

**APPENDIX D**  
**BIOLOGICAL ASSESSMENT**

**Endangered Species Act**  
**BIOLOGICAL ASSESSMENT**

**Proposed Title Transfer of ETTP**  
**Land and Facilities**

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## ACRONYMS

|      |                                     |
|------|-------------------------------------|
| DOE  | U. S. Department of Energy          |
| EA   | Environmental Assessment            |
| EFPC | East Fork Poplar Creek              |
| ETTP | East Tennessee Technology Park      |
| OMI  | Operations Management International |
| ORR  | Oak Ridge Reservation               |

**BIOLOGICAL ASSESSMENT FOR  
THREATENED AND ENDANGERED SPECIES  
UNDER SECTION 7 OF THE ENDANGERED SPECIES ACT  
FOR THE PROPOSED TITLE TRANSFER OF ETTP  
LAND AND FACILITIES**

**SUMMARY**

This Biological Assessment (BA) assesses the potential for adverse effects on three federally listed animal species that could result from the title transfer of land and facilities located within, and adjacent to, the East Tennessee Technology Park (ETTP) in Roane County, Tennessee. The species discussed in this BA are those mentioned in a letter from the U. S. Fish and Wildlife Service (FWS) to the U. S. Department of Energy (DOE), dated November 20, 2002, regarding the preparation of an Environmental Assessment Addendum for the proposed title transfer of ETTP land and facilities (FWS 2002). The FWS determined that the gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*), and spotfin chub (*Cyprinella monacha*) may, or are known to, occur within the ETTP project area. Both bat species are federally listed as endangered and the spotfin chub is listed as threatened.

Based on the information presented in this BA, DOE concludes that the proposed title transfer is not likely to adversely affect any of the listed species. None of the species appears likely to be present within, or in, the immediate vicinity of ETTP, and proposed or designated critical habitats for the species are not present on, or near, the project area. No caves or other suitable hibernacula or roosting habitat for gray bats are present at ETTP. However, caves that could provide potential roosting habitat for the gray bat are present within 3 miles of ETTP. Although the ultimate use of some of the areas being considered for title transfer may eventually require removal of trees, potential summer roosting habitat at the site is at best marginal for Indiana bats. Also, there are adequate numbers of suitable and potentially suitable roost trees available immediately adjacent to ETTP. Poplar Creek, within ETTP and the adjacent Clinch River, may provide suitable foraging habitat for gray or Indiana bats. However, because of the industrialized nature of the ETTP area and the increased human activity, the species would likely utilize better quality habitat located further upstream and downstream on the Clinch River and Poplar Creek. Suitable habitat or populations of the spotfin chub are not known to exist in Poplar Creek within the vicinity of ETTP or the Clinch River downstream of the project area.

**INTRODUCTION AND PROJECT DESCRIPTION**

The proposed action being evaluated in the Environmental Assessment (EA) Addendum is the proposal to transfer title of land and facilities within the East Tennessee Technology Park (ETTP) under a modified Reindustrialization approach, consistent with the Oak Ridge Performance Management Plan (DOE 2002). This proposed action was not considered in the EA and Finding of No Significant Impact prepared by DOE in 1997 for the proposed expansion of the U. S. Department of Energy's (DOE's) Reindustrialization Program, whereby land and facilities at ETTP would be leased for industrial and business uses (DOE 1997). The alternative of title transfer was discussed in the original EA, but was not fully evaluated. The EA Addendum also addresses additional areas that were inadvertently not included in the 1997 EA. These areas, shown in [Fig. 1](#), primarily consist of roads, grounds, and other infrastructure that have been leased for maintenance purposes (e.g., mowing) and the operation of utilities. These areas are described in more detail under the

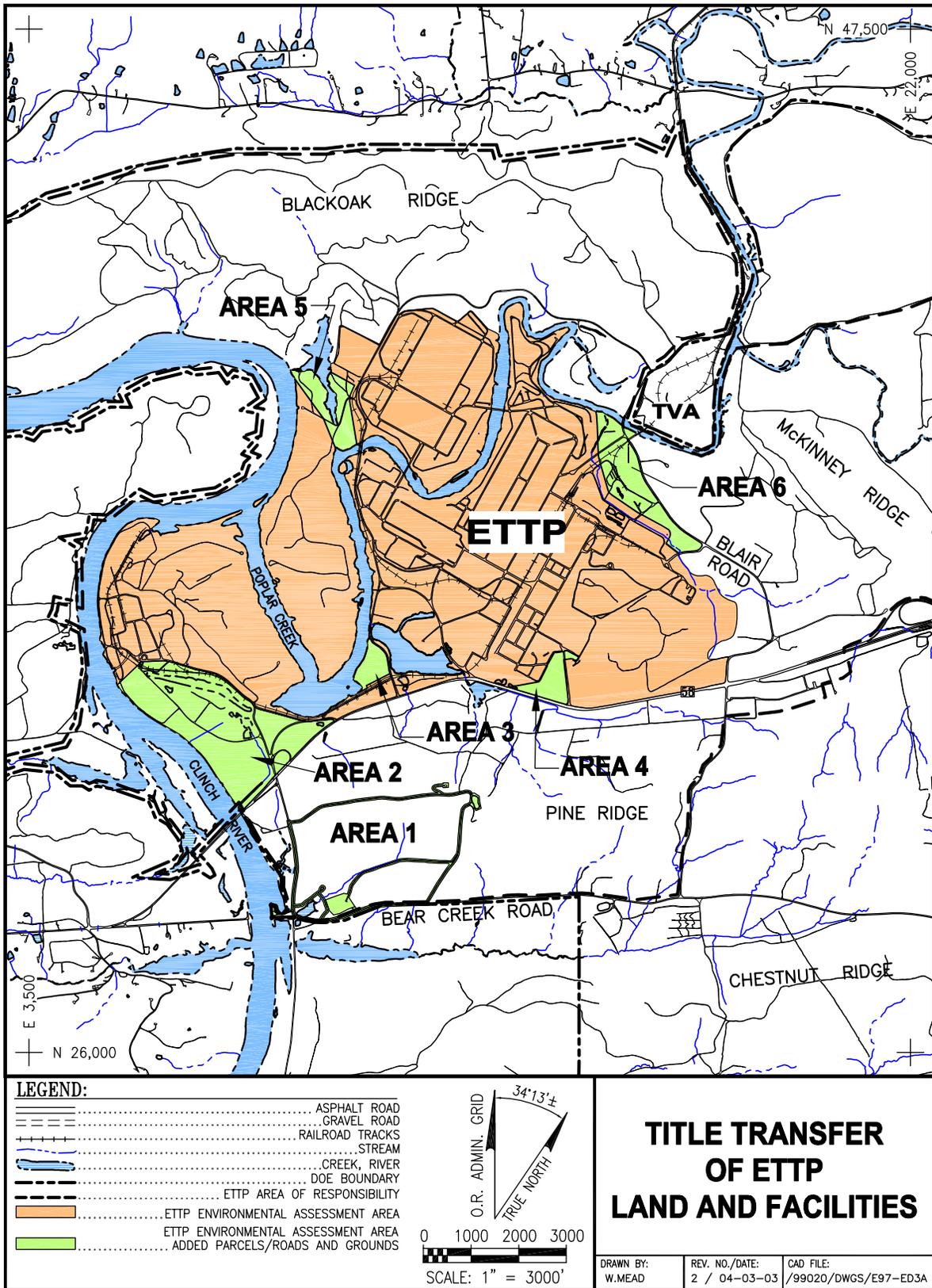


Fig. 1. ETTP title transfer area.

ecological description of the site. The land and facilities being considered for title transfer are located within an area of about 1700 acres (approximately 1400 acres considered in the 1997 EA plus about 300 acres for the additional areas). The purpose of the proposed DOE action is to help support the accelerated cleanup of ETTP, and to continue to support economic development in the region. DOE's action is needed to help reduce the eventual cost for building demolition, and reduce or eliminate ETTP landlord costs. DOE also recognizes that transferring unneeded property can help offset economic losses resulting from continued DOE downsizing, facility closures, and workforce restructuring.

This proposed action does not differ substantially from the proposed action described in the 1997 EA. The major difference is that ownership of the property would be transferred. Reindustrialization efforts would focus on transferring title of up to 26 ETTP facilities and land parcels. These land parcels and facilities are shown in Fig. 2 and are listed in Table 1 by the year of anticipated transfer. The types of buildings to be transferred may include offices, warehouse/storage buildings, former process buildings, utilities (e.g., the water treatment facility, telephone buildings, and the railroad), site support facilities (e.g., the visitor control center and the fire hall), and miscellaneous facilities like the ETTP Visitor Overlook. ETTP land parcels include Parcel 3, Parcel 4, and other remediated land parcels. The transferred land and facilities would still be used for various industrial and business purposes. Industrial uses would be limited to those analyzed in the 1997 EA and would be required to conform to the City of Oak Ridge Zoning Ordinance (Chap. 7, Sect. 6-713 IND-2, Industrial Districts). Appropriate restrictions would be included in the Quitclaim Deed to provide for environmental protection and to ensure that activities by the new owner(s) do not adversely affect any sensitive resources (e.g., TCE species, wetlands, and cultural resources).

**Table 1. ETTP land and facilities proposed for title transfer**

| FY 2003         | FY 2004           | FY 2005         | FY 2006         | FY 2007         |
|-----------------|-------------------|-----------------|-----------------|-----------------|
| K-1007          | K-33              | K-31            | K-29            | Remediated land |
| K-1330          | K-1515 group      | Railroad system | K-1065 group    |                 |
| K-1580          | K-1039 & K-1039-1 | K-1652          | K-1650          |                 |
| K-1225          | K-1000            | K-1037          | K-1547          |                 |
| K-1400          | Parcel 4          | K-791-B         | K-708-E         |                 |
| K-1035          |                   |                 | K-709           |                 |
| K-1036          |                   |                 | Parcel 3 (West) |                 |
| Parcel 3 (East) |                   |                 | Remediated land |                 |

ETTP = East Tennessee Technology Park.  
 FY = Fiscal Year.

## ECOLOGICAL DESCRIPTION OF THE SITE

A detailed description of the ecological resources of the ETTP project area is found within the EA prepared for leasing land and facilities at ETTP (DOE 1997). Brief descriptions of the six additional areas of ETTP that were inadvertently not included in the 1997 EA, but included in the new proposed action, are as follows. Although these areas would most likely continue to be leased, it is possible that portions of Areas 1, 3, 4, and 6 could be transferred in the future. Areas with extensive contamination, located within a floodplain, or containing wetlands or other sensitive resources would be excluded from title transfer.

**Area 1** Approximately 56 acres of roads and grounds are associated with the K-1515 Water Treatment Plant area including Water Tank Road on Pine Ridge. The K-1515 area is located near the west end of Bear Creek Road. Water Tank Road is a loop road that runs from Bear Creek Road (near K-1515) to the water tanks on Pine Ridge and back down to South First Avenue. The grounds are located within a fenced

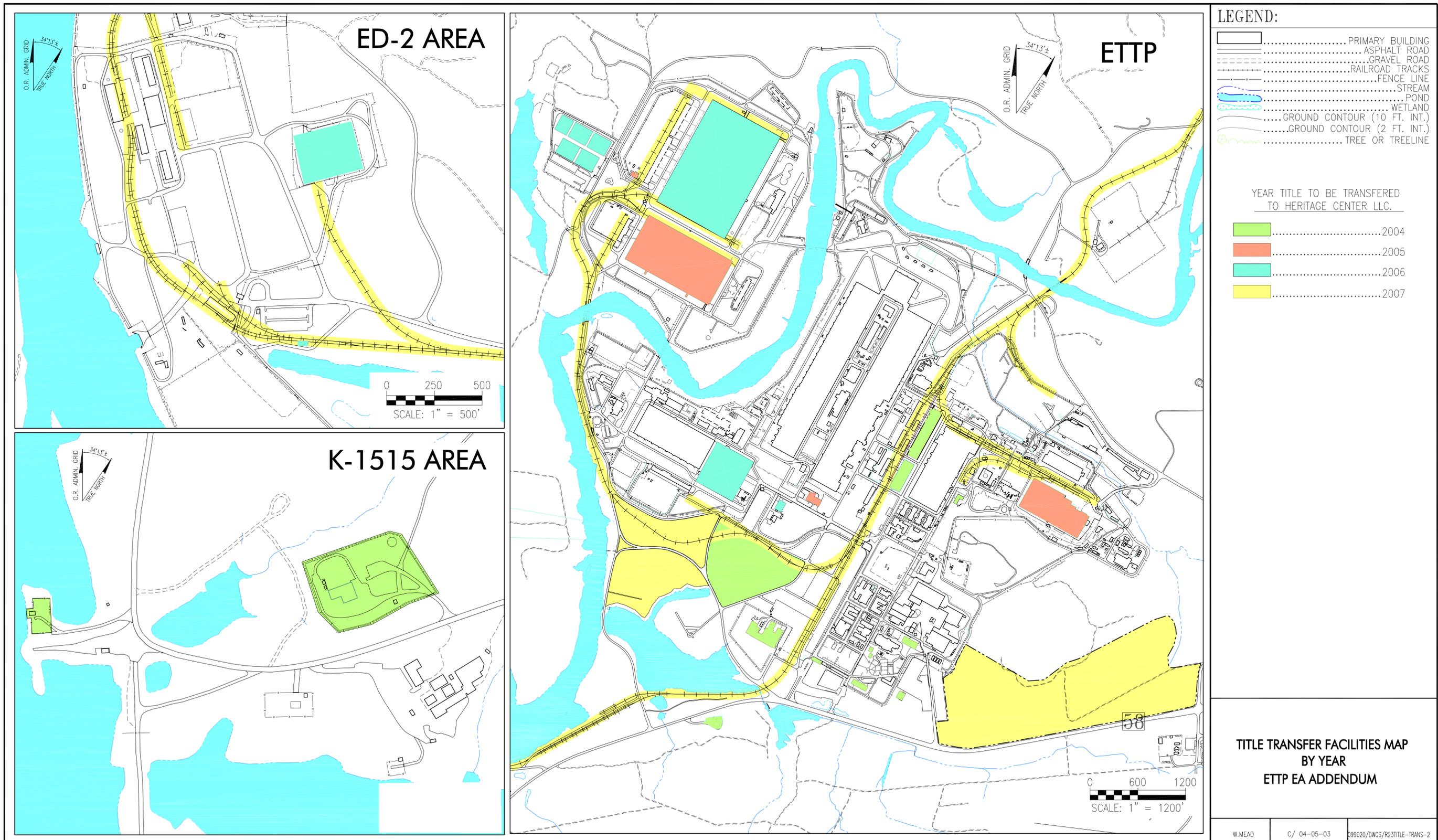


Fig. 2. ETPP land and facilities proposed for title transfer.

area surrounding the K-1515 Water Treatment Plant and are mostly mowed lawn areas. This area has been leased to CROET. Operations Management International (OMI) has a contract with CROET to maintain this area and to operate the water treatment plant.

**Area 2** A 134-acre area is located south of the old Powerhouse Area and bordered by the Clinch River, State Route 58, and the railroad along Powerhouse Road. Historically, portions of the area were used for coal storage. In addition, a material yard, and the K-720 fly ash disposal area were in this location. This area is no longer used and no structures remain. The area currently contains old roads and power line right-of-ways. Habitat within the area includes a backwater area of Poplar Creek, wetlands, open areas of fields, and small areas of pines and hardwoods. Much of the area is also located within the floodplain of the Clinch River. This area is leased to CROET whose contractor OMI maintains portions of it (e.g., mowing).

**Area 3** This is a 10-acre area is bordered by Burchfield Road, Poplar Creek, and the railroad and was used from 1943 to 1958 by the Southern Railway Company as a maintenance area for locomotives and a storage yard for railroad equipment and materials. All the buildings in this area have been removed and only a few concrete pads remain. Old rails, ties, and associated hardware (metal plates, rail spikes, bolts, etc.) are present in weed-covered gravel areas in the vicinity of the old rail spur. A small wooded hill covered with a mix of small hardwood trees and pines is located north of the rail yard. A portion of this area is currently being subleased by the Southern Appalachia Railway Museum and East Tennessee Rail Car for railroad related activities.

**Area 4** Approximately 14 acres of land are located along State Route 58 and bordered by the fence located along the South East Patrol Road and Boulevard Road. The area surrounds the K-1330 facility and includes mowed lawn and the K-1240 parking lot. The K-1007-P5 Pond is located in the southwest corner of the area. OMI has a contract with CROET to maintain these grounds.

**Area 5** Approximately 23 acres of land are located south of the K-901-A Pond. The majority of the area is part of the K-901-Waste Disposal Area. The area also contains a portion of Gilliam Road and the Patrol Road to the Duct Island area. Poplar Creek bounds the area on the south and the railroad bounds the area to the east. A large power line right-of-way runs through the western portion of the area. OMI, under contract with CROET maintains much of the area through periodic mowing but some hardwoods and pines are also present.

**Area 6** A 43-acre area of land is located on the south side of Blair Road (State Route 327). The main portion of the area is located across from the entrance to the Blair Road Quarry and adjacent to Ellis Cemetery. A small area also runs along the road south to the road leading into Portal 6. The larger portion consists of areas that are periodically mowed and of pine trees that are affected by the Southern pine beetle infestation. The smaller portion consists mainly of mowed right-of-way along Blair Road. OMI mows the area under contract to CROET.

## **ECOLOGICAL DESCRIPTION AND POTENTIAL IMPACTS OF THE PROJECT ON LISTED SPECIES**

The general ecology of the gray bat, Indiana bat, spotfin chub, and any potential adverse effects on the species from the proposed action are summarized below. Unless otherwise noted, general biological information on the species is derived from the published literature, reports, and Internet resources listed under each species heading.

## GRAY BAT (*Myotis grisescens*)

Unless otherwise noted or referenced, the following general biological information on the gray bat is derived from FWS (1999a), Harvey (1992), and Kentucky Bat Working Group (KBWG) (2000). The core range of the endangered gray bat encompasses the cave regions of Alabama, northern Arkansas, Kentucky, Missouri, and Tennessee, but a few occur in northwestern Florida, western Georgia, southwestern Kansas, south Indiana, south and southwestern Illinois, northeastern Oklahoma, northeastern Mississippi, western Virginia, and possibly western North Carolina. Gray bats are restricted to caves or cave-like habitats, and few caves meet their specific roost requirements. These restrictions result in about 95% of the population's hibernating in only eight or nine caves. For hibernation, the roost site must have an average temperature of 42°F to 52°F. Most of the caves used by gray bats for hibernation have deep vertical passages with large rooms that function as cold air traps. Summer caves must be warm, between 57°F and 77°F, or have small rooms or domes that can trap the body heat of roosting bats. Summer caves are normally located close to rivers or lakes where the bats feed. Gray bats have been known to fly as far as 12 miles or more from their colony to feed.

Gray bats roost, breed, rear young, and hibernate in caves year round. They migrate between summer and winter caves and will use transient or stopover caves along the way. One-way migrating distance between winter and summer caves may vary from as little as 10 miles to well over 200 miles. Mating occurs as bats return to winter caves in September and October. By November, most gray bats are hibernating. Adult females begin to emerge in late March, followed by juveniles and adult males. Females store sperm over the winter and become pregnant the following spring. A few hundred to many thousands of pregnant females congregate to form maternity colonies. Males and non-reproductive females gather in smaller groups to form what are known as bachelor colonies. A single pup is born in late May or early June. The young begin to fly 20 to 25 days after birth. Gray bats primarily feed on flying insects over lakes, rivers, and streams. Aquatic insects, particularly mayflies, make up most of their diet.

Information about the occurrence of gray bats on the Oak Ridge Reservation (ORR) is limited. In November 1994, a single, dead gray bat was found in a display cabinet in Building 9204-3 at the Oak Ridge Y-12 Plant. The bat was probably an isolated individual juvenile that became lost, disoriented, and trapped. A live bat was found in a building at the Y-12 National Security Complex in August 1995, but it was most likely not a gray bat (Webb 2001).

Mist netting for bats was conducted on the lower East Fork Poplar Creek (EFPC) and its tributaries in May 1992 and again in May through June 1997 (Harvey 1997). The 1997 survey included portions of lower Bear Creek near its confluence with lower EFPC. The creeks in this area provided good gray bat foraging habitat at the time of the surveys. No gray bats were recorded among the six species captured. More than 20 caves have been identified on the ORR. Mitchell et al. (1996) surveyed seven of the caves (Copper Ridge, Flashlight Heaven, Walker Branch, Big Turtle, Little Turtle, Pinnacle, and Bull Bluff), but no gray bats were found. There is an unverified report of ten gray bats roosting in Little Turtle Cave in September 1996. These bats were observed roosting and were not further disturbed; therefore, a definite, in-the-hand identification was not made (Webb 1996). Examination of photographs taken of the roosting bats indicate that they appeared to be *Myotis* and more than likely were gray bats, but the species could not be positively determined (Major 2000 and Henry 2000). If they were gray bats, they may have been entering hibernation in that cave, but were most likely single males traveling to a hibernation site (Webb 2001).

There are no known caves in the immediate vicinity of ETPP, and caves within 3 miles from the site are not known to harbor gray bats (Webb 2001). However, no caves have been completely and systematically surveyed for bats, except for the limited surveys reported in Mitchell et al. (1996) and the 1996 report of *Myotis* roosting in Little Turtle Cave. The caves within the vicinity of the project area may not provide adequate hibernacula for gray bats, but they could provide transient or stopover roosting habitat for

migrating gray bats, and it is still possible that bats could forage within the project area. Suitable foraging habitat for gray bats around ETTP includes the Clinch River, Poplar Creek, and East Poplar Creek. Activities associated with the proposed action and other activities occurring at ETTP (e.g., remediation and decontamination and decommissioning activities) could potentially disrupt some of these foraging areas, but there are abundant suitable foraging locations in the area.

Although gray bats may forage over Poplar Creek, they are not expected to use the facilities proposed for title transfer as roosting habitat (Webb 2001). Gray bats rarely use structures for roosting (e.g., mines, cisterns, bridges, or buildings) other than caves. The facilities do not have suitable gray bat habitat because of no flowing water; the presence of equipment and piping, artificial and natural lighting, and human activities. Future uses of the facilities would increase human presence, noise, and other factors that would further decrease the buildings' suitability for bats. There have been eight dead bats collected within the K-25 and K-27 buildings, but none have been positively identified as gray bat (Webb 2001). No colony of live bats has been found in either building, and any bats found in the buildings are most likely transient individuals. Activities associated with the transferred facilities and construction and operation of any new facilities would primarily occur during the day and would not be expected to disrupt any gray bats that might forage near the site. In addition, the industrial or commercial operations that are likely to occur would not produce significant emissions or effluents that could directly impact foraging gray bats or indirectly affect aquatic insect fauna on which the gray bats would prey. Thus, the proposed transfer is unlikely to adversely affect the gray bat or its habitat.

#### **INDIANA BAT (*Myotis sodalis*)**

Unless otherwise noted or referenced, the following general biological information on the Indiana bat is derived from FWS (1999a, 1999b, 1999c, 2000), Harvey (1992), and KBWG (1997, 2000). The Indiana bat is a migratory species found throughout much of the eastern half of the United States from Oklahoma, Iowa, and Wisconsin east to Vermont and south to northwestern Florida. For hibernation, Indiana bats prefer limestone caves with stable temperatures of 38°F to 43°F and high relative humidity. As with the gray bat, few caves meet the specific roost requirements of the species. Subsequently, more than 85% of the population hibernates in only nine known sites. However, Indiana bats have been found hibernating in a few abandoned mines, a tunnel, and a hydroelectric dam. The bats hibernate from October to April, depending on climatic conditions. Density in tightly packed clusters is usually estimated at 300 bats per ft<sup>2</sup>, although as many as 480 per ft<sup>2</sup> have been reported.

Female Indiana bats depart hibernation caves before males and arrive at summer maternity roosts in mid-May. A single offspring is born between late June and early July. The young bats can fly within a month of birth. Early researchers considered floodplain and riparian forest to be the primary roosting and foraging habitats used during the summer by the Indiana bat, and these forest types unquestionably are important. More recently, upland forest has been shown to be used by Indiana bats for roosting. Within the range of the species, the existence of Indiana bats in a particular area may be governed by the availability of natural roost structures, primarily standing dead trees with loose bark. The suitability of any tree as a roost site is determined by: (1) its condition (dead or alive), (2) the quantity of loose bark, (3) the tree's solar exposure and location in relation to other trees, and (4) the tree's spatial relationship to water sources and foraging areas. The most important characteristic of roost trees is probably not species but structure (i.e., exfoliating bark with space for bats to roost between the bark and the bole of the tree). To a limited extent, tree cavities and crevices are also used for roosting. Maternity colonies use multiple primary roost trees, which are used by a majority of the bats most of the summer, and a number of "secondary" roosts, which are used intermittently and by fewer bats, especially during periods of precipitation or extreme temperatures. The summer roost of adult males is often near maternity roosts, but where most spend the day is unknown. Others remain near the hibernaculum, and a few males are found in other caves during summer. Researchers

have found that primary roosts are generally in openings or at the edge of forest stands, while alternate roosts can be either in the open or in the interior of the forest stands. Indiana bats use roosts in the spring and fall similar to those selected during the summer. During the fall, when Indiana bats swarm and mate at their hibernacula, male bats roost in trees nearby during the day and fly to the cave during the night.

Indiana bats forage in, and around, the tree canopy of floodplain, riparian, and upland forest. In riparian areas, Indiana bats primarily forage around, and near, riparian and floodplain trees (e.g., sycamore, cottonwood, black walnut, black willow, and oaks), and solitary trees and forest edge on the floodplain. Streams, associated floodplain forests, and impounded bodies of water (e.g., ponds, wetlands, and reservoirs) are preferred foraging habitat for pregnant and lactating Indiana bats, some of which may fly up to 1.5 miles from upland roosts. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (e.g., old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures. Indiana bats return nightly to their foraging areas. Indiana bats feed strictly on flying insects, and their selection of prey items reflects the environment in which they forage. Both aquatic and terrestrial insects are consumed. Moths, caddisflies, flies, mosquitoes, and midges are major prey items. Other prey includes bees, wasps, flying ants, beetles, leafhoppers, and treehoppers. During September, the bats depart for hibernation caves.

Information about the occurrence of Indiana bats on the ORR is limited. The only record of Indiana bats on the ORR is from a single specimen in the 1950s (Webb 2001). Mist netting for bats was conducted on lower EFPC and its tributaries in May 1992 and again in May through June 1997 (Harvey 1997). The 1997 survey included portions of lower Bear Creek near its confluence with lower EFPC. The creeks in this area provided Indiana bat summer roosting and foraging habitat at the time of the surveys. No Indiana bats were recorded among the six species captured.

In Tennessee, the nearest hibernating population of Indiana bats exists in White Oak Blowhole Cave, located in Blount County in the western end of the Great Smoky Mountains National Park. This cave has been designated as critical habitat for this species. A few Indiana bats also hibernate in Bull Cave, also located in Blount County. No maternity roosts have been located on the ORR, or as yet in Tennessee. However, in July 1999, a small colony of Indiana bats was discovered roosting in a dead hemlock tree on the Cheoah Ranger District of the Nantahala National Forest in Graham County, North Carolina. This discovery represents the first record of a reproductive female Indiana bat being found south of Kentucky. Recent collections of individual Indiana bats have also been recorded from the Cherokee National Forest near Tellico Lake in Monroe County, Tennessee. These reports indicate that summer colonies of the species may be present in east Tennessee. The habitat from which these individuals were collected is similar to suitable habitat found on the ORR.

Eight dead bats have been recovered from the interior of the K-25 and K-27 buildings and none have been positively identified as an Indiana bat (Webb 2001). No colony of live bats has been found in either building, and any bats found in the buildings are most likely transient individuals. Although the buildings are large, they are unlikely to provide the proper temperature, humidity, and structural conditions used by the Indiana bat for winter hibernacula (Webb 2001). Activities associated with the transferred facilities and construction and operation of any new facilities would primarily occur during the day and would not be expected to disrupt any Indiana bats that might forage near the site. In addition, the industrial or commercial operations that are likely to occur would not produce significant emissions or effluents that could directly impact foraging Indiana bats or indirectly affect aquatic insect fauna on which the Indiana bats would prey. Any land-disturbance that would occur near Poplar Creek or the Clinch River is expected to be minor and any roosts in the riparian zone would not likely be disturbed. It is unlikely that Indiana bats are present on the site, and if present, it is unlikely they would be adversely affected by the proposed title transfer activities. Even with the poor to marginal quality of the habitat within ETPP, it would be recommended that no tree cutting would occur during the summer roosting season from May through September. This

should prevent the loss of any bats that otherwise might be using the trees for rearing young and should also eliminate the need for mist netting or detailed surveys.

### **SPOTFIN CHUB (*Cyprinella monacha*)**

The general ecology of the federal threatened spotfin chub and any potential adverse effects on the species from the proposed action are summarized below. Unless otherwise noted, the following biological information is derived from Burkhead and Jenkins (1991), Etnier and Starnes (1993), *Federal Register* (1977), Jenkins (1975), and Jenkins and Burkhead (1984, 1994).

The spotfin chub historically occurred in 12 tributary systems of the Tennessee River drainage in Alabama, Georgia, North Carolina, Tennessee, and Virginia. It is currently restricted to the lower North Fork of the Holston River in Virginia and Tennessee, the Emory River System in Tennessee, and the upper Little Tennessee River in North Carolina. There have been attempts to transplant the species to Abrams Creek in Blount County, Tennessee, and the Tellico River in Monroe County, Tennessee (FWS 2001). There have been no quantitative estimates of its current population density, but it has generally been uncommon or rare wherever collected.

The spotfin chub can be found in moderate to large streams (average width of 45 ft to 250 ft) with moderate gradient, good current, clear water, and cool to warm temperatures. These streams typically have frequent pools alternating with riffles. This species has been collected from a variety of habitats, except heavily silted or sandy substrate (Lee et al. 1980), but seems to favor gravel to bedrock-type habitats. Critical habitat for this species has been identified in the Little Tennessee River, Macon and Swain Counties, North Carolina, from the backwaters of Fontana Lake upstream to the North Carolina-Georgia State Line; in Tennessee in the Emory and Obed Rivers upstream to U. S. Interstate Highway 40 in Morgan County, Clear Creek upstream to U. S. Interstate Highway 40 in Fentress and Morgan Counties, and Daddys Creek upstream to U. S. Highway 127 in Cumberland and Morgan Counties; in Tennessee in the North Fork Holston River upstream from the junction with the South Fork Holston River to the Tennessee-Virginia State Line in Hawkins and Sullivan Counties; and in Virginia in the North Fork Holston River from the Virginia-Tennessee State line upstream through Scott and Washington Counties.

Spotfin chub most likely spawn from late May to August when temperatures are approximately 79°F to 81°F. Females probably produce several egg clutches per season. Individuals mature in 2 years, although some may spawn at 1 year, and have a life expectancy of 3 years. Breeding sites occur in moderate current of shallow runs and unsilted areas scattered among rubble and boulders where eggs are laid in stone cracks, crevices, or the narrow space between two adjacent rocks. Spotfin chub feed predominantly on benthic macroinvertebrates. They prefer immature aquatic insects, largely small midges (Diptera, Chironomidae) and blackflies (Diptera, Simuliidae), plus some mayfly nymphs (Ephemeroptera) and caddisfly larvae (Trichoptera).

Information about the occurrence of spotfin chub on the ORR is limited. Biological surveys have been performed on EFPC since 1976, but no spotfin chubs have ever been collected until October 2002 when one individual was collected (Daniels 2002). The specimen was collected from large bedrock material left behind from the construction of a pipeline, which created suitable habitat. This collection represents a new distribution for the species. The nearest known population of spotfin chub occurs in the Emory River approximately 31 miles from the site.

According to Mike Ryon with the Oak Ridge National Laboratory Environmental Sciences Division, there is potential for suitable habitat in Poplar Creek upstream of the confluence with EFPC, but the presence of suitable habitat in Poplar Creek downstream of the confluence has not been well studied.

Suitable habitat is not likely to be present downstream of the confluence because of Watts Bar Dam, which creates impound habitat in the Clinch River and Poplar Creek even upstream of the confluence with EFPC. There are areas of heavy sedimentation and siltation in Poplar Creek, which are most likely a result of the impoundment. Suitable habitat or populations of the spotfin chub are not known to exist in Poplar Creek or the Clinch River downstream of the ETTP project area, and activities associated with the transferred facilities and construction and operation of any new facilities are unlikely to result in any direct or indirect impacts to the spotfin chub or suitable habitat.

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