, and occasionally over forest clearings and along riparian areas (USFWS 2014). NLEB are well suited to foraging in the forest interior. Eight NLEB records are known from Monroe County, the nearest of which were documented from mist net captures approximately 8.5 miles from the project area in Cherokee National

Forest. Suitable foraging and summer roosting habitat are present within the project footprint for NLEB.

Rusty-patched bumble bee (RPBB) is a federally endangered insect that inhabits grasslands, prairies, woodlands, marshes, agricultural landscapes, and residential parks and gardens. This species requires diverse, abundant flowers from April to September with undisturbed nesting sites nearby in order to have sufficient food and overwintering sites for queens. They often build nests in abandoned, underground rodent cavities or large clumps of grass. Exotic, invasive pathogens and parasites are primarily responsible for the drastic decline in population for this species. Another potentially serious threat to this species is the use of novel pesticides, especially new persistent neonicotinoids. One historic RPBB record was documented in 1966 from Monroe County, approximately 10.14 miles from the project area. Monroe County is within the historical range of RPBB; as such, Section 7 consultation is not required for this species (USFWS 2021b).

One cave has been documented within three miles of the project footprint, approximately 2.5 miles from the project area. No additional caves were observed during field surveys of the site in January 2021.

Following the 2019 Range-Wide Indiana Bat Survey Guidelines (USFWS 2019), TVA surveyed the project footprint for the presence of potentially suitable habitat for federally listed bats on January 12, 2021. The project includes approximately 21 acres of forested habitat, mixed with early successional habitat (i.e., field and scrub-shrub), and developed or otherwise disturbed areas. Of the 21 acres of forested habitat, 18.55 acres were determined to be suitable for use by summer roosting Indiana bat and NLEB, based on the presence of exfoliating bark, a hollow bole, and/or cracks and crevices. Suitable roosting habitat consisted of 40 white oaks, 47 shagbark hickories, and 27 snag trees. Suitable foraging habitat was also identified within the area of potential effect for gray bat, Indiana bat, and NLEB in and around forests, forested edges, and over the Tellico River. The Tellico River also provides a source of drinking water for all three bat species.

3.1.2 Environmental Consequences

3.1.2.1 Alternative A - The No Action Alternative

TVA considers the No Action Alternative to be the same as the No Action Alternative analyzed in its 2004 EA, with one difference. Under the current No Action scenario, the portion of the resort that was constructed would remain in operation under the revised No Action Alternative. Under the 2004 No Action Alternative, no conveyance of TVA property would take place, and no construction of any land structures or water use facilities would occur.

Soil and vegetation would remain in their current state and the proposed Cherokee Outdoor Resort by the Smokies would not be constructed. Terrestrial animals and their habitats would not be affected under the No Action Alternative. There would be no impacts to threatened and endangered terrestrial animals under the No Action Alternative.

3.1.2.2 *Alternative B – Modified Development Proposal (Cherokee Outdoor Resort by the Smokies)*

3.1.2.2.1 Animals

Under Alternative B, TVA would permit the EBCI to construct and operate a commercial recreation development on TVA land. Within the 41.8-acre proposed footprint, EBCI would clear some or all of the 35.5-acres of vegetation. Both forested and herbaceous vegetation that may provide habitat for common wildlife species would be removed in association with the proposed actions. Vegetation removal would occur on some or all of the 14.5-acres of early successional, herbaceous habitat (scrub-shrub and fields). Ground disturbance would likely occur in these areas.

Any wildlife (primarily common, habituated species) currently using these previously disturbed areas may be displaced by increased levels of disturbance during construction actions, but it is expected that they would return to the project area upon completion of actions. Clearing of some or all of the 21-acres of forested habitat would take place as part of the proposed actions. Forested areas that are cleared would be maintained as early successional or developed habitat for the foreseeable future. Direct effects to some individuals that are immobile during the time of construction may occur, particularly if construction activities transpire during breeding/nesting seasons. However, the actions are not likely to affect populations of species common to the area, as similarly forested habitat exists in the surrounding landscape.

Construction-associated disturbances and habitat removal would disperse wildlife into surrounding areas in an attempt to find new food and shelter sources and to reestablish territories, potentially resulting in added stress or energy use to these individuals. Much of the forested area within the project footprint has been previously disturbed. However, these previously disturbed areas provide corridors for animal dispersal. These adjacent areas would be relatively pervious to terrestrial animal species dispersing from the action area. In the event that surrounding areas are already overpopulated, further stress to wildlife populations presently utilizing these areas may result, as well as to those attempting to relocate. The landscape surrounding the project footprint is relatively forested, thus, it is unlikely that species currently occupying adjacent habitat would be negatively impacted by the influx of new residents. It is expected that over time, those species that utilize early successional habitat, fragmented forest, and otherwise developed habitats would return to the project area upon completion of project actions. Cumulative effects on common wildlife species by the project are expected to be negligible.

Suitable nesting and foraging habitat exists within the project footprint for migratory bird species of conservation concern: prairie warbler, red-headed woodpecker, wood thrush and yellow-bellied sapsucker. An abundance of similarly suitable foraging habitat also occurs across the adjacent landscape. TVA would require that the EBCI remove trees outside of nesting season (between October 15 and March 31). With this measure, populations of migratory birds would not be adversely affected by the proposed project.

3.1.2.2.2 Threatened and Endangered Species

Based on a review of the TVA Natural Heritage Database on December 13, 2020, and on a field survey performed January 12, 2021, no suitable habitat exists in the project area for hellbender or Carolina northern flying squirrel. These species would not be impacted under Alternative B.

Proposed actions under this alternative would not impact nesting bald eagles as no nests are known within three miles of the action area and no nests were observed in the project area during field surveys. While foraging habitat for bald eagles exists over the Tellico River, no impacts to the river are anticipated as BMPs would be utilized during proposed actions. The proposed actions would be in compliance with the National Bald Eagle Management Guidelines. Bald eagles would not be significantly impacted by proposed activities under Alternative B.

Proposed actions under this alternative would not impact rusty-patched bumble bee (RPBB) as Monroe County, Tennessee is within the historical range of RPBB. RPBB have not been observed or collected in this area since before the year 2000. Per USFWS guidelines, Section 7 consultation is not required for this species (USFWS 2021b) because the rusty-patched bumble bee would not be impacted by the proposed actions. Three additional federally listed species were addressed based on the potential for the species to occur in the project footprint. All of these (gray bat, Indiana bat, and northern long-eared bat) have the potential to utilize the project area. No caves or alternative winter hibernacula for gray bat, Indiana bat, or northern long-eared bat exist within one mile of the project footprint and none would be impacted by the proposed actions. Suitable foraging habitat is present for all three species over Tellico River; however, no impacts to the river are anticipated with construction BMPs in place during construction activities. Additional foraging habitat is present over and around forested edges and tree lines for Indiana bat and NLEB. Some or all of this habitat would be removed in association with the project activities. The project is in the vicinity of the Cherokee National Forest and other public lands, as such, an abundance of superior foraging habitat occurs along the adjacent landscape.

Approximately 18.55 acres of suitable summer roosting habitat was documented during field surveys of the project footprint in January 2021. Habitat suitability was determined based on the number of trees with exfoliating bark (snags and live trees) and their proximity to water sources. Suitable summer roosting habitat for Indiana bat and northern long-eared bat would be removed in association with the proposed actions. The proposed removal of suitable summer habitat has the potential to adversely affect Indiana bat and NLEB; however, the applicant has committed to removing suitable summer roosting habitat for Indiana bat and NLEB during the winter clearing window (October 15 – March 31) when bats are not present on the landscape. Areas of suitability have been identified in the project area. Given the lack of impacts to hibernacula and the use of BMPs, Gray bat would not be significantly impacted by the proposed project activities.

A number of activities associated with the proposed project were addressed in TVA's 2018 programmatic consultation with the U.S. Fish and Wildlife Service on routine actions and federally listed bats in accordance with ESA Section 7(a)(2). For those activities with potential to affect bats, TVA would require that the applicant implements specific conservation measures. These activities and associated conservation measures are identified on Table 4 of the TVA Bat Strategy Project Review Form (Appendix A) and would be provided to the EBCI. Given the use of conservation measures, such as BMPs and seasonal tree clearing restrictions, proposed project activities may affect but are not likely to adversely affect Indiana bat and northern long eared bat.

3.2 Aquatic Ecology

3.2.1 Affected Environment

In January 2021, TVA conducted a field survey of the proposed project area and verified that there are four ephemeral streams present within the project area, adjacent to the Tellico Reservoir. Table 4 provides a summary of these four streams.

Table 4: Water Resources on site of proposed Cherokee Outdoor Resort by the Smokies.

ID	Stream Type	Streamside Management Zone Category	Field Notes	Latitude	Longitude
BWA01	Ephemera I	Management Practices (BMPs)	Cobble drain, man-made ditch. 4ft by 1 ft.	35.599670	-84.218928
BWA02	Ephemera I	Management Practices (BMPs)	Natural drain leading to manmade cobble drain, 3ft by 1ft.	35.599341	-84.219106
BWA02 b	Ephemera I	Management Practices (BMPs)	Continued.	35.598931	-84.219878
BWA03	Ephemera I	Management Practices (BMPs)	Major drain, deep cuts leading to the lake. Culverted under road.	35.597893	-84.220823

TVA completed a query of the Natural Heritage Database in January 2021 for records of special status aquatic animal species. The database query indicated that nine state and federal listed fish species, five freshwater mussel species, and one aquatic snail species have been documented to occur within the Tellico River 10-digit HUC watersheds encompassing the proposed project area. These are listed in Table 5 below. However, the aquatic features contained within the proposed project footprint (including the portion of the reservoir where the inflatable playground would be installed) are heavily disturbed or are areas that do not have habitat preferred by the state or federally listed species listed in the table.

Table 5. Records of federal and state-listed aquatic animal species within the Tellico River (0601020403) 10-digit HUC watersheds.

Common Name	Scientific Name	Element Rank ²	Federal Status ³	State Status (rank ⁴)
FISH				
Blotchside Logperch	<i>Percina burtoni</i>	H	DM	D (S2)
Citico Darter	<i>Etheostoma sitikuense</i>	E	E	E (S1)
Duskytail Darter	<i>Etheostoma percnurum</i>			
Smoky Dace	<i>Clinostomus funduloides ssp. 1</i>	D	E	S (S1S2)
Smoky Madtom	<i>Smoky Madtom</i>	E	E	E (S1)
Spotfin Chub	<i>Erimonax monachus</i>	T	T	E (S2)
Tangerine Darter	<i>Tangerine Darter</i>	H?		D (S3)
Wounded Darter	<i>Wounded Darter</i>	E		D (S2S3)
Yellowfin Madtom	<i>Yellowfin Madtom</i>	E	T	T (S1)
MUSSELS				
Appalachian Monkeyface	<i>Quadrula sparsa</i>	H	E, XN	E (S1)
Butternut	<i>Juglans cinerea</i>	E	LE	E (S1S2)
Cumberland Monkeyface	<i>Quadrula intermedia</i>	C		SP (SX)
Purple Lilliput	<i>Toxolasma lividus</i>	E		(S1SW)
Tennessee Clubshell	<i>Pleurobema oviforme</i>		E	(S2S3)
SNAILS				
Anthony's River Snail	<i>Atheamnia anthonyi</i>	X	E	E (S1)

¹ Source: TVA Natural Heritage Database, queried on 1/25/2020

² Heritage Element Occurrence Rank; E = extant record ≤25 years old; H=historical record ≥ 25 years old; H?=possibly historical; AC= Excellent, good, or fair estimated viability

³ Status Codes: LE or E = Listed Endangered; LT or T = Listed Threatened; PSM = Partial Status Mussel; SP = State Protected; X= Extirpated

⁴ State Ranks: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; SH = Historical (Possibly Extirpated); SNA = Not Applicable

3.2.2 Environmental Consequences

3.2.2.1 Alternative A - The No Action Alternative

Under the No Action Alternative, the portion of the resort that was constructed (at and adjacent to the marina location) would remain in operation but no additional development would take place. Therefore, no additional water quality impacts would be expected from this alternative.

3.2.2.2 Alternative B - Modified Developmental Proposal (Cherokee Outdoor Resort by the Smokies)

Alternative B has potential to affect water flow, stream banks or stream channels within the project area. The project area would be accessed by work trucks, construction equipment, and/or other all terrain vehicles. Any potential ground disturbance to the four ephemeral streams in the project area would be minimized and all work conducted in accordance with standard BMPs, which are designed in part to minimize erosion and subsequent

sedimentation. Therefore, with proper implementation of BMPs, no long term direct or indirect impacts from the associated action are anticipated to water flow, stream channels, or stream banks.

As noted above, the aquatic features in the project area are heavily disturbed or do not represent preferred habitat of state or federally listed aquatic species that have been recorded near the project area (Table 5). For instance, in big rivers, Anthony's Riversnail (*Athearnia anthonyi*) occupies stream reaches consisting of lotic, riverine habitat found in the navigation channel; this species does not occupy lentic habitats immediately adjacent to stream banks, such as those within the project area. Because there is no suitable habitat for the state or federally listed aquatic species within the project area, there would be no impacts to endangered, threatened, or special status aquatic species under Alternative B. There is no designated critical habitat in the Tellico River 10-digit HUC watersheds where the proposed work would occur. With proper implementation of BMPs, no impacts to unique or important aquatic habitats would occur.

In addition, Alternative B is also unlikely to contribute to the spread of exotic or invasive species. Construction activities would not involve moving aquatic species or water from different locations, and equipment and materials used for the project would be clean and free of debris that could introduce exotic species and adversely affect aquatic habitat. Thus, the project is not expected to contribute to the spread of exotic or invasive aquatic species.

3.3 Water Quality

3.3.1 Affected Environment

The proposed project area drains to water ways within the Tellico Lake (10-digit HUC 0601020403) watershed. As noted above, there are four ephemeral streams on site (see Table 4), as well as a portion of Tellico Lake were documented in the proposed project area.

Precipitation in the general area of the proposed project averages about 51 inches per year. The wettest month is December with approximately 5.0 inches of precipitation, and the driest month is October with 2.83 inches. The average annual air temperature is 59.1 degrees Fahrenheit, ranging from a monthly average of 47.9 degrees Fahrenheit to 70.4 degrees Fahrenheit (U.S. Climate Data, 2018). Stream flow varies with rainfall and averages about 31.2 inches of runoff per year, i.e., approximately 2.30 cubic feet per second, per square mile of drainage area (USGS, 2008).

The federal Clean Water Act requires all states to identify all waters where required pollution controls are not sufficient to attain or maintain applicable water quality standards and to establish priorities for the development of limits based on the severity of the pollution and the sensitivity of the established uses of those waters. States are required to submit reports to the USEPA. The term "303(d) list" refers to the list of impaired and threatened streams and water bodies identified by the state. Tellico Reservoir is currently listed on

Tennessee's 303(d) list for PCB contaminated sediment (TDEC, 2018). A fish advisory is in place for the entire reservoir and catfish should not be eaten. Additionally, the Little Tennessee River in Monroe County is also listed as Exceptional Waters of Tennessee. The State of Tennessee has identified the following designated uses for the Little Tennessee River and Tellico Reservoir: Navigation, Domestic Water Supply, Industrial Water Supply, Fish and Aquatic Life, Recreation, Livestock Watering and Wildlife, and Irrigation (TDEC, 2013).

3.3.2 Environmental Consequences

3.3.2.1 *Alternative A – The No Action Alternative*

The previous Section 26a permit and easement granted to the EBCI for development of the resort remains valid. TVA considers the No Action Alternative to be the same as the No Action analyzed in its 2004 EA, with one difference. Under the current No Action scenario, the portion of the resort that was constructed (at and adjacent to the marina location) would remain in operation under the revised No Action Alternative. Therefore, no additional water quality impacts would be expected from this alternative.

3.3.2.2 *Alternative B - Modified Developmental Proposal (Cherokee Outdoor Resort by the Smokies)*

3.3.2.2.1 Surface Runoff

Generally, construction activities have the potential to temporarily affect surface water via storm water runoff, as soil erosion and sedimentation can clog small streams and threaten aquatic life. TVA would comply with all appropriate state and federal permit requirements. Appropriate BMPs would be followed, and all proposed project activities would be conducted in a manner to ensure that waste materials are contained, and the introduction of pollution materials to the receiving waters would be minimized. A general construction storm water permit would be needed if more than 1 acre is disturbed. This permit also requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

Additionally, an aquatic resource alteration permit (ARAP) /Clean Water Act Section 401 Water Quality Certification and an US Army Corp of Engineers (USACE) either nationwide permits or an individual permit would be required for stream crossings and work in waters of the State/US. The SWPPP would identify specific BMPs to address construction-related activities that would be adopted to minimize storm water impacts. Additional protective measures may be required due to the exceptional water designation of stream(s) in the project vicinity. These extra measures are detailed in the 2016 TDEC construction storm water general permit (TDEC, 2016) and may be included in any ARAP permit/USACE permit acquired. Direct impacts are expected to water resources, however with mitigation of these direct impacts and proper implementation and maintenance of controls, only minor impacts to surface waters are expected. It would be expected that ephemeral streams would not require mitigation.

Impervious buildings and infrastructure prevent rain from percolating through the soil, which results in additional runoff of water and pollutants into storm drains, ditches, and streams. Because the construction of this campground, parking lots and other structures would be constructed in an area where very little impervious cover already exists, there would be an increase of impervious cover under Alternative B. For this reason, this project would be expected to increase the concentrated storm water flow from the project area. This flow would need to be properly treated with either implementation of the proper BMPs and/or by diverting and controlling the storm water discharges appropriately. With proper implementation of temporary and permanent controls, only minor construction and operational impacts to local surface waters are expected.

3.3.2.2.2 Domestic Sewage

Portable toilets would be provided for the construction workforce as needed. These toilets would be pumped out regularly, and the sewage would be transported by tanker truck to a publicly-owned wastewater treatment works that accepts pump out. Numerous restroom facilities would be constructed under Alternative B. Sewage from the completed resort facilities would be discharged and handled by a local publicly owned treatment works (POTW). The type and size of the system implemented would determine the type of permits required for engineering, construction and maintenance of this septic system. Most likely a TDEC Waste Water plans approval, Water Quality State Operation Permit and possibly a Septic System Construction Permit would be required through TDEC's Division of Water Resources Ground Water Protection Program (per TDEC regulations over Subsurface Sewage Disposal Systems at Tennessee Administrative Code Chapter 0400-48-01).

3.3.2.2.3 Operational Impacts

The implementation and operation of the resort facility has the potential to have impacts to surface waters from the day-to-day operation of the facility. Some of these potential impacts could include the introduction of oils, lubricants and/or fuels to surface waters from fueling practices and parking lots; solid waste introduction from trash and debris not properly stored or disposed of; improper management of waste discharges to surface waters. These potential impacts can be mitigated by employing mitigation measures and good housekeeping practices, such as having secondary containment for all fueling operations, keeping parking lots clean of oil and debris, maintaining adequate garbage pick-up services on-site, making sure that the facility including any pumping stations or septic storage facility is adequately maintained, and ensuring that no unpermitted discharges from cabins, restrooms or other facilities are being discharged to the land or to surface waters. With the use of mitigation measures and good housekeeping practices impacts are expected to be minor.

3.3.2.2.4 Other Activities

Equipment washing and dust control discharges would be handled in accordance with BMPs described in the Storm Water Pollution Prevention Plan for water-only cleaning. Any

discharges from hydrostatic testing, if needed, would be handled in accordance with TDEC General NPDES Permit for Discharges of Hydrostatic Test Water (TN670000).

Under Alternative B, rip-rap would be placed on portions of the reservoir bank which would modify the shoreline at normal and high water levels. However, rip-rap bank stabilization occurs throughout many areas of Tellico Reservoir and would prevent future bank erosion and sedimentation to the reservoir. Additionally, BMPs would be implemented to control erosion and sedimentation to prevent adverse impacts on water quality and related aquatic interests. Sedimentation added to the reservoir from stabilized banks should also be reduced. Adverse impacts to water quality would, therefore, be minor.

3.4 Floodplains

3.4.1 Affected Environment

The project would be located at Tellico River miles 0.4 to 1.0, left descending bank, on Tellico Reservoir, in Monroe County, Tennessee. At this location, the 100- and 500-year flood elevations would be 816.5 and 817.8 feet mean sea level (msl), respectively. The TVA power storage zone extends from elevation 807.0 to 813.0, and the TVA flood storage zone extends from elevation 807.0 to 817.8.

3.4.2 Environmental Consequences

3.4.2.1 Alternative A – The No Action Alternative

Under the No Action Alternative, the previous Section 26a permit and easement granted to the EBCI remains valid. The No Action Alternative would be the same as the No Action analyzed in the 2004 EA, with one difference. Under the current No Action scenario, the portion of the resort that was constructed (at and adjacent to the marina location) would remain in operation under the revised No Action Alternative. There would be no additional development in the floodplain and no floating inflatable water-play structure would be installed on reservoir waters.

3.4.2.2 Alternative B - Modified Developmental Proposal (Cherokee Outdoor Resort by the Smokies)

In TVA's 2004 EA, TVA considered floodplain impacts associated with the proposed boat ramp, floating boat slips, a beach and land-based structures. The original review remains valid for those facilities and activities. Existing facilities were permitted by TVA in 2007 and 2010. Some facilities proposed in the original EA were never constructed, and new proposed facilities have been added to the project.

Of the facilities and activities currently proposed, only a portion of the fill for the beach, a portion of the grading for the beach, a paddleboard/kayak area, a Wibit floating inflatable water-play structure, Wibit anchors, and additional shoreline stabilization would be located below the 100-year flood elevation 816.5, and/or below the 500-year flood elevation 817.8. The remaining structures and facilities would be located above the 500-year flood elevation, which would be consistent with Executive Order 11988 (Floodplain Management) and would comply with the TVA Flood Storage Loss Guideline (FSLG).

Consistent with Executive Order 11988, grading for a beach and a land-based retaining wall for the beach, and the Wibit structure and its anchors would be considered recreational uses of the floodplain that are approvable provided floodplain impacts are minimized. To minimize adverse impacts, the applicant reduced the proposed amount of fill for the beach from about 6.2 acre-feet of fill below elevation 820 to a net cut of about 3.0 acre-feet.

The 6-foot retaining wall would be land-based at about the existing elevation 828 and would be part of the landscaping forming the upland portion of the beach area. The excavation would result in a reduction in ground elevations; therefore, the excavated portion of the beach area and the retaining wall would be subject to flooding. To minimize adverse impacts, the retaining wall would be designed to withstand flooding with minimum damage, and no flood-damageable equipment or items would be stored in the beach area. The Wibit structure would be anchored to the reservoir bottom by concrete blocks. To minimize adverse impacts, the Wibit structure would be securely anchored to prevent it from floating free in a major flood. The Wibit anchors would displace a negligible amount of flood storage, which would comply with the FSLG.

Based on the project design provided by the applicant (Sheet 1, dated October 1, 2020), about 0.06 acre-foot of fill for the beach would be located within the 100-year floodplain, and a negligible amount would be located within the Power Storage and Flood Storage zones. This small amount of fill for the beach would be consistent with EO 11988 and would comply with the FSLG, because fill for a beach is a recreational use of the floodplain that would result in minor impacts. To minimize adverse impacts, the fill for the beach was reduced from the original proposal; therefore, the minimum amount of fill would be used to create a beach and thus meet that project objective. Grading of the beach would also consist of excavating up to about 8.0 acre-feet of material total, and about 2.0 acre-feet within the Flood Storage Zone. Excavation would increase the flood storage capacity of Tellico Reservoir slightly, which would be a minor beneficial impact. To minimize adverse impacts, the excavated material would be placed as fill on other areas of the site on land lying and being above the 500-year flood elevation 817.8 and outside the 500-year floodplain of Tellico Reservoir.

Up to an additional 2,200 linear feet of riprap, plus approximately 1,000 linear feet of vegetative armor would be placed to protect the shoreline, for a total of 3,250 feet of stabilization. Consistent with EO 11988 and the FSLG, riprap and vegetative shoreline stabilization are considered to be repetitive actions in the floodplain that should result in minor impacts. The applicant initially proposed anywhere from 3.6 acre-feet to 5.1 acre-feet of stabilization, depending upon the slope of the stabilization. The applicant reevaluated the riprap plans and reduced the riprap placement to up to 2.7 acre-feet on a 2-to-1 slope, extending from elevation 806 to 815. This reduction in riprap volume would minimize adverse impacts while achieving project objectives, which would be consistent with the FSLG.

The fill for bank stabilization would be offset by excavating the beach area. Bank stabilization would place 2.7 acre-feet of fill in the flood storage zone (FSZ). Combining the stabilization fill with the excavation of the beach area would result in a net fill in the FSZ of 0.7 acre-foot, which would comply with the FSLG.

By adhering to the following measures, the proposed actions would have no significant impact on floodplains and their natural and beneficial values:

- All floating facilities, including the Wibit, would be securely anchored to prevent them from floating free during major floods.
- The shoreline stabilization would be placed no more than two feet thick, and no more than 2 feet from the existing shoreline at June 1 flood guide, and extend from elevation 806 to 815, and be on a 2-to-1 or steeper slope.
- No flood-damageable equipment or items would be stored in the beach area.
- Any excess excavated material would be disposed of on land lying and being above the 500-year flood elevation 817.8.
- The land-based retaining wall would be designed to withstand flooding with minimum damage.

3.5 Recreation

3.5.1 Affected Environment

The description of recreation opportunities on Tellico Reservoir and at the project area provided in the 2004 EA remain valid. As noted above, since 2004, the marina portion of the EBCI development proposal was developed, providing additional reservoir boating facilities and expanded recreational use adjacent to the project location and on the reservoir.

3.5.2 Environmental Consequences

3.5.2.1 Alternative A – The No Action Alternative

Under the No Action Alternative, TVA would not grant permission to the EBCI to develop a resort on Parcel 94 and a portion of Parcel 95. The parcels would continue to provide public use opportunities with informal boating access and bank/pier fishing opportunities.

3.5.2.2 Alternative B - Modified Developmental Proposal (Cherokee Outdoor Resort by the Smokies)

As noted in the 2004 EA, the development of Parcel 94 and a portion of Parcel 95 would provide additional recreational opportunities on the reservoir. The revised proposal has potential to result in additional types of recreational opportunities, as compared to the original proposal reviewed by TVA in 2004, including a play area on the reservoir waters. Generally, there would be more RV-camping opportunities at the resort, when compared to

the 2004 proposal, which included more hotel/lodge accommodations. Like the original proposal, the revised proposal would result in beneficial recreation impacts.

The resort may attract more visitors to recreate on and around Tellico Reservoir, resulting in more congestion due to larger numbers of recreation visits. Thus, cumulative impacts to recreation resources could occur as a result of the resort development combined with other recreation opportunities, but these impacts would be minor.

As described in the 2004 EA, the Tellico Reservoir Development Agency agreed to relinquish its rights to manage the 13.5-acre portion of Parcel 94 (XTTELR-17RE). To offset the potential loss of a public recreation for the EBCI's development, the EBCI agreed to develop an access road, parking lot, walkway, and fishing pier about 1 mile upstream on a portion of Parcel 95 as mitigation for the loss of existing public access/facilities at the 411 fishing pier. These commitments have been completed. Other water based public recreation areas in the vicinity include Vonore City Park. Facilities at this park include a boat ramp, trails, picnic tables and a fishing pier.

3.6 Navigation

3.6.1 Affected Environment

The description of commercial navigation on Tellico Reservoir included in the 2004 EA remains valid. As noted above, since 2004, the marina portion of the EBCI development proposal was developed, which resulted in docks extending into reservoir waters at the marina location. See Figure 2.

3.6.2 Environmental Consequences

3.6.2.1 *Alternative A – The No Action Alternative*

Under the No Action Alternative, TVA would not grant permission to the EBCI to develop a resort on Parcel 94 and a portion of Parcel 95. There would be no additional navigational issues or concerns resulting from this alternative.

3.6.2.2 *Alternative B - Modified Developmental Proposal (Cherokee Outdoor Resort by the Smokies)*

Under Alternative B, TVA would approve the EBCI resort proposal, which includes the installation of a water-based inflatable playground on the reservoir adjacent to the proposed beach area. The Wibit play area would be anchored to the bottom of Tellico Reservoir and accessed from the northern part of the beach area at the Lake Clubhouse. The outer edges of the Wibit would be protected by safety buoys anchored less than 175 linear feet from the shoreline. To avoid potential effects and concerns relating to reservoir navigation, the playground would not extend beyond 235' into the reservoir. Thus, under Alternative B, there would therefore be no impacts to navigation of the reservoir.

3.7 Unavoidable Adverse Environmental Impacts

Neither of the alternatives considered in this supplemental EA would cause unavoidable adverse environmental impacts.

3.8 Relationship of Short-Term Uses and Long-Term Productivity

Short-term uses are those that generally occur on a year-to-year basis. Examples are wildlife use of forage, timber management, recreation, and uses of water resources. Long-term productivity is the capability of the land to provide resources, both market and nonmarket, for future generations. Long-term impacts would be those that last beyond the life of the project.

Alternative B, the development of the Cherokee Outdoor Resort by the Smokies, would remove vegetation and cover portions of the shoreline with rip-rap. It would also convert forested areas and pastures into a commercial recreation resort. Short-term impacts to productivity could include disruptions to wildlife in the vicinity of the project area (both terrestrial and aquatic) as a result of construction and temporary disturbances. The installation of the rip-rap and construction of the resort would cause a minor long-term loss of productivity and wildlife habitat. Installation of the rip-rap would also minimize erosion and siltation along the shoreline potentially benefiting water quality and could improve long-term productivity within the reservoir. Over time, these impacts would be relatively minor.

3.9 Irreversible and Irretrievable Commitment of Resources

As used here, irreversible commitments of resources include the use or consumption of nonrenewable resources because of a decision or implementing a proposed action. For example, extracting ore is an irreversible commitment of the resource. Irretrievable commitments involve the use or commitment of resources for a period of time, even a long period. An example of an irretrievable resource commitment is the loss of timber and habitat on a newly cleared transmission line right-of-way through a previously forested area. In that case, removal of the transmission line and the right-of-way would eventually result in the restoration of forestland and timber productivity.

Implementation of Alternative B would result in the irreversible commitment of vegetation and forest habitat in the project area and informal recreation uses on the public land. These commitments would be irretrievable as well, because the effects would be expected to be permanent.

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Involvement: Floodplains and Flood Risk

CHAPTER 5 – LITERATURE CITED

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Appendix A – TVA Bat Strategy Project Review Form

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Project Review Form - TVA Bat Strategy (06/2019)

This form should **only** be completed if project includes activities in Tables 2 or 3 (STEP 2 below). This form is not required if project activities are limited to Table 1 (STEP 2) or otherwise determined to have no effect on federally listed bats. If so, include the following statement in your environmental compliance document (e.g., add as a comment in the project CEC): "Project activities limited to Bat Strategy Table 1 or otherwise determined to have no effect on federally listed bats. Bat Strategy Project Review Form NOT required." This form is to assist in determining required conservation measures per TVA's ESA Section 7 programmatic consultation for routine actions and federally listed bats.¹

Project Name: Cherokee Outdoor Resort by the Smokies Supplemental EA **Date:** 2-11-2021
Contact(s): Dana Nelson **CEC#:** **Project ID:** 2003-102
Project Location (City, County, State): Monroe County, Tennessee

Project Description:

Land use & Section 26a Permit. The Eastern Band of Cherokee Indians (EBCI) have proposed to build a recreational facility that would accommodate 250 RV and Glamping mixed units, a welcome center, two way private road system, beach area, restaurant/snack bar, lockers, dressing areas, rest rooms, terraces, swimming pool, kid's pool, a floating inflatable water-based playground, and parking.

SECTION 1: PROJECT INFORMATION - ACTION AND ACTIVITIES

STEP 1) Select TVA Action. If none are applicable, contact environmental support staff, Environmental Project Lead, or Terrestrial Zoologist to discuss whether form (i.e., application of Bat Programmatic Consultation) is appropriate for project:

☐ 1 Manage Biological Resources for Biodiversity and Public Use on TVA Reservoir Lands	☐ 6 Maintain Existing Electric Transmission Assets
☐ 2 Protect Cultural Resources on TVA-Retained Land	☐ 7 Convey Property associated with Electric Transmission
☒ 3 Manage Land Use and Disposal of TVA-Retained Land	☐ 8 Expand or Construct New Electric Transmission Assets
☐ 4 Manage Permitting under Section 26a of the TVA Act	☐ 9 Promote Economic Development
☐ 5 Operate, Maintain, Retire, Expand, Construct Power Plants	☐ 10 Promote Mid-Scale Solar Generation

STEP 2) Select all activities from Tables 1, 2, and 3 below that are included in the proposed project.

TABLE 1. Activities with no effect to bats. Conservation measures & completion of bat strategy project review form NOT required.		
☐ 1. Loans and/or grant awards	☐ 8. Sale of TVA property	☐ 19. Site-specific enhancements in streams and reservoirs for aquatic animals
☐ 2. Purchase of property	☐ 9. Lease of TVA property	☐ 20. Nesting platforms
☐ 3. Purchase of equipment for industrial facilities	☐ 10. Deed modification associated with TVA rights or TVA property	☒ 41. Minor water-based structures (this does not include boat docks, boat slips or piers)
☐ 4. Environmental education	☐ 11. Abandonment of TVA retained rights	☐ 42. Internal renovation or internal expansion of an existing facility
☐ 5. Transfer of ROW easement and/or ROW equipment	☐ 12. Sufferance agreement	☐ 43. Replacement or removal of TL poles
☐ 6. Property and/or equipment transfer	☐ 13. Engineering or environmental planning or studies	☐ 44. Conductor and overhead ground wire installation and replacement
☒ 7. Easement on TVA property	☐ 14. Harbor limits delineation	☐ 49. Non-navigable houseboats

TABLE 2. Activities not likely to adversely affect bats with implementation of conservation measures. Conservation measures and completion of bat strategy project review form REQUIRED; review of bat records in proximity to project NOT required.

☐ 18. Erosion control, minor	☐ 57. Water intake - non-industrial	☒ 79. Swimming pools/associated equipment
☒ 24. Tree planting	☐ 58. Wastewater outfalls	☐ 81. Water intakes – industrial
☐ 30. Dredging and excavation; recessed harbor areas	☐ 59. Marine fueling facilities	☐ 84. On-site/off-site public utility relocation or construction or extension
☐ 39. Berm development	☐ 60. Commercial water-use facilities (e.g., marinas)	☒ 85. Playground equipment - land-based
☐ 40. Closed loop heat exchangers (heat pumps)	☐ 61. Septic fields	☐ 87. Aboveground storage tanks
☐ 45. Stream monitoring equipment - placement and use	☐ 66. Private, residential docks, piers, boathouses	☐ 88. Underground storage tanks
☐ 46. Floating boat slips within approved harbor limits	☐ 67. Siting of temporary office trailers	☐ 90. Pond closure
☒ 48. Laydown areas	☐ 68. Financing for speculative building construction	☐ 93. Standard License
☒ 50. Minor land based structures	☐ 72. Ferry landings/service operations	☐ 94. Special Use License
☒ 51. Signage installation	☒ 74. Recreational vehicle campsites	☒ 95. Recreation License
☐ 53. Mooring buoys or posts	☒ 75. Utility lines/light poles	☒ 96. Land Use Permit
☐ 56. Culverts	☒ 76. Concrete sidewalks	

Table 3: Activities that may adversely affect federally listed bats. Conservation measures AND completion of bat strategy project review form REQUIRED; review of bat records in proximity of project REQUIRED by OSAR/Heritage eMap reviewer or Terrestrial Zoologist.

☐ 15. Windshield and ground surveys for archaeological resources	☒ 34. Mechanical vegetation removal, includes trees or tree branches > 3 inches in diameter	☐ 69. Renovation of existing structures
☐ 16. Drilling	☒ 35. Stabilization (major erosion control)	☐ 70. Lock maintenance/ construction
☐ 17. Mechanical vegetation removal, does not include trees or branches > 3" in diameter (in Table 3 due to potential for woody burn piles)	☒ 36. Grading	☐ 71. Concrete dam modification
☐ 21. Herbicide use	☐ 37. Installation of soil improvements	☐ 73. Boat launching ramps
☒ 22. Grubbing	☐ 38. Drain installations for ponds	☒ 77. Construction or expansion of land-based buildings
☐ 23. Prescribed burns	☐ 47. Conduit installation	☐ 78. Wastewater treatment plants
☒ 25. Maintenance, improvement or construction of pedestrian or vehicular access corridors	☐ 52. Floating buildings	☐ 80. Barge fleeting areas
☐ 26. Maintenance/construction of access control measures	☐ 54. Maintenance of water control structures (dewatering units, spillways, levees)	☐ 82. Construction of dam/weirs/ levees
☐ 27. Restoration of sites following human use and abuse	☐ 55. Solar panels	☐ 83. Submarine pipeline, directional boring operations
☐ 28. Removal of debris (e.g., dump sites, hazardous material, unauthorized structures)	☐ 62. Blasting	☐ 86. Landfill construction
☒ 29. Acquisition and use of fill/borrow material	☐ 63. Foundation installation for transmission support	☐ 89. Structure demolition
☒ 31. Stream/wetland crossings	☐ 64. Installation of steel structure, overhead bus, equipment, etc.	☐ 91. Bridge replacement
☐ 32. Clean-up following storm damage	☐ 65. Pole and/or tower installation and/or extension	☐ 92. Return of archaeological remains to former burial sites
☐ 33. Removal of hazardous trees/tree branches		

STEP 3) Project includes one or more activities in Table 3?☒ **YES (Go to Step 4)**☐ **NO (Go to Step 13)**

STEP 4) Answer questions a through e below (applies to projects with activities from Table 3 ONLY)

- a) Will project involve continuous noise (i.e., ≥ 24 hrs) that is greater than 75 decibels measured on the A scale (e.g., loud machinery)? ☒ **NO** (NV2 does not apply) ☐ **YES** (NV2 applies, subject to records review)
- b) Will project involve entry into/survey of cave? ☒ **NO** (HP1/HP2 do not apply) ☐ **YES** (HP1/HP2 applies, subject to review of bat records)
- c) If conducting **prescribed burning (activity 23)**, estimated acreage: and timeframe(s) below: ☒ **N/A**

STATE	SWARMING	WINTER	NON-WINTER	PUP
GA, KY, TN	☐ Oct 15 - Nov 14	☐ Nov 15 - Mar 31	☐ Apr 1 - May 31, Aug 1 - Oct 14	☐ Jun 1 - Jul 31
VA	☐ Sep 16 - Nov 15	☐ Nov 16 - Apr 14	☐ Apr 15 - May 31, Aug 1 - Sept 15	☐ Jun 1 - Jul 31
AL	☐ Oct 15 - Nov 14	☐ Nov 15 - Mar 15	☐ Mar 16 - May 31, Aug 1 - Oct 14	☐ Jun 1 - Jul 31
NC	☐ Oct 15 - Nov 14	☐ Nov 15 - Apr 15	☐ Apr 16 - May 31, Aug 1 - Oct 14	☐ Jun 1 - Jul 31
MS	☐ Oct 1 - Nov 14	☐ Nov 15 - Apr 14	☐ Apr 15 - May 31, Aug 1 - Sept 30	☐ Jun 1 - Jul 31

- d) Will the project involve vegetation piling/burning? ☒ **NO** (SSPC4/SHF7/SHF8 do not apply) ☐ **YES** (SSPC4/SHF7/SHF8 applies, subject to review of bat records)

- e) If **tree removal (activity 33 or 34)**, estimated amount: ☒ **ac** ☐ **trees** ☐ **N/A**

STATE	SWARMING	WINTER	NON-WINTER	PUP
GA, KY, TN	☒ Oct 15 - Nov 14	☒ Nov 15 - Mar 31	☐ Apr 1 - May 31, Aug 1 - Oct 14	☐ Jun 1 - Jul 31
VA	☐ Sep 16 - Nov 15	☐ Nov 16 - Apr 14	☐ Apr 15 - May 31, Aug 1 - Sept 15	☐ Jun 1 - Jul 31
AL	☐ Oct 15 - Nov 14	☐ Nov 15 - Mar 15	☐ Mar 16 - May 31, Aug 1 - Oct 14	☐ Jun 1 - Jul 31
NC	☐ Oct 15 - Nov 14	☐ Nov 15 - Apr 15	☐ Apr 16 - May 31, Aug 1 - Oct 14	☐ Jun 1 - Jul 31
MS	☐ Oct 1 - Nov 14	☐ Nov 15 - Apr 14	☐ Apr 15 - May 31, Aug 1 - Sept 30	☐ Jun 1 - Jul 31

If warranted, does project have flexibility for bat surveys (May 15-Aug 15): ☒ **MAYBE** ☐ **YES** ☐ **NO**

*** For **PROJECT LEADS** whose projects will be reviewed by a Heritage Reviewer (Natural Resources Organization only), **STOP HERE**. Click File/Save As, name form as "ProjectLead_BatForm_CEC-or-ProjectIDNo_Date", and submit with project information. Otherwise continue to Step 5. ***

SECTION 2: REVIEW OF BAT RECORDS (applies to projects with activities from Table 3 ONLY)**STEP 5) Review of bat/cave records conducted by Heritage/OSAR reviewer?**

- ☐ **YES** ☒ **NO** (Go to Step 13)

Info below completed by: ☐ **Heritage Reviewer** (name) Date
☐ **OSAR Reviewer** (name) Date
☒ **Terrestrial Zoologist** (name) Sara McLaughlin-Johnson Date 2/12/2021

Gray bat records: ☒ None ☐ Within 3 miles* ☐ Within a cave* ☐ Within the County

Indiana bat records: ☐ None ☐ Within 10 miles* ☐ Within a cave* ☒ Capture/roost tree* ☒ Within the County

Northern long-eared bat records: ☐ None ☐ Within 5 miles* ☐ Within a cave* ☒ Capture/roost tree* ☒ Within the County

Virginia big-eared bat records: ☒ None ☐ Within 6 miles* ☐ Within the County

Caves: ☐ None within 3 mi ☒ Within 3 miles but > 0.5 mi ☐ Within 0.5 mi but > 0.25 mi* ☐ Within 0.25 mi but > 200 feet*
☐ Within 200 feet*

Bat Habitat Inspection Sheet completed? ☒ **NO** ☐ **YES**

Amount of **SUITABLE** habitat to be removed/burned (may differ from STEP 4e): ((☒ **ac** ☐ **trees**)* ☐ **N/A**

STEP 6) Provide any additional notes resulting from Heritage Reviewer records review in Notes box below then
 **Go to Step 13**

Notes from Bat Records Review (e.g., historic record; bats not on landscape during action; DOT bridge survey with negative results):

STEPS 7-12 To be Completed by Terrestrial Zoologist (if warranted):

STEP 7) Project will involve:

- ☐ Removal of suitable trees within 0.5 mile of P1-P2 Indiana bat hibernacula or 0.25 mile of P3-P4 Indiana bat hibernacula or any NLEB hibernacula.
- ☐ Removal of suitable trees within 10 miles of documented Indiana bat (or within 5 miles of NLEB) hibernacula.
- ☒ Removal of suitable trees > 10 miles from documented Indiana bat (> 5 miles from NLEB) hibernacula.
- ☐ Removal of trees within 150 feet of a documented Indiana bat or northern long-eared bat maternity roost tree.
- ☐ Removal of suitable trees within 2.5 miles of Indiana bat roost trees or within 5 miles of Indiana bat capture sites.
- ☒ Removal of suitable trees > 2.5 miles from Indiana bat roost trees or > 5 miles from Indiana bat capture sites.
- ☐ Removal of documented Indiana bat or NLEB roost tree, if still suitable.
- ☐ N/A

STEP 8) Presence/absence surveys were/will be conducted: ☐ YES ☒ NO ☐ TBD

STEP 9) Presence/absence survey results, on ☐ NEGATIVE ☐ POSITIVE ☒ N/A

STEP 10) Project ☒ WILL ☐ WILL NOT **require use of Incidental Take in the amount of** ☐ acres or ☐ trees
 proposed to be used during the ☒ WINTER ☐ VOLANT SEASON ☐ NON-VOLANT SEASON ☐ N/A

STEP 11) Available Incidental Take (prior to accounting for this project) as of

TVA Action	Total 20-year	Winter	Volant Season	Non-Volant Season
3 Manage Land Use and Disposal of TVA-Retained Land	12,462.48	6,185.16	3,766.01	2,511.31

STEP 12) Amount contributed to TVA's Bat Conservation Fund upon activity completion: \$ OR ☒ N/A

TERRESTRIAL ZOOLOGISTS, after completing SECTION 2, review Table 4, modify as needed, and then complete section for Terrestrial Zoologists at end of form.

SECTION 3: REQUIRED CONSERVATION MEASURES

STEP 13) Review Conservation Measures in Table 4 and ensure those selected are relevant to the project. If not, manually override and uncheck irrelevant measures, and explain why in ADDITIONAL NOTES below Table 4.

Did review of Table 4 result in ANY remaining Conservation Measures in **RED**?

- ☐ **NO** (Go to Step 14)
- ☒ **YES** (STOP HERE; Submit for Terrestrial Zoology Review. Click File/Save As, name form as "ProjectLead_BatForm_CEC-or-ProjectIDNo_Date", and submit with project information).

Table 4. TVA's ESA Section 7 Programmatic Bat Consultation Required Conservation Measures

The Conservation Measures in Table 4 are automatically selected based on your choices in Tables 2 and 3 but can be manually overridden, if necessary. To Manually override, press the button and enter your name.

Manual Override

Name: Sara McLaughlin-Johnson

Check if Applies to Project	Activities Subject To Conservation Measure	Conservation Measure Description
		NV1 - Noise will be short-term, transient, and not significantly different from urban interface or natural events (i.e., thunderstorms) that bats are frequently exposed to when present on the landscape.
		NV2 - Drilling, blasting, or any other activity that involves continuous noise (i.e., longer than 24 hours) disturbances greater than 75 decibels measured on the A scale (e.g., loud machinery) within a 0.5 mile radius of documented winter and/or summer roosts (caves, trees, unconventional roosts) will be conducted when bats are absent from roost sites.
		TR1* - Removal of potentially suitable summer roosting habitat during time of potential occupancy has been quantified and minimized programmatically. TVA will track and document alignment of activities that include tree removal (i.e., hazard trees, mechanical vegetation removal) with the programmatic quantitative cumulative estimate of seasonal removal of potential summer roost trees for Indiana bat and northern long-eared bat. Project will therefore communicate completion of tree removal to appropriate TVA staff.
		TR4* - Removal of suitable summer roosting habitat within potential habitat for Indiana bat or northern long-eared bat will be tracked, documented, and included in annual reporting. Project will therefore communicate completion of tree removal to appropriate TVA staff.
		SSPC2 - Operations involving chemical/fuel storage or resupply and vehicle servicing will be handled outside of riparian zones (streamside management zones) in a manner to prevent these items from reaching a watercourse. Earthen berms or other effective means are installed to protect stream channel from direct surface runoff. Servicing will be done with care to avoid leakage, spillage, and subsequent stream, wetland, or ground water contamination. Oil waste, filters, other litter will be collected and disposed of properly. Equipment servicing and chemical/fuel storage will be limited to locations greater than 300-ft from sinkholes, fissures, or areas draining into known sinkholes, fissures, or other karst features.
		SSPC5 (26a, Solar, Economic Development only) - Section 26a permits and contracts associated with solar projects, economic development projects or land use projects include standards and conditions that include standard BMPs for sediment and contaminants as well as measures to avoid or minimize impacts to sensitive species or other resources consistent with applicable laws and Executive Orders.
		L1 - Direct temporary lighting away from suitable habitat during the active season.
		L2 - Evaluate the use of outdoor lighting during the active season and seek to minimize light pollution when installing new or replacing existing permanent lights by angling lights downward or via other light minimization measures (e.g., dimming, directed lighting, motion-sensitive lighting).

STEP 14) Save completed form (Click File/Save As, name form as "ProjectLead_BatForm_CEC-or-ProjectIDNo_Date") in project environmental documentation (e.g. CEC, Appendix to EA) AND send a copy of form to batstrategy@tva.gov
Submission of this form indicates that Project Lead/Applicant:

Dana Nelson

(name) is (or will be made) aware of the requirements below.

- Implementation of conservation measures identified in Table 4 is required to comply with TVA's Endangered Species Act programmatic bat consultation.
- TVA may conduct post-project monitoring to determine if conservation measures were effective in minimizing or avoiding impacts to federally listed bats.

For Use by Terrestrial Zoologist Only

☒ Terrestrial Zoologist acknowledges that Project Lead/Contact (name) Dana Nelson has been informed of any relevant conservation measures and/or provided a copy of this form.

☐ For projects that require use of Take and/or contribution to TVA's Bat Conservation Fund, Terrestrial Zoologist acknowledges that Project Lead/Contact has been informed that project will result in use of Incidental Take ☐ ac ☐ trees and that use of Take will require \$ contribution to TVA's Conservation Fund upon completion of activity (amount entered should be \$0 if cleared in winter).

For Terrestrial Zoology Use Only. Finalize and Print to Noneditable PDF.

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