

Wildlife Management Plan

R.L. Harris Hydroelectric Project

FERC No. 2628



Prepared by:

Alabama Power Company

November 2021



This Page Intentionally Left Blank

TABLE OF CONTENTS

| | |
|--|------|
| List of Tables..... | 1-2 |
| List of Figures..... | 1-2 |
| 1.0 Introduction..... | 1-3 |
| 1.1 Project Description..... | 1-3 |
| 2.0 Purpose of the Plan..... | 2-1 |
| 3.0 Background and Existing Information..... | 3-1 |
| 3.1 Background of FERC-Approved Plans..... | 3-1 |
| 3.2 Land Use and Existing Habitat – Lake Harris..... | 3-1 |
| 3.2.1 Wildlife Resources..... | 3-1 |
| 3.2.2 Botanical Resources..... | 3-3 |
| 3.2.3 Riparian and Littoral Habitat..... | 3-4 |
| 3.3 Land Use and Existing Habitat – Skyline..... | 3-5 |
| 3.3.1 Wildlife Resources..... | 3-5 |
| 3.3.2 Botanical Resources..... | 3-6 |
| 3.3.3 Riparian and Littoral Habitat..... | 3-7 |
| 4.0 Wildlife Management Objectives..... | 4-1 |
| 5.0 Shoreline Management..... | 5-1 |
| 5.1 Management Actions..... | 5-1 |
| 5.1.1 Shoreline Classification System and Sensitive Resources Designation..... | 5-1 |
| 5.1.2 Shoreline Buffers..... | 5-1 |
| 5.1.3 Planting of Native Species..... | 5-2 |
| 6.0 Permanent Managed Openings..... | 6-1 |
| 6.1 Management Actions..... | 6-4 |
| 6.1.1 Lake Harris..... | 6-4 |
| 6.1.2 Skyline..... | 6-4 |
| 7.0 Timber Management..... | 7-5 |
| 7.1 Lake Harris..... | 7-11 |
| 7.1.1 Lake Harris Timber Harvest..... | 7-11 |
| 7.1.2 Lake Harris Best Management Practices..... | 7-11 |
| 7.1.3 Lake Harris Timber Harvest Conservation Actions for the Protection of Listed Bat Species..... | 7-12 |
| 7.2 Skyline..... | 7-13 |

| | | |
|-------|---|------|
| 7.2.1 | Skyline Timber Harvest..... | 7-13 |
| 7.2.2 | Skyline Best Management Practices..... | 7-14 |
| 7.2.3 | Skyline Timber Harvest Conservation Actions for the Protection of Listed Bat Species | 7-15 |
| 8.0 | Pollinator Plots at Little Fox Creek..... | 8-1 |
| 8.1 | Management Actions..... | 8-3 |
| 8.1.1 | Lake Harris | 8-3 |
| 8.1.2 | Skyline | 8-3 |
| 9.0 | Harris Hunting Areas | 9-1 |
| 9.1 | Management Actions..... | 9-3 |
| 9.1.1 | Lake Harris | 9-3 |
| 9.1.2 | Skyline | 9-5 |
| 9.1.3 | Harris Physically Disabled Hunting Area | 9-5 |
| 10.0 | References | 10-1 |

LIST OF TABLES

| | | |
|-----------|---|-----|
| Table 7-1 | Timber Stand Composition on Harris Project Lands at Lake Harris | 7-6 |
| Table 7-2 | Timber Stand Composition on Harris Project Lands at Skyline | 7-6 |

LIST OF FIGURES

| | | |
|------------|---|------|
| Figure 1-1 | Lake Harris Project Boundary..... | 1-5 |
| Figure 1-2 | Skyline Project Boundary..... | 1-6 |
| Figure 6-1 | Map of Permanent Openings at Lake Harris | 6-2 |
| Figure 6-2 | Map of Permanent Openings Managed by ADCNR at Skyline..... | 6-3 |
| Figure 7-1 | Lake Harris Timber Stands | 7-8 |
| Figure 7-2 | Map of 160 acres at Lake Harris subject to Prescribed Burns | 7-9 |
| Figure 7-3 | Skyline Timber Stands..... | 7-10 |
| Figure 8-1 | Map of Pollinator Plots at Little Fox Creek..... | 8-2 |
| Figure 9-1 | Map of Skyline WMA, including Roads and Camping Areas..... | 9-2 |
| Figure 9-2 | Map of Lake Harris Hunting Lands for ADCNR Management..... | 9-4 |
| Figure 9-3 | Map of Harris Physically Disabled Hunting Area | 9-6 |

1.0 INTRODUCTION

Alabama Power Company (Alabama Power) owns and operates the R.L. Harris Hydroelectric Project (Harris Project), FERC Project No. 2628, licensed by the Federal Energy Regulatory Commission (FERC). Alabama Power is relicensing the 135-megawatt (MW) Harris Project, and the existing license expires in 2023. This Wildlife Management Plan (Plan) was developed as part of Alabama Power's efforts to acquire a new operating license. The relicensing process included a multi-year cooperative effort between Alabama Power, state and federal resource agencies, and interested stakeholders to address operational, recreational, and ecological concerns associated with hydroelectric project operations. During the initial (scoping) phase of the relicensing process, Alabama Power consulted a wide variety of stakeholders, including state and federal resource agencies, non-governmental organizations, and concerned citizens, for input on important relicensing issues. On November 13, 2018, Alabama Power filed ten proposed study plans for the Harris Project, including a study plan for an evaluation of Project lands and the development of a Shoreline Management Plan and a Wildlife Management Plan. FERC issued a Study Plan Determination on April 12, 2019¹, which included FERC staff recommendations. Alabama Power incorporated FERC's recommendations and filed the Final Study Plans with FERC on May 13, 2019. The Wildlife Management Plan described herein was developed in accordance with the Project Lands Evaluation Study Plan. As part of the Final License Application (FLA) for the Harris Project, Alabama Power is proposing to add or remove specific tracts to or from the Harris Project Boundary. This WMP reflects the proposed Harris Project Boundary.

1.1 PROJECT DESCRIPTION

The Harris Project consists of a dam, spillway, powerhouse, and those lands and waters necessary for the operation of the hydroelectric project and enhancement, mitigation, and protection of environmental resources. These structures, lands, and water are enclosed within the FERC Project Boundary. Under the existing Harris Project license, the FERC Project Boundary encloses two distinct geographic areas, described below.

¹ Accession Number 20190412-3000

Harris Reservoir is the 9,870-acre reservoir (Harris Reservoir) created by the R.L. Harris Dam (Harris Dam). The lands adjoining the reservoir total approximately 7,545 acres (5,914 timbered) and are included in the FERC Project Boundary (Figure 1-1). This includes land to 795 feet mean sea level (msl)², as well as natural undeveloped areas, hunting lands, prohibited access areas, recreational areas, and all islands.



The Harris Project also contains 15,063 acres of land within the James D. Martin-Skyline Wildlife Management Area (Skyline WMA)³ located in Jackson County, Alabama Figure 1-2). These lands are located approximately 110 miles north of Harris Reservoir and were acquired and incorporated into the FERC Project Boundary as part of the July 29, 1988 Harris Project Wildlife Mitigation Plan (1988 WMP) and the June 29, 1990 Skyline Wildlife Management Plan (1990 Skyline WMP). These lands are leased to, and managed by, the State of Alabama for wildlife management and public hunting and are part of the Skyline WMA.

For the purposes of this Plan, "Lake Harris" refers to the 9,870-acre reservoir, adjacent 7,545 acres (5,914 timbered) of Project land, and the dam, spillway, and powerhouse. "Skyline" refers to the 15,063 acres of Project land within the Skyline WMA in Jackson County. "Harris Project" refers to all the lands, waters, and structures enclosed within the FERC Project Boundary, which includes both Lake Harris and Skyline. Harris Reservoir refers to the 9,870-acre reservoir only. The Project Area refers to the land and water in the Project Boundary and immediate geographic area adjacent to the Project Boundary. The "Project Vicinity" refers to a larger geographic area near a hydroelectric project, such as a county.

² Also includes a scenic easement (to 800 feet msl or 50 horizontal feet from 793 feet msl, whichever is less, but never less than 795 feet msl).

³ James D. Martin-Skyline Wildlife Management Area (Skyline WMA) is a wildlife management area managed by the Alabama Department of Conservation and Natural Resources (ADCNR) currently totaling approximately 60,000 acres.

Lake Harris Project Boundary

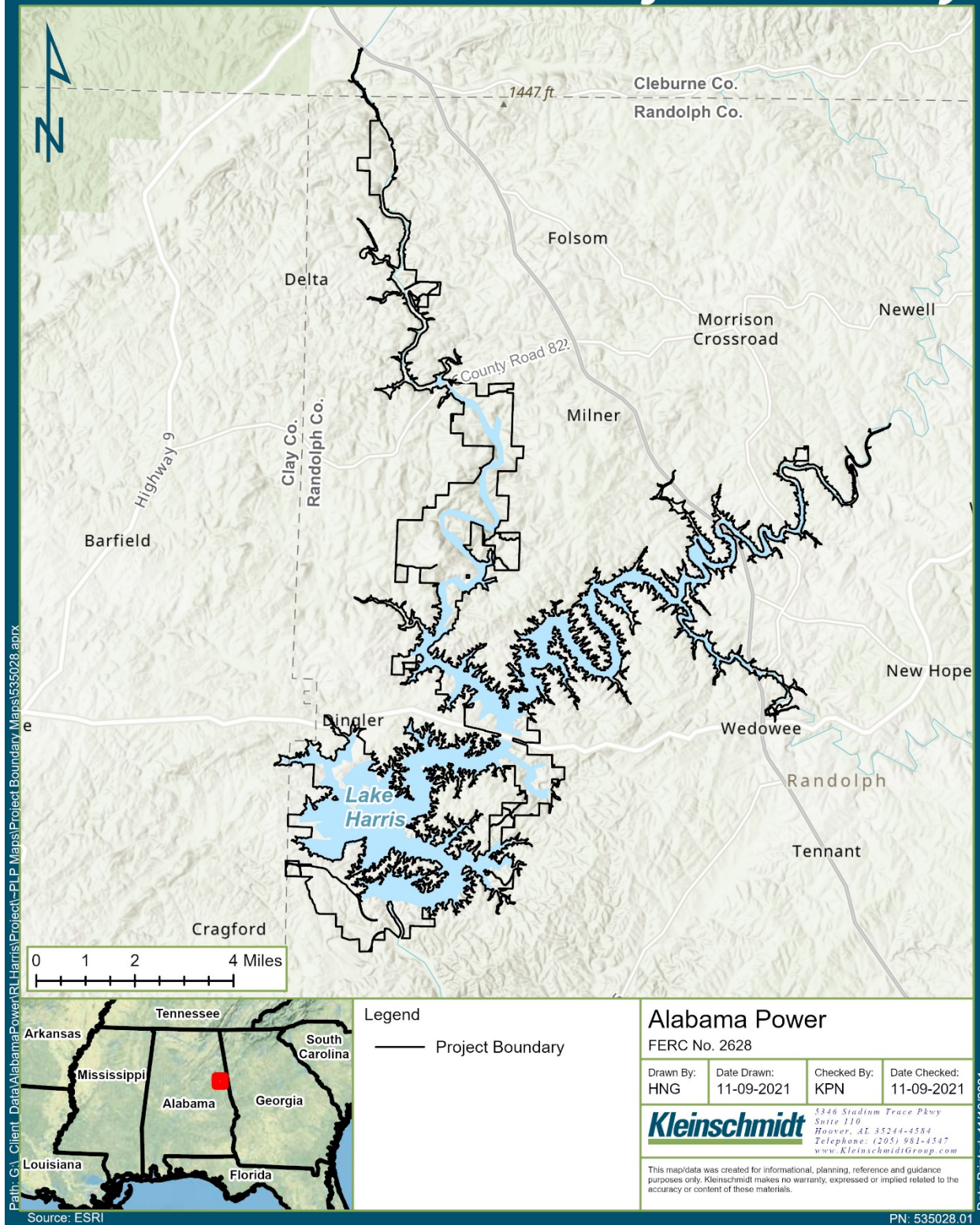


FIGURE 1-1 LAKE HARRIS PROJECT BOUNDARY

Skyline Project Boundary

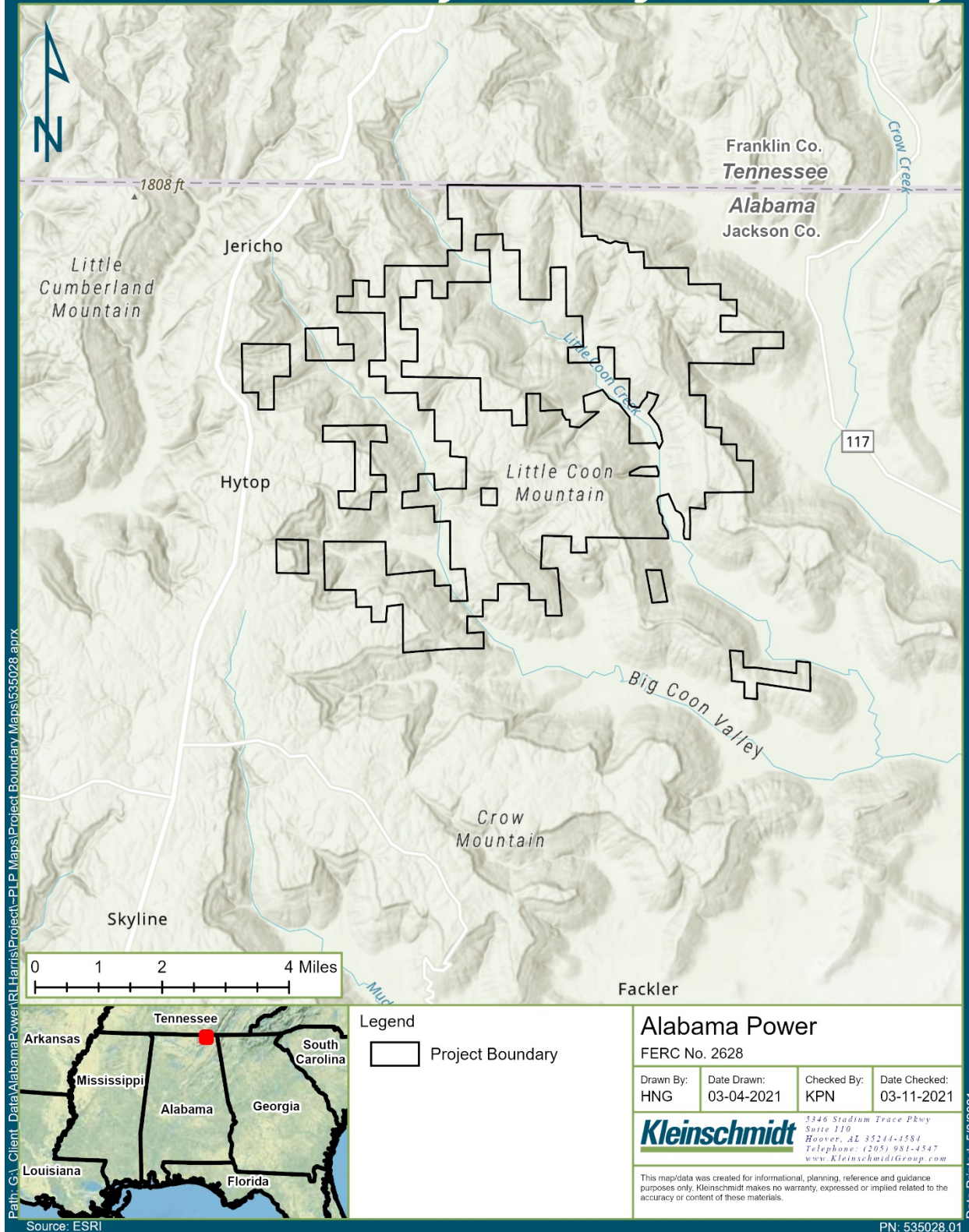


FIGURE 1-2 SKYLINE PROJECT BOUNDARY

2.0 PURPOSE OF THE PLAN

The overall purpose of this Wildlife Management Plan is to protect and enhance the available wildlife habitat within the Project boundaries of the Harris Project. The Plan consolidates numerous wildlife management activities into a single document and provides the additional technical information and management guidelines requested by resource agencies and other stakeholders during relicensing.

3.0 BACKGROUND AND EXISTING INFORMATION

3.1 BACKGROUND OF FERC-APPROVED PLANS

In accordance with Article 63 of the 1973 Harris Project license, Alabama Power developed a Wildlife Mitigation Plan in consultation with Alabama Department of Conservation and Natural Resources (ADCNR) and U.S. Fish and Wildlife Service (USFWS), which FERC approved on July 29, 1988 (1988 WMP)⁴. The 1988 WMP outlined specific measures to mitigate for the impacts to wildlife and habitats caused by the development of the Harris Project, including provisions for the management of 5,900 acres of existing Project lands and acquisition of 779.5 additional acres of land in the vicinity of the Harris Reservoir. The 1988 WMP required Alabama Power to install Wood Duck (*Aix sponsa*) boxes, install Osprey (*Pandion haliaetus*) nesting platforms, develop and implement a Canada Goose (*Branta canadensis*) restoration project, manage wildlife openings, and create artificial nesting structures. In addition, the 1988 WMP included provisions for Alabama Power to purchase and subsequently lease to ADCNR, over 15,000 acres of land adjacent to the already established Skyline Wildlife Management Area. A Skyline Wildlife Management Plan (1990 Skyline WMP) was developed to guide the development and maintenance of wildlife habitat, timber management, and recreational access. The Skyline WMP was approved by FERC on June 29, 1990⁵.

3.2 LAND USE AND EXISTING HABITAT – LAKE HARRIS

3.2.1 WILDLIFE RESOURCES

Harris Reservoir lies within the Northern Piedmont Upland district of the Piedmont Upland Physiographic Section. Harris Reservoir and surrounding woodland, agricultural, and residential areas provide high quality habitat for a variety of upland and semi-aquatic wildlife species. In addition to typical southeastern species, such as Gray Fox (*Urocyon cinereoargenteus*), White-tailed Deer (*Odocoileus virginianus*), Virginia Opossum (*Didelphis virginiana*), and Eastern Gray Squirrel, the area supports species characteristic of the Piedmont region, such as the Wood Frog (*Lithobates sylvatica*) and Copperhead (*Agkistrodon contortrix*) (Alabama Power 2018). Birdlife typical of the Lake Harris Project Area uplands includes game species such as Northern Bobwhite (*Colinus virginianus*), Eastern Wild Turkey (*Meleagris gallapavo silvestris*), and Mourning Dove (*Zenaida*

⁴ Accession No. 19880805-0321

⁵ 51 FERC ¶ 62,344

macroura); resident songbirds include Downy Woodpecker (*Picoides pubescens*), American Robin (*Turdus migratorius*), Eastern Bluebird (*Sialia sialis*), and Eastern Meadowlark (*Sturnella magna*), and an abundance of neotropical migrants, including numerous warblers (Parulidae), vireos (Vireonidae), and hummingbirds (Trochilidae) (Alabama Power 2018). A number of raptors are known to occur in the Lake Harris Project Vicinity including Osprey, American Kestrel (*Falco sparverius*), Broad-winged Hawk (*Buteo platypterus*), Red-tailed Hawk (*Buteo jamaicensis*), Bald Eagle (*Haliaeetus leucocephalus*), Barred Owl (*Strix varia*), Great Horned Owl (*Bubo virginianus*), and Eastern Screech Owl. Typical small mammals of uplands include North American Least Shrew (*Cryptotis parva*), Southern Flying Squirrel (*Glaucomys volans*), Eastern Woodrat (*Neotoma floridana*), Eastern Red Bat (*Lasiurus borealis*), and Big Brown Bat (*Eptesicus fuscus*). Reptiles and amphibians found in the Lake Harris Project Area uplands include Eastern Spadefoot Toad (*Scaphiopus holbrookii holbrookii*); Marbled Salamander (*Ambystoma opacum*) and Northern Slimy Salamander (*Plethodon glutinosus*); Green Anole (*Anolis carolinensis*) and Eastern Fence Lizard (*Sceloporus undulatus*); Five-lined Skink (*Plestiodon fasciatus*) and Broad-headed Skink (*Plestiodon laticeps*); Black Racer (*Coluber constrictor*), and Gray Ratsnake (*Pantherophis spiloides*); and Eastern Box Turtle (*Terrapene carolina carolina*) (Alabama Power 2018).

Although limited, Harris Reservoir's littoral zone provides habitat for North American River Otter (*Lontra canadensis*), American Mink (*Neovison vison*), Muskrat (*Ondatra zibethicus*), and Beaver (*Castor canadensis*), as well as seasonal and year-round habitat for waterfowl and wading birds including Mallard (*Anas platyrhynchos*), Gadwall (*Mareca strepera*), Wood Duck, Hooded Merganser (*Lophodytes cucullatus*), Great Blue Heron (*Ardea herodias*), Green Heron (*Butorides virescens*), and Great Egret (*Ardea alba*). Birds such as Ring-billed Gull (*Larus delawarensis*), Osprey, Purple Martin (*Progne subis*), and Belted Kingfisher (*Megaceryle alcyon*) are also common in areas of open water. Littoral areas provide potential breeding habitat for aquatic and semi-aquatic amphibian species including Red-spotted Newt (*Notophthalmus viridescens viridescens*) and Central Newt (*Notophthalmus viridescens louisianensis*); Northern Red Salamander (*Pseudotriton ruber ruber*) and Northern Dusky Salamander (*Desmognathus fuscus*); and American Bullfrog (*Lithobates catesbeiana*), Northern Spring Peeper (*Pseudacris crucifer crucifer*), and Southern Leopard Frog (*Lithobates sphenoccephala*) (Alabama Power 2018). Reptile species typical of the littoral zone include Cottonmouth (*Agkistrodon piscivorus*), Red-bellied Water Snake (*Nerodia erythrogaster erythrogaster*), and Yellow-bellied Water Snake (*Nerodia erythrogaster flavigaster*); Alabama Map Turtle (*Graptemys pulchra*), River Cooter

(*Pseudemys concinna*), and Red-eared Slider (*Trachemys scripta elegans*). Currently, no invasive wildlife species are being managed within the Lake Harris Project Area.

Pollinators are bees, birds, bats and other insects that help carry pollen to three quarters of our flowering plants and food crops. Without help from pollinators, most plants would not be able to produce fruits and seeds that support both people and wildlife. In recent years, scientists have documented a global decline in pollinator populations, including honey bees, native bees and monarch butterflies, underscoring the need for pollinator conservation efforts.

3.2.2 BOTANICAL RESOURCES

The Lake Harris Project Area is comprised of an impounded portion of the Tallapoosa River and includes mainly open water, deciduous, and evergreen forests with only small areas of agricultural and residential development.

The Southern Piedmont Dry Oak forest occurs in upland ridges and mid-slopes and is typically comprised of upland oaks (*Quercus* spp.); pines (Pinaceae) may be a significant component, especially in the southern part of the range. Overstory vegetation commonly found within this forest type includes upland oaks such as White Oak (*Quercus alba*), Northern Red Oak (*Quercus rubra*), Black Oak (*Quercus velutina*), Post Oak (*Quercus stellata*), Scarlet Oak (*Quercus coccinea*), and Southern Red Oak (*Quercus falcata*) as well as hickory species (*Carya* spp.) such as Pignut Hickory (*Carya glabra*) and Mockernut Hickory (*Carya alba*). Other common species include Loblolly Pine (*Pinus taeda*), Shortleaf Pine (*Pinus echinata*), Virginia Pine (*Pinus virginiana*), Red Maple (*Acer rubrum*), American Sweetgum (*Liquidambar styraciflua*), and Tulip Tree (*Liriodendron tulipifera*). Generally, there is a well-developed shrub layer, and species vary with soil chemistry. Shrub species may include Mountain Laurel (*Kalmia latifolia*), Common Sweetleaf (*Symplocos tinctoria*), Flowering Dogwood (*Cornus florida*), Deerberry (*Vaccinium stamineum*), and Farkleberry (*Vaccinium arboretum*). The herb layer is typically sparse (NatureServe 2009).

Botanical inventories were undertaken to catalog all plant species present at a 20-acre parcel and a 35-acre parcel at the rare Blake's Ferry Pluton, both parcels located adjacent to Alabama Power's Flat Rock Park on Lake Harris. The botanical inventories were intended to support Alabama Power's proposal to reclassify 57-acres⁶ of project lands near Flat

⁶ The 57-acre tract proposed for reclassification from Recreation to Natural Undeveloped includes the 20-acre and 35-acre inventoried tracts as well as +/-2 acres located between the 793 ft msl and 800 ft msl contours.

Rock Park from “Recreational” to “Natural/Undeveloped”, providing the natural plant and animal community at this location additional protection. The proximity of this 57-acre wooded tract to the rare granite pluton allows animals to take potential shelter during the heat of Alabama summer and creates safe habitat for vulnerable animals such as the Eastern Box Turtle during their breeding season. All plant species were identified either in the field, or in cases where identification was more difficult, a voucher specimen was taken for later identification in the laboratory. During the inventory of the 20-acre parcel, 365 species of plants were documented from the Inventory Area and surrounding buffer areas. These 365 species represent 97 plant families. During the inventory of the 35-acre parcel, 401 species of plants were documented from the Inventory Area and surrounding buffer areas. These 401 species represent 106 plant families. Several of these species identified during both inventories are of federal and/or state conservation concern. No federally protected species were found during the survey.

3.2.3 RIPARIAN AND LITTORAL HABITAT

Riparian habitat is the vegetated zone that serves as a buffer between the upland vegetation community and the riverine environment. This zone provides streambank stability and sediment filtration. Based on the ecological systems classification developed by NatureServe (2009), much of the riparian areas for the streams within the Lake Harris Project Boundary are classified as Southern Piedmont Small Floodplain and Riparian Forest (Section 5.5.1). This habitat type is often dominated by Tulip Tree, American Sweetgum, and Red Maple along with representative alluvial and bottomland species such as American Sycamore (*Platanus occidentalis*), River Birch (*Betula nigra*), Box Elder (*Acer negundo*), Sugarberry (*Celtis laevigata*), Green Ash (*Fraxinus pennsylvanica*), Swamp Chestnut Oak (*Quercus michauxii*), and Cherrybark Oak (*Quercus pagoda*). American Beech (*Fagus grandifolia*) may be present in drier areas. Loblolly Pine, Virginia Pine, American Sweetgum, and Tulip Tree are dominant in successional areas. The shrub layer is typically dominated by Mountain Laurel, American Witch-hazel (*Hamamelis virginiana*), Possumhaw (*Ilex decidua*), Spicebush (*Lindera benzoin*), and Yaupon Holly (*Ilex vomitoria*). Wandflower (*Galax urceolata*), Jack-in-the-pulpit (*Arisaema triphyllum*), Sensitive Fern (*Onoclea sensibilis*), and Fringed Sedge (*Carex crinita*) may be dominant in the herb layer (NatureServe 2009).

Alabama Power contracted Cahaba Consulting to identify, assess, and document possible wetlands located at, or below Alabama Power regulated property on Lake Harris⁷. Cahaba Consulting identified three types of wetlands along the Lake Harris shoreline, including riverine wetlands, emergent/lacustrine fringe wetlands, and alluvial forested or scrub-shrub wetlands.

Riverine wetlands are associated with the floodplains and riparian corridors of streams and rivers. In the Lake Harris Project Boundary, the riverine wetlands occur where perennial streams flow into the reservoir. Primary hydrological inputs include overbank flow from the stream or river or groundwater connections between the stream channel and wetland. Other hydrological sources may include overland flow from neighboring uplands, tributary inflow, or precipitation. Riverine wetlands are typically associated with first order streams; however, perennial flow is not required for a riverine classification (Cahaba Consulting 2018). One hundred sixty-five wetlands were identified and mapped on Harris Reservoir. Identified wetlands totaled 11.35 miles or 14.89 acres along the Lake Harris Shoreline.

3.3 LAND USE AND EXISTING HABITAT – SKYLINE

3.3.1 WILDLIFE RESOURCES

Skyline provides quality habitat for a variety of wildlife species. In addition to typical southeastern species, such as Gray Fox, White-tailed Deer, Virginia Opossum, and Gray Squirrel, the area supports species characteristic of the Cumberland Plateau Region of Alabama such as the American Toad (*Bufo americanus*), Green Anole, and Timber Rattlesnake (*Crotalus horridus*) (Alabama Power 2018). Birdlife typical of the Skyline Area includes game species such as Eastern Wild Turkey, Northern Bobwhite, and Mourning Dove; resident songbirds include Downy Woodpecker, Blue Jay (*Cyanocitta cristata*), and Eastern Bluebird. Other common bird species include American Crow (*Corvus brachyrhynchos*) and Pileated Woodpecker (*Dryocopus pileatus*) (Alabama Power 2018). Raptors known to occur in or near the Skyline area include American Kestrel, Broad-winged Hawk and Red-tailed Hawk, Barred Owl, Great Horned Owl, and Eastern Screech Owl (Alabama Power 2018). Small mammals common in or near Skyline include Southern Flying Squirrel, Big Brown Bat, Eastern Cottontail (*Sylvilagus floridanus*), Eastern Chipmunk (*Tamias striatus*), and Raccoon (*Procyon lotor*) (Alabama Power 2018). Reptiles and amphibians found in the Skyline area include Marbled Salamander and Northern Slimy

⁷ See Accession No. 20181113-0016 for the final report.

Salamander; Eastern Fence Lizard; Five-lined Skink and Broad-headed Skink; Copperhead, Black Racer, and Gray Ratsnake; and Eastern Box Turtle (Alabama Power 2018).

3.3.2 BOTANICAL RESOURCES

Skyline is located in Jackson County, in the Cumberland Plateau Region of Alabama. This area is underlain by sandstones along with siltstones, shales, and coal. The landscape consists of flat-topped, high-elevation plateaus separated by deep, steep-sided valleys. The plateaus slope gently from the northeast to the southwest. Most of the area is forested, with Southern Ridge and Valley/Cumberland Dry Calcareous Forest and South-Central Interior Mesophytic Forest types.

The Southern Ridge and Valley/Cumberland Dry Calcareous forest is comprised of dry-to-dry mesic calcareous forests in a variety of landscape positions, including ridge tops and upper and mid-slopes. They dominate vegetation type under natural conditions. High quality examples are characteristically dominated by White Oak, Chinkapin Oak (*Quercus muehlenbergii*), Post Oak, and Shumard's Oak (*Quercus shumardi*), with varying amounts of hickory, Sugar Maple (*Acer saccharum*), Southern Sugar Maple (*Acer floridanum*), Chalk Maple (*Acer leucoderme*), Red Maple, and other species. This system also includes successional communities resulting from logging or agriculture and are dominated by Tulip Tree, pine, Eastern Red Cedar (*Juniperus virginiana*), and Black Locust (*Robinia pseudoacacia*) (NatureServe 2009).

The South-Central Interior Mesophytic forest is primarily deciduous forests that typically occur in deep, enriched soils in protected landscape settings such as covers or lower slopes. This forest is generally highly diverse and is dominated by Sugar Maple, American Beech, Tulip Tree, American Basswood (*Tilia americana*), Northern Red Oak, Cucumber Tree (*Magnolia acuminata*), and Eastern Black Walnut (*Juglans nigra*). Eastern Hemlock (*Tsuga canadensis*) may be present in some stands. Common shrubs include Coralberry (*Symphoricarpos orbiculatus*), Bladdernut (*Staphylea trifolia*), American Strawberry Bush (*Euonymus americanus*), and Flowering Dogwood. The herb layer is often very plentiful and may include Licorice Bedstraw (*Galium circaezans*), Black Cohosh (*Actaea racemosa*), Southern Lady Fern (*Athyrium filix-femina ssp. asplenioides*), and Crownbeard (*Verbesina alternifolia*).

The Allegheny-Cumberland Dry Oak forest and woodland consists of dry hardwood forests found in nutrient-poor or acidic substrates on plateaus or ridges. Typical dominants include White Oak, Southern Red Oak, Chestnut Oak, Scarlet Oak, with lesser

amounts of Red Maple, Pignut Hickory, and Mockernut Hickory. Shortleaf Pine and/or Virginia Pine may occur in smaller amounts, particularly adjacent to steep cliffs or slopes or in area impacted by fire. White Pine (*Pinus strobus*) may be prominent in some stands in the absence of fire. American Chestnut (*Castanea dentata*) saplings may be found where it was once a common tree. The shrub layer may include Lowbush Blueberry (*Vaccinium angustifolium*), Bear Huckleberry (*Gaylussacia ursina*), Deerberry, Hillside Blueberry (*Vaccinium pallidum*), Oakleaf Hydrangea (*Hydrangea quercifolia*), and Mapleleaf Viburnum (*Viburnum acerifolium*). Common herbs include Boott's Sedge (*Carex picta*), Black Seed Speargrass (*Piptochaetium avenaceum*), Nakedflower Tick Trefoil (*Desmodium nudiflorum*), Longleaf Woodoats (*Chasmanthium sessiliflora*), and Dwarf Violet Iris (*Iris verna* var. *smalliana*).

A small portion of one of the known populations of Price's Potato-beans may still occur, although recent surveys failed to detect the species, within the Skyline Project Boundary; however, Alabama Power will conduct additional surveys in the area of the known population prior to any timber management activities to ensure that the known population is not impacted if it is still present.

3.3.3 RIPARIAN AND LITTORAL HABITAT

Cahaba Consulting described the stream riparian zone as consisting of primarily mature forest vegetation. Riparian habitat is the vegetated zone that serves as a buffer between the upland vegetation community and the riverine environment. This zone provides streambank stability and sediment filtration. Based on the ecological systems classification developed by NatureServe (2009), much of the riparian areas for the streams within the Skyline Project Boundary are classified as Allegheny-Cumberland Dry Oak Forest and Woodland, South-Central Interior Mesophytic Forest, and Southern Ridge and Valley/Cumberland Dry Calcareous Forest (Section 5.5.1). The Southern Ridge and Valley is dominated by White Oak, Chinkapin Oak, Post Oak, and Shumard's Oak, with varying amounts of hickory, Sugar Maple, Southern Sugar Maple, Chalk Maple, Red Maple, and other species. The South-Central Interior is dominated by Sugar Maple, American Beech, Tulip Tree, American Basswood, Northern Red Oak, Cucumber Tree, and Eastern Black Walnut. The Allegheny-Cumberland is dominated by White Oak, Southern Red Oak, Chestnut Oak, Scarlet Oak, with lesser amounts of Red Maple, Pignut Hickory, and Mockernut Hickory (NatureServe 2009).

4.0 WILDLIFE MANAGEMENT OBJECTIVES

Specific wildlife management objectives for the Harris Project lands were initially identified during the scoping phase of the relicensing process. These objectives were further refined through subsequent meetings with ADCNR and USFWS and include:

- Management of shoreline areas for native vegetative communities and enhanced value as wildlife habitat
- Implementation of timber management methods that result in enhanced value of Project lands as wildlife habitat
- Management of permanent openings for the benefit of both game and non-game species, including food plots
- Management of Pollinator Plots at Little Fox Creek
- Management of public hunting areas, including areas for the physically disabled

5.0 SHORELINE MANAGEMENT

Protection and enhancement of available shoreline habitat for wildlife will be accomplished through implementation of the proposed Shoreline Management Plan (SMP). Pending approval by FERC, the SMP will be implemented for the 367 miles of shoreline within the Lake Harris Project Boundary.

5.1 MANAGEMENT ACTIONS

5.1.1 SHORELINE CLASSIFICATION SYSTEM AND SENSITIVE RESOURCES DESIGNATION

As part of the proposed SMP, Alabama Power developed a shoreline classification system to guide management and permitting activities within the Project Boundary and to protect natural resources, including wildlife habitat and wetlands. The shoreline classifications are based on an evaluation of existing and potential land use. While not solely designed for protection of wildlife habitat, the Sensitive Resources designation and the Natural/Undeveloped and Hunting shoreline management classifications often include valuable wildlife habitats. Best management practices (BMPs), associated designations, and classifications can be found within the SMP.

5.1.2 SHORELINE BUFFERS

As specified in the SMP, Alabama Power provides for preservation or establishment of a naturally managed vegetative filter strip along the shoreline to keep clearing of native trees and vegetation to a minimum⁸. Unmanaged vegetation associated with these buffers enhances available food and cover for wildlife species, provides corridors that enhance linkages between larger habitat patches, and protects nearshore environments. Nearshore environments provide important breeding and nursery areas for numerous fish and amphibian species and are utilized for feeding and cover by species such as North American River Otter, Beaver, and various wading birds and waterfowl. At a microhabitat level, accumulated leaf litter, pine needle duff, and coarse, woody debris (fallen logs, etc.) in these vegetated buffers will provide much needed refugia for reptiles and amphibians. Specific management actions associated with shoreline buffers can be found in the SMP.

⁸ The BMP recommended here does not in any way supersede or replace the requirements of the scenic easement. Scenic easements include covenants running with the land for the project purpose of protecting scenic and environmental values and, as such, are requirements and not recommendations.

5.1.3 PLANTING OF NATIVE SPECIES

The SMP recommends, and in some instances requires, planting of native trees, shrubs, and plant species for landscaping and for purposes of shoreline stabilization. Plants native to the soils and climate of a particular area typically provide the best overall food sources for wildlife, while generally requiring less fertilizer, less water, and less effort in controlling pests. Specific management actions associated with native plantings can be found in the SMP.

6.0 PERMANENT MANAGED OPENINGS

Under the 1988 WMP, Alabama Power established and continues to manage approximately 105 acres of permanent openings for the benefit of both game and non-game species (Figure 6-1). Approximately 10 acres are managed as food plots as part of the Harris Physically Disabled Hunting Area (see Section 9.1.3 below). These areas are generally planted annually with a wildlife mix (e.g., cool season grains). The remaining 95 acres are mowed annually and maintained as “brushy” areas. As part of the 1995 Land Use Plan update, certain tracts of project lands containing managed openings were removed from the project. However, new openings were established on lands which remained in the Project to replace the acreage that was removed.

Managed openings at Skyline were established as part of the 1990 Skyline WMA. ADCNR, through its lease for Skyline, manages all permanent openings at Skyline. Approximately 42 acres of wildlife openings/food plots are maintained at Skyline by ADCNR. These areas are generally planted annually (e.g., cool season grains and/or perennial legumes), but, if not planted in a particular year, are managed by disking. Additionally, approximately 210 acres of other openings (native grass stands, early successional fields, etc.) are maintained by mowing, disking, or prescribed fire (Figure 6-2).

Permanent Openings at Lake Harris

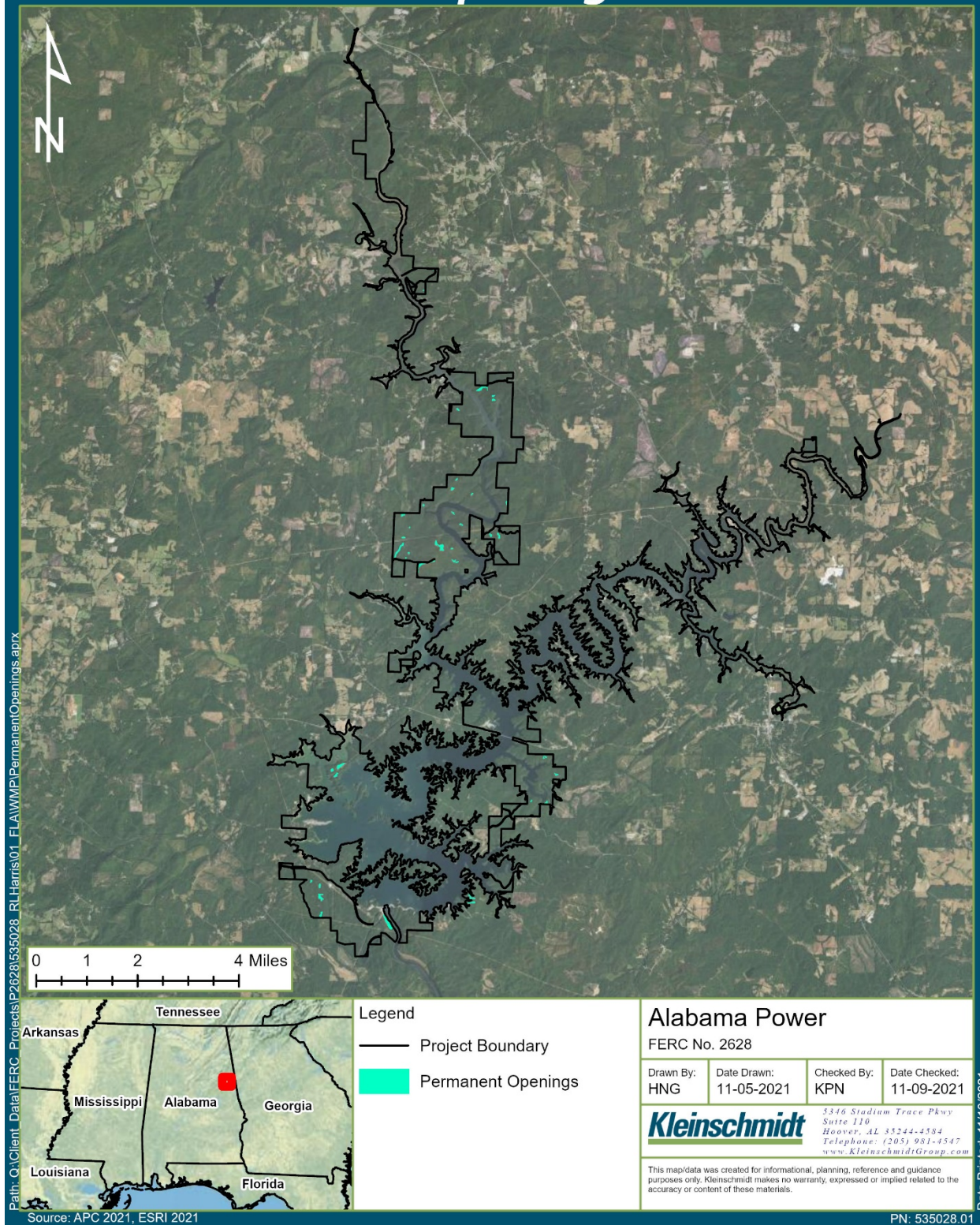


FIGURE 6-1 MAP OF PERMANENT OPENINGS AT LAKE HARRIS

Permanent Openings at Skyline

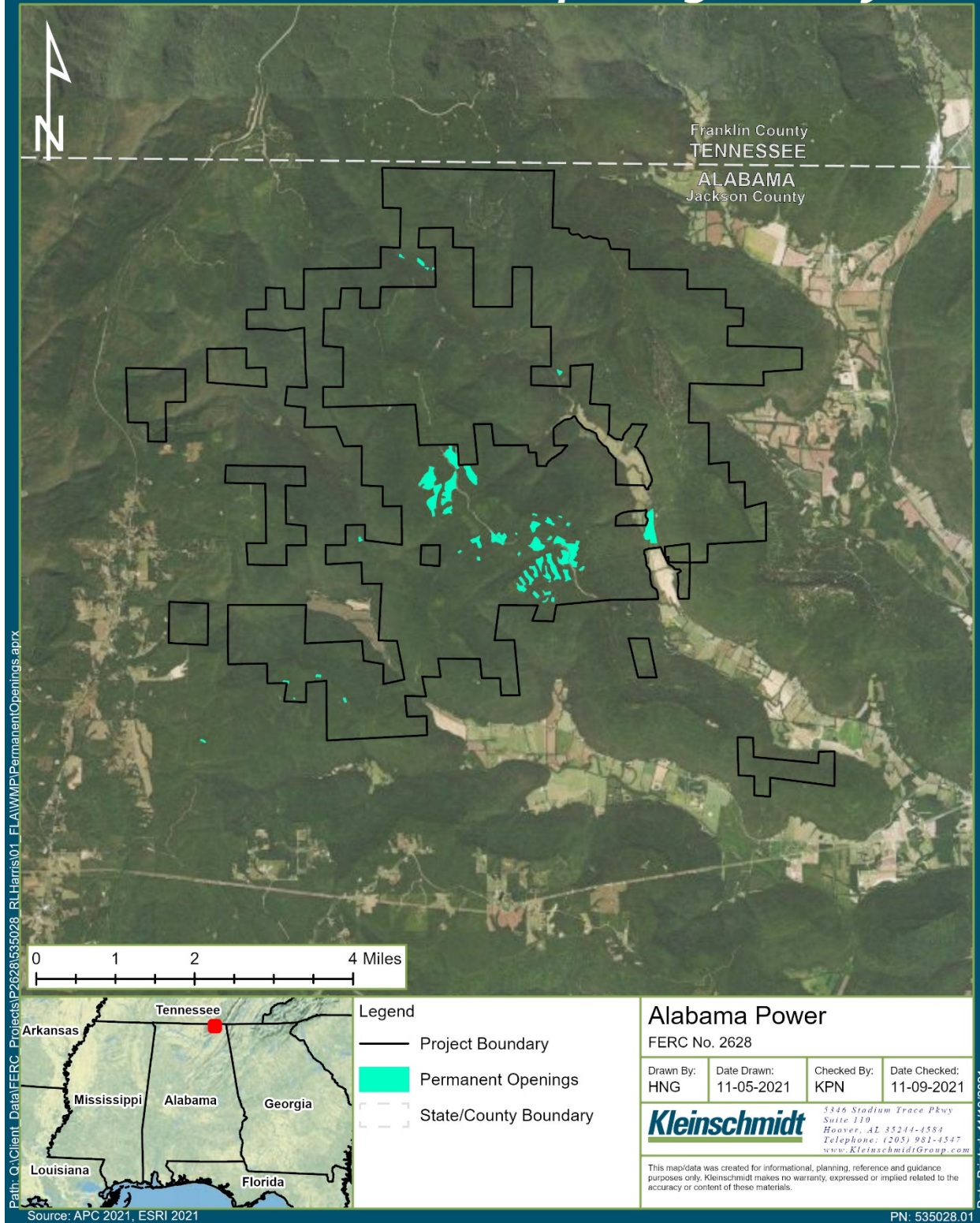


FIGURE 6-2 MAP OF PERMANENT OPENINGS MANAGED BY ADCNR AT SKYLINE

6.1 MANAGEMENT ACTIONS

6.1.1 LAKE HARRIS

Alabama Power will continue to manage the approximately 105 acres of permanent openings at Lake Harris as illustrated in Figure 6-1. There are no current plans to relocate any existing or add any additional permanent openings. Openings located within the Harris Physically Disabled Hunting Area will be managed as food plots. Other established openings will continue to be mowed annually and maintained as “brushy” areas. In addition, Alabama Power will establish and coordinate a monitoring program with Alabama Power personnel, Alabama Power contractors, or others managing lands in the Project Boundary to monitor Project shorelines for any vandalism or looting activities of historic properties within the Lake Harris Project Boundary. The monitoring program will minimize any impacts that may occur to historic properties due to acts of vandalism or looting.

6.1.2 SKYLINE

ADCNR will continue to manage wildlife openings located at Skyline, as illustrated in Figure 6-2, for the benefit of both game and non-game species. There are no current plans to relocate any existing or add any additional permanent openings. In addition, Alabama Power will establish and coordinate a monitoring program with Alabama Power personnel, Alabama Power contractors, or others managing lands in the Skyline Project Boundary to monitor lands managed to provide hunting opportunities for any vandalism or looting activities of historic properties at Skyline. The monitoring program will minimize any impacts that may occur to historic properties due to acts of vandalism or looting.

7.0 TIMBER MANAGEMENT

Alabama Power has had an active forest management program since World War II. Shortly after World War II, timber stands were inventoried, and long-range timber management plans were developed. These plans directed an all-aged, sustained-yield management scheme with the forest rotation age of 60 years. Under this management strategy, trees would be grown to an average age of 60 years and would produce forest products on a continuous basis. Saw timber (i.e., trees of sufficient size for lumber) would be harvested on 16 year cutting cycles and pulpwood (i.e., generally smaller diameter trees or trees of lower quality that are used to produce pulp and paper) would be thinned as a secondary product at interim periods of 10 years.

In the early 1970s, the cutting cycle for saw timber was lengthened to 20 years because power skidders were being used. As a result, more volume was being cut per acre and more reseedling was occurring (from the additional exposure of mineral soil caused by the skidders). The extended cutting cycle allowed for per acre volumes to recover and the young seedlings to put on additional volume. This all or uneven-aged management scheme has produced a notably diverse forest both in terms of species composition and in forest products. The result is not only the production of valuable high-quality products but the production of diverse quality habitat for both game and non-game wildlife species. These planned and controlled forest management practices have, over the years, aided in the protection of the watersheds of the associated reservoirs that indirectly have enhanced the fisheries habitat of these lakes, rivers, and streams. These practices have also produced habitats that have promoted and sustained several rare and endangered species of plants and animals.

Contemporary timber stands on Project lands at Lake Harris are dominated by Mixed Pine-Hardwood. Timber stand composition on the 5,914 acres within the Lake Harris Project Boundary is summarized in Table 7-1 and illustrated in Figure 7-1. Selective cutting is the primary means of timber harvest on Project Lands at Lake Harris. Prescribed fire is used to enhance, for recreation, approximately 160 acres of timbered land adjacent to the Flat Rock Park (Figure 7-2). Both dormant and growing season burns are used, but burns are conducted during the dormant season initially to reduce fuel load. Fires are conducted on a 2-year rotation.

Contemporary timber stands on Project lands at Skyline are dominated by Upland Hardwood. Most of the timber stands are mature to over-mature mixed hardwood forest, made up primarily of various upland species of red oak and White Oak, Tulip Tree, hard and soft maple (*Acer spp.*), and hickory. There is a small component of Shortleaf Pine, Loblolly Pine, and Virginia Pine. Historically, past harvesting practices have focused on removing higher value red oak and White Oak timber, resulting in many stands that are dominated by maple, hickory, Tulip Tree and Chestnut Oak (*Quercus montana*). Most stands have closed canopies resulting in little or no desirable understory species to provide the potential for future stands. Timber stand composition on the 15,063 acres within the Skyline Project Boundary is summarized in Table 7-2 and illustrated in Figure 7-3. Selective harvesting and natural regeneration are primary goals of timber harvest on Project Lands at Skyline. Prescribed burns are not utilized at Skyline. When associated with management objectives as outlined in the 1990 Skyline WMP, clear cutting is selectively conducted in small areas located on the mountain tops, as coordinated with ADCNR.

TABLE 7-1 TIMBER STAND COMPOSITION ON HARRIS PROJECT LANDS AT LAKE HARRIS

| Stand Type | Percent Cover | Acreage |
|---------------------------|---------------|--------------|
| Mixed Pine-Hardwood | 48 | 2,838 |
| Natural ⁹ Pine | 22 | 1,275 |
| Pine Plantation | 6 | 372 |
| Upland Hardwood | 24 | 1,429 |
| Total | 100 | 5,914 |

Source: Alabama Power Timber Stand Data

TABLE 7-2 TIMBER STAND COMPOSITION ON HARRIS PROJECT LANDS AT SKYLINE

| Stand Type | Percent Cover | Acreage |
|---------------------|---------------|---------------|
| Mixed Pine-Hardwood | Less than 1 | 23 |
| Upland Hardwood | 99 | 14,430 |
| Bottomland Hardwood | Less than 1 | 610 |
| Total | 100 | 15,063 |

Source: Alabama Power Timber Stand Data

⁹ Natural as used in the description of timber stand composition means not plants; naturally regenerates.

Forest lands located within the Project Boundary of the Harris Project will be managed according to the actions described below. Potential impacts and associated conservation measures for the federally listed Northern Long-eared Bat (*Myotis septentrionalis*) and Indiana Bat (*Myotis sodalis*) will also be discussed.

Additionally, Alabama Power conducts annual boundary line maintenance in conjunction with its timber management program in order to ensure that property boundary lines are clearly marked and identified. This includes the marking of trees along a property boundary with a specified color of paint to delineate the Alabama Power property line.

Timber Stands at Lake Harris

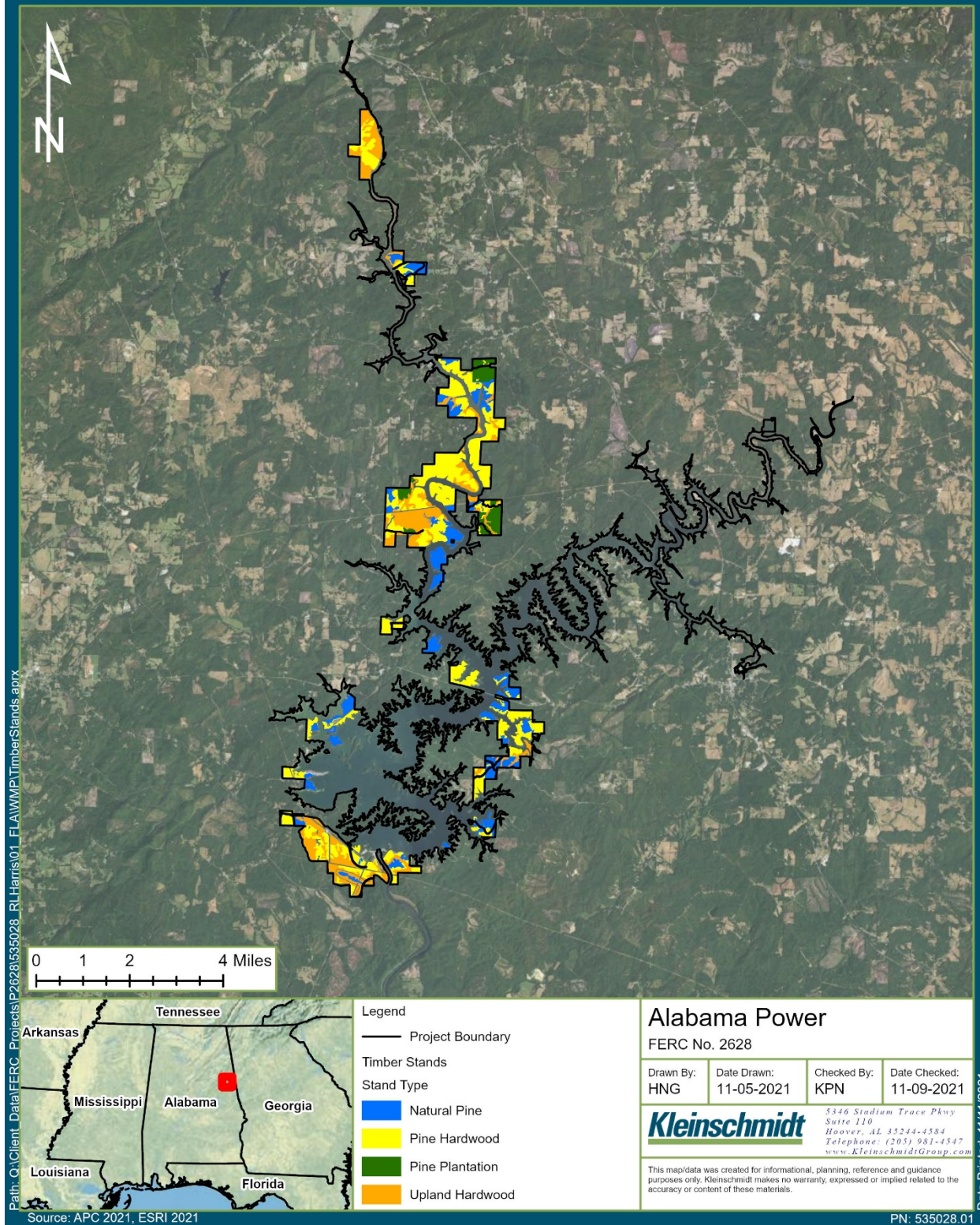


FIGURE 7-1 LAKE HARRIS TIMBER STANDS

Prescribed Burn Area at Lake Harris

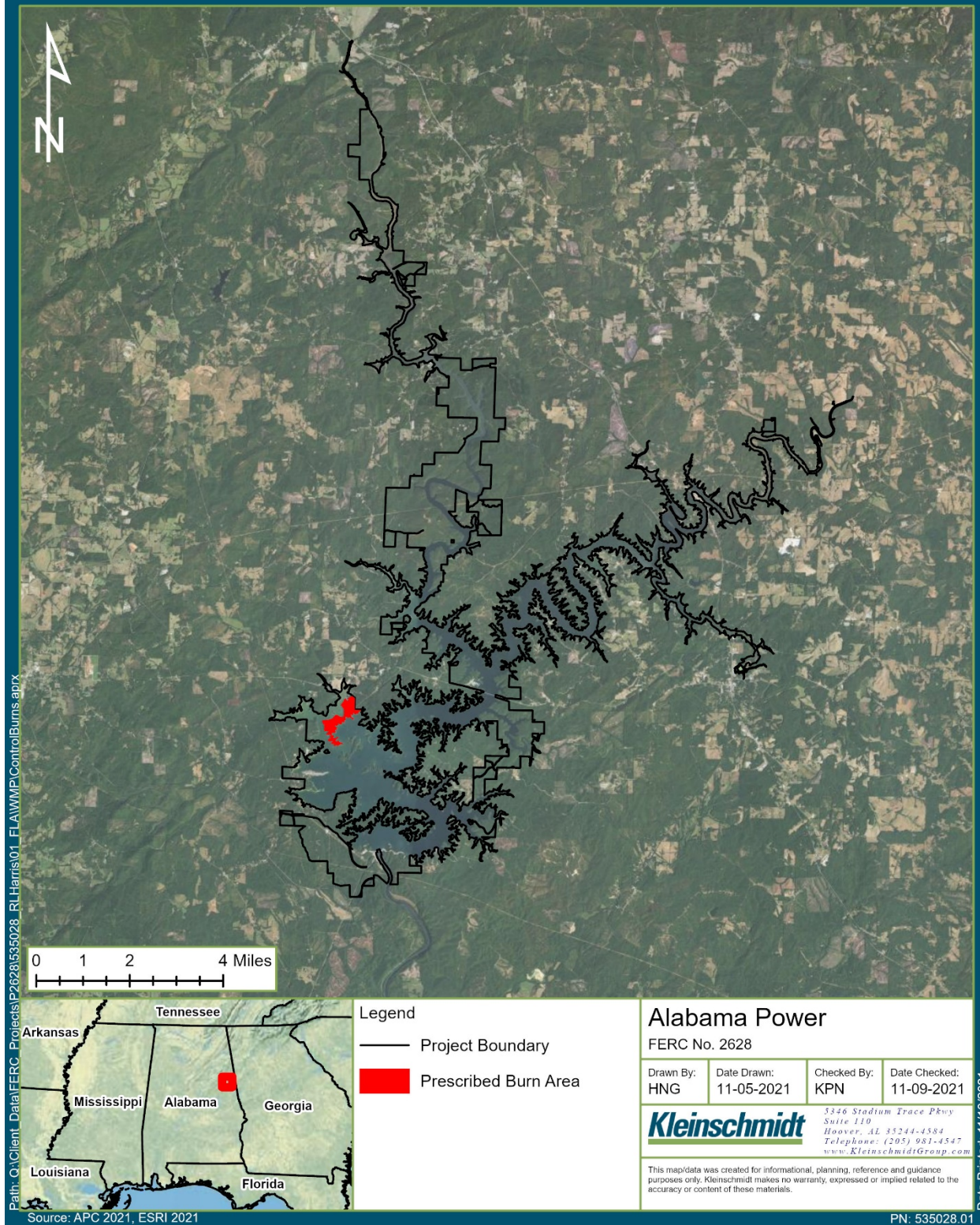


FIGURE 7-2 MAP OF 160 ACRES AT LAKE HARRIS SUBJECT TO PRESCRIBED BURNS

Timber Stands at Skyline

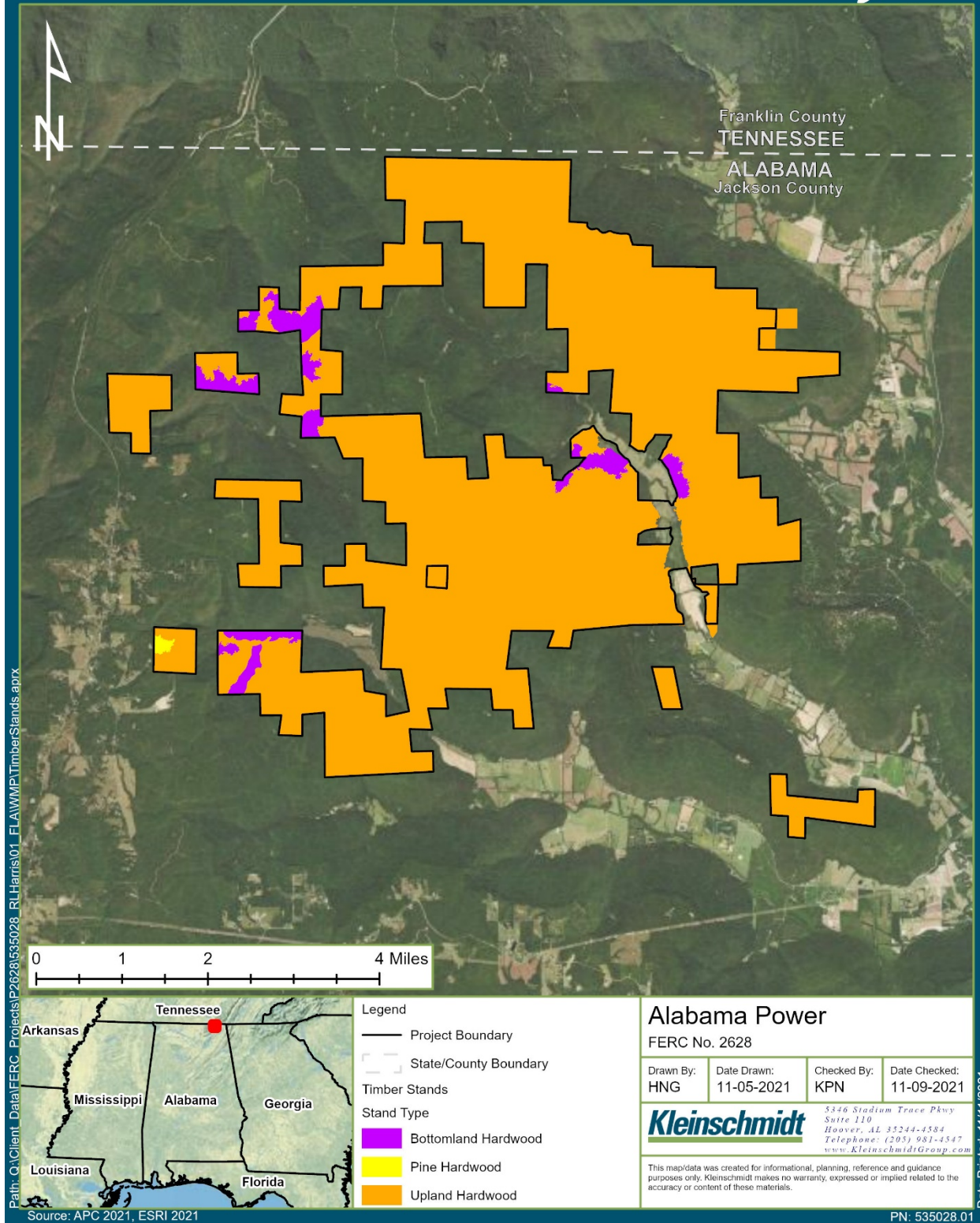


FIGURE 7-3 SKYLINE TIMBER STANDS

7.1 LAKE HARRIS

7.1.1 LAKE HARRIS TIMBER HARVEST

Alabama Power will continue to utilize selective cutting as the primary means of timber harvest at Lake Harris. Specifically, only trees marked for harvest will be cut. Furthermore, only live, standing pine trees 15" DBH (diameter at breast height) and greater will be marked for harvest. No hardwood of any species is harvested outside of the streamside management zones (SMZ), and no timber at all is harvested within the SMZ. Furthermore, trees with potential roost tree characteristics (exfoliating bark, cracks, crevices, or hollows) will not be marked for cutting and will be retained. The remaining overstory after a selective harvest will be grown until the trees reach sawtimber size (≥ 15 " DBH). At that time, standing pine trees 15" DBH and greater will be selectively harvested. Typically, this is a 20-year cutting cycle. Every effort will be made to avoid inadvertently damaging potential roost trees during harvest. Exceptions to this would be to allow for salvage operations that may be necessary due to wind, fire, or insect damage, or to facilitate artificial regeneration of pine species.

From 2016 through 2020, Alabama Power harvested a total of 257 acres at Lake Harris, comprised wholly by two sales resulting in an average of 128.5 acres per sale. If Alabama Power conducts at least one sale per year on average, it will result in 5,140 acres harvested over the life of the license (40 years). This likely represents a conservative estimate, as Alabama Power will not conduct a timber harvest every year.

Alabama Power will continue annual boundary line maintenance as described above.

7.1.2 LAKE HARRIS BEST MANAGEMENT PRACTICES

Alabama Power will continue to utilize best management practices that reduce or prevent impact to streams and waterbodies due to runoff, erosion, and sedimentation. Alabama Power will continue to incorporate Alabama's Best Management Practices for Forestry as provided by the Alabama Forestry Commission. These practices include: the establishment of SMZs; avoidance of crossing of streams by roads, skid trails, or firebreaks when possible; when unavoidable, the utilization of the fewest possible stream crossings located where the bank and SMZ will be least disturbed; the proper planning and location of roads (Alabama Forestry Commission 2021).

7.1.3 LAKE HARRIS TIMBER HARVEST CONSERVATION ACTIONS FOR THE PROTECTION OF LISTED BAT SPECIES

Occasionally, a tree exhibiting potential roost characteristics may be inadvertently damaged during harvest. If this occurs to a high-quality potential roost tree¹⁰ (MO eFOTG-Policy and Procedures 2003, USFWS 2015) outside the approved clearing season (October 15-March 31), Alabama Power will contact the USFWS Daphne Field Office. A particular emphasis will be made to avoid damaging potential high-quality roost trees during the pup season (May 1-July 15). For the southeast, the nonvolant period for the Indiana Bat occurs earlier than other regions, likely from May 1-July 15 (A. Edelman, J. Stober, pers. Comm. 2016 as cited in USFWS 2016 c). Recent surveys summarized by the South Carolina Department of Natural Resources (SCDNR) also observed early pupping in Northern Long-eared Bats (SCDNR 2019).

Additionally, Alabama Power will adhere to current USFWS guidance concerning known hibernacula and maternity roost trees. However, there are no known Northern Long-eared Bat (NLEB) or Indiana Bat hibernacula or maternity roost trees occurring within the Lake Harris Project Boundary or within the buffer zones established by currently published avoidance guidance for both species. In regard to the Northern Long-eared Bat, there are no known hibernacula occurring within 0.25 miles of the Lake Harris Project Boundary, and no known maternity roosts occur within 150 feet of the Lake Harris Project Boundary (collectively, "areas within or adjacent to the Lake Harris Project Boundary"). Regarding the Indiana Bat, there are no P3 or P4¹¹ hibernacula occurring within 5 miles of the Lake Harris Project Boundary, and no known maternity roosts occur within 2.5 miles of the Lake Harris Project Boundary (collectively, "areas within or adjacent to the Lake Harris Project Boundary"). Furthermore, there are no P1 or P2¹² hibernacula occurring within the state or within 10 miles of the Lake Harris Project Boundary. Alabama Power will continue consulting the Alabama Natural Heritage Program and USFWS's Alabama Ecological Services Field Office regarding locations of any known maternity roost trees and hibernacula. If Northern Long-eared Bat or Indiana Bat hibernacula or maternity roost trees are identified in areas within the Lake Harris Project Boundary, Alabama Power will adhere to the most up-to-date USFWS avoidance guidance, which, for the Northern Long-

¹⁰ Live/or snag greater than 9" DBH with exfoliating bark, crevice, crack, or hollow

¹¹ Priority 3 (P3) have current or observed historic winter populations 50 to 1,000 Indiana Bats. Priority (P4) have current or observed historic populations of less than 50 bats.

¹² Priority 1 (P1) have current or observed historic winter populations of greater or equal to 10,000 Indiana Bats. Priority 2 (P2) have current or observed historic populations of greater than 1,000 but less than 10,000 bats.

long-eared Bat currently include limiting the cutting, trimming, or destruction of trees on Project land within 0.25 miles of known hibernacula during any time of the year and prohibits removal of trees within 150 feet of known maternity roosts from June 1 - July 31, except for removal of hazardous or fallen trees for protection of human life (USFWS 2016). Avoidance guidance and streamlined consultation for the NLEB can be found on USFWS's website. Avoidance guidance for the Indiana Bat can be found in Range-wide Indiana Bat Protection and Enhancement Plan Guidelines (2009).

Selective harvest of only live pine trees 15" DBH and greater while avoiding trees that exhibit potential roost characteristics as well as implementation of published avoidance guidance should new maternity or hibernacula locations be discovered should avoid any potential adverse impacts to both listed bat species. Specifically, implementation of the above guidance will adhere to conditions outlined in the 4 (d) rule for the Northern Long-eared Bat, and no further consultation should be required for this species. Trees harvested under the described plan above do not meet the criteria for potential Indiana Bat roosting habitat. If a specific timber harvest plan does not adhere to the published avoidance guidelines or harvest prescriptions change, further consultation may be required.

7.2 SKYLINE

7.2.1 SKYLINE TIMBER HARVEST

The objective of timber management at Skyline is to ensure long-term health and sustainability of the forest, while enhancing wildlife management through ecological diversity and habitat improvement. Increasing the oak component of the forest through selective harvesting and natural regeneration is a primary goal. Prudent timber management ensures the long-term health and sustainability of the forest while increasing the oak component over time. The management of the timber not only works in concert with but also enhances the primary objectives of sound wildlife management, habitat improvement, and aesthetics.

Harvesting will follow a shelterwood¹³ prescription (regeneration method), as well as addressing intermediate management objectives of thinning. For the regeneration harvests, less desirable species across all size classes will be targeted for removal, and over-mature oak timber (≥ 19 " dbh) will also be removed. This results in a residual stand

¹³ Shelterwood is when older, stronger trees shelter and protect younger trees on the forest floor until they stand, grow, and thrive on their own.

of trees. Furthermore, a review of stand data since 2014 show a residual tress per acre (TPA) ranging from 30-100+ TPA with most approximating over 100 TPA. Shagbark Hickory (*Carya ovata*) are not harvested and retained in most stands. Alabama Power will continue to harvest timber at Skyline according to this prescription. This type of harvesting will allow for at least two age classes to become established in treated stands, increasing options for future management. It will also change the light levels reaching the forest floor, in an attempt to favor the intermediately shade tolerant oak over less shade tolerant species such as Red Maple and Tulip Tree. By carefully selecting residual trees, growth will be concentrated on desirable species and choices can be made to retain trees that will contribute to other objectives (e.g., wildlife, aesthetics, biodiversity). Following these management actions will ensure a sustainable, healthy, mature forest, and will serve to maintain or increase the oak component. Occasionally, there may be the need to create wildlife openings on top of the mountains. These areas could average 15 acres in size, and all timber will be harvested in these areas. These prescriptions will provide and maintain optimal ecological diversity and improved wildlife habitat. Exceptions to this would be to allow for salvage operations that may be necessary due to wind, fire, or insect damage, or to facilitate natural regeneration of oak species.

Typically, one to two harvest units will be targeted annually, and Alabama Power will be responsible for administering the timber sale. From 2016 through 2020, Alabama Power harvested (thinned) a total of 983 acres for an annual average of 164 acres per sale. Individual harvest units vary in size and are sometimes combined resulting in multiple harvest units harvested within the same year. However, using the 164 average acres per sale, at two sales per year would result in 13,120 acres over the life of the 40-year license. At this rate, it would take more than 45 years to cut across the entire Skyline Project Area.

As discussed in Section 3.3.2 above, Alabama Power will conduct additional surveys in the area of the known population of Price's Potato-bean prior to any timber management activities to ensure that the known population is not impacted if it is still present.

Alabama Power will continue annual boundary line maintenance as described above.

7.2.2 SKYLINE BEST MANAGEMENT PRACTICES

Little Coon Creek at Skyline is listed as impaired on the 303(d) Impaired Waters List due to siltation. The sources of this impairment include non-irrigated crop production and pasture grazing on adjacent land, which more easily allows for soils loosened due to tilling

or other agricultural practices to be washed into the creek, resulting in sedimentation of the creek bottom.

Alabama Power will continue to utilize best management practices that reduce or prevent impact to streams and waterbodies due to runoff, erosion, and sedimentation. Alabama Power will continue to incorporate Alabama's Best Management Practices for Forestry as provided by the Alabama Forestry Commission. These practices include: the establishment of SMZs; avoidance of crossing of streams by roads, skid trails, or firebreaks when possible; when unavoidable, the utilization of the fewest possible stream crossings located where the bank and SMZ will be least disturbed; the proper planning and location of roads (Alabama Forestry Commission 2021).

7.2.3 SKYLINE TIMBER HARVEST CONSERVATION ACTIONS FOR THE PROTECTION OF LISTED BAT SPECIES

Alabama Power will adhere to current USFWS guidance concerning known hibernacula and maternity roost trees. However, there are no known Northern Long-eared Bat or Indiana Bat hibernacula or maternity roost trees occurring within the Skyline Project Boundary or within the buffer zones established by currently published avoidance guidance for both species. Regarding the Northern Long-eared Bat, no known hibernacula occur within 0.25 miles of the Skyline Project Boundary, and no known maternity roosts occur within 150 feet of the Skyline Project Boundary (collectively, "areas within or adjacent to the Skyline Project Boundary"). Regarding the Indiana Bat, there are no P3 or P4 hibernacula occurring within 5 miles of the Skyline Project Boundary, and no known maternity roosts occur within 2.5 miles of the Skyline Project Boundary (collectively, "areas within or adjacent to the Skyline Project Boundary"). Furthermore, there are no P1 or P2 hibernacula occurring within the state or the 10-mile buffer established by the current avoidance guidance. Alabama Power will continue consulting the Alabama Natural Heritage Program and USFWS's Alabama Ecological Services Field Office regarding locations of any known maternity roost trees and hibernacula. If Northern Long-eared Bat or Indiana Bat hibernacula or maternity roost trees are identified in areas within or adjacent to the Skyline Project Boundary, Alabama Power will adhere to the most up-to-date USFWS avoidance guidance, which for the Northern Long-eared Bat currently includes limiting the cutting, trimming or destruction of trees on Project land within 0.25 miles of known hibernacula during any time of the year and prohibits removal of trees within 150 feet of known maternity roosts from June 1 - July 31, except for removal of hazardous or fallen trees for protection of human life. Avoidance guidance and

streamlined consultation for the NLEB can be found USFWS's website. Avoidance guidance for the Indiana Bat can be found in Range-wide Indiana Bat Protection and Enhancement Plan Guidelines (2009).

In addition, Alabama Power will retain snags and live trees exhibiting damage, basal openings, or hollowing of the bole. Occasionally, a snag or potential roost tree exhibiting some of these characteristics will be inadvertently damaged during harvest. However, every attempt is made to avoid these trees during harvest with a particular emphasis placed on avoiding high quality snags (9-inch DBH and greater) during the pupping season (May 1-July 15). As mentioned above, the shelterwood prescription used during timber harvest at Skyline will result in approximately 30-100+ TPA retained with most cuts resulting in a TPA greater than 100 with most Shagbark Hickories retained. This, with a minimum of a 60-year cutting cycle, will result in a residual stand of high-quality potential roost trees retained on the landscape. Additionally, as mentioned above, there may be the occasional need to create wildlife openings on top of the mountains. These areas could average 15 acres in size, and all timber will be harvested in these areas. These prescriptions will provide and maintain optimal ecological diversity and improved wildlife habitat. Exceptions to this would be to allow for salvage operations that may be necessary due to wind, fire, or insect damage, or to facilitate natural regeneration of oak species.

Alabama Power will continue working with the USFWS to develop forestry management plans that are protective of listed species that may be present within the Project Boundary.

8.0 POLLINATOR PLOTS AT LITTLE FOX CREEK

Alabama Power manages approximately two acres of pollinator plots on Project lands at Little Fox Creek (Figure 8-1). These pollinator plots have been planted with a specific native seed blend for the soil and habitat type. Additionally, a spilt rail fence protects these areas from foot traffic, and interpretive signage is provided for public education.

Pollinator Plots at Little Fox Creek

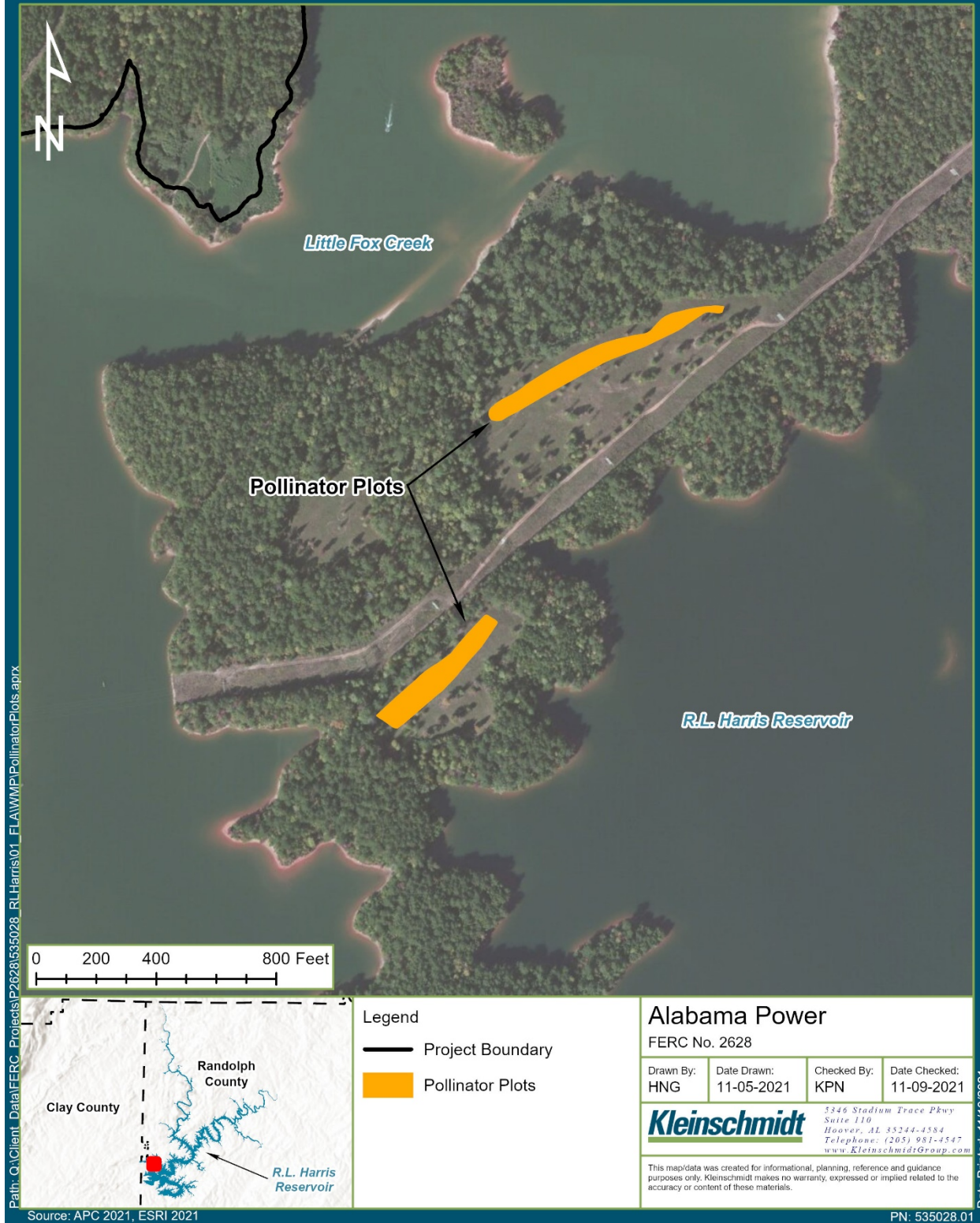


FIGURE 8-1 MAP OF POLLINATOR PLOTS AT LITTLE FOX CREEK

8.1 MANAGEMENT ACTIONS

8.1.1 LAKE HARRIS

Alabama Power will continue to maintain the pollinator plots at Little Fox Creek, including the use of seed blends specific for the soil and habitat type to attract pollinators such as bees, butterflies, moths, and beetles.

8.1.2 SKYLINE

Alabama Power does not manage any areas at Skyline for pollinators.

9.0 HARRIS HUNTING AREAS

As part of the original license, Alabama Power developed a Land Use Plan for the Project that FERC approved on September 21, 1984 (1984 Land Use Plan). Following the construction of the Project, site evaluations and use patterns indicated that uses under the 1984 Land Use Plan were dated, and Alabama Power determined that changes to the Land Use Plan were needed. Therefore, Alabama Power developed in agency consultation a Revised Land Use Plan (1995 Land Use Plan) that FERC approved on September 22, 1998. The 1995 Land Use Plan was further revised in 2008 (2008 Land Use Plan) and approved by FERC on May 26, 2010. The 2008 Land Use Plan differs from the 1995 Land Use Plan only in that it was revised to reflect a land swap at Skyline that resulted in the modification of the Project Boundary and associated land uses of the parcels affected. The 2008 Land Use Plan (and the preceding 1995 Land Use Plan) included provisions for lands dedicated for hunting at both Lake Harris and Skyline as well as the addition of physically disabled hunting areas. Additionally, as part of the original license, Alabama Power developed the 1988 WMP and the 1990 Skyline WMP (discussed in Section 3.0 above), both which included provisions pertaining to lands dedicated for hunting.

Lands designated for hunting at Lake Harris provide hunting opportunities to the public. Additionally, in consultation with ADCNR, Alabama Power developed the Harris physically disabled hunting area, including the construction of four shooting houses specifically designed to accommodate disabled hunters, access roads, and greenfields (i.e., an open area that may or may not be planted as a food plot).

Hunting opportunities provided at Skyline are managed by ADCNR, including the issuance of permits and maps as well as the determination of regulations such as hunting seasons and bag limits and the collection of data and maintenance records. Additionally, ADCNR maintains approximately 32 miles of roads at all-weather status (using a road grader, dozer and gravel deliveries as need) and seven gates (not connected to fencing, for the purpose of controlling access to areas outside of hunting season), as well as two campsites (Big Coon and Little Coon Valley) for the benefit of recreation opportunities at Skyline. Figure 9-1 provides an overview of the Skyline WMA, including the locations of roads, gates, camping areas, and Alabama Power Project Lands in relation to the WMA as a whole.

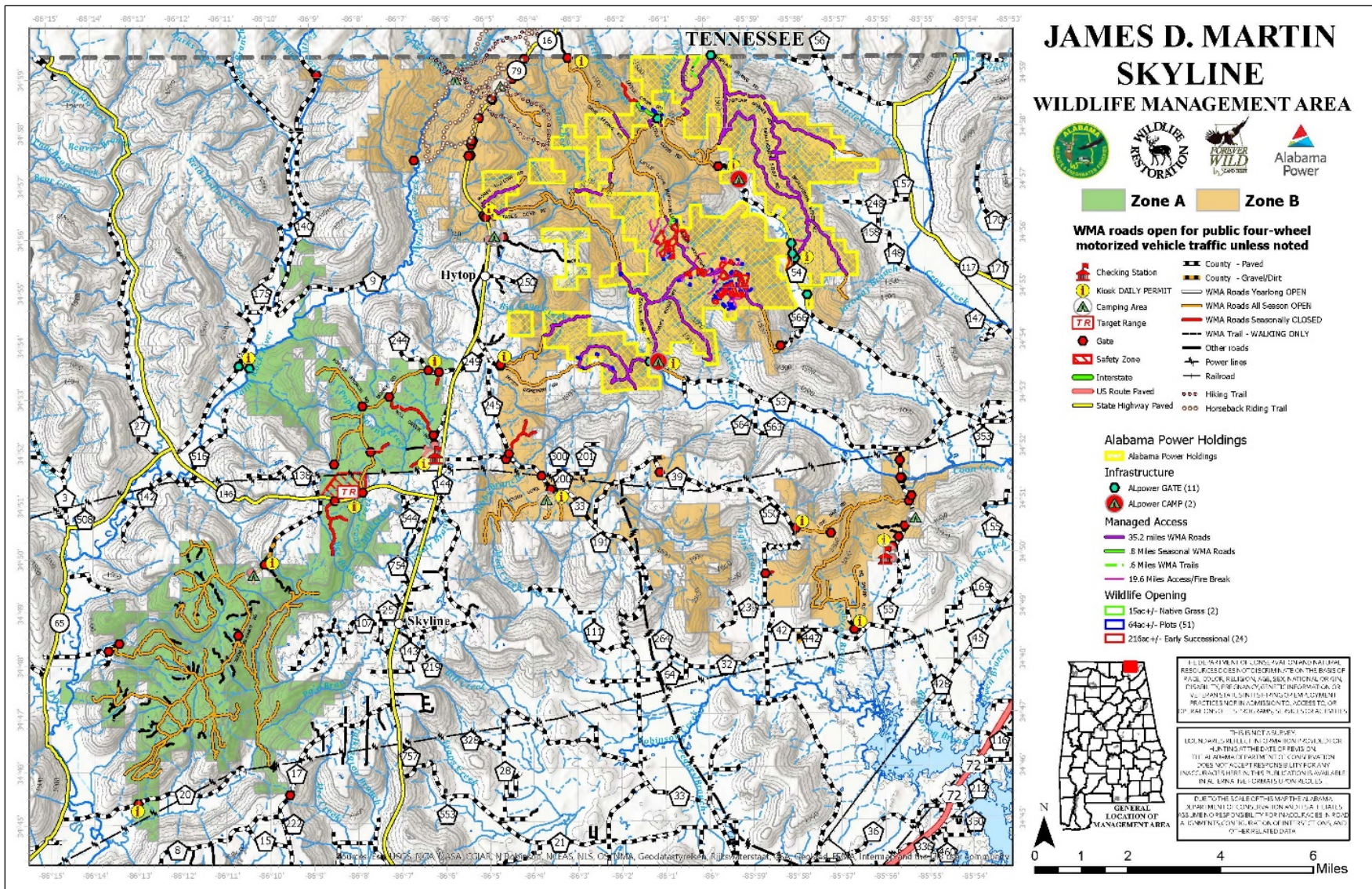


FIGURE 9-1 MAP OF SKYLINE WMA, INCLUDING ROADS AND CAMPING AREAS

9.1 MANAGEMENT ACTIONS

9.1.1 LAKE HARRIS

Hunting opportunities at Lake Harris (Figure 9-2) (with the exception of the Harris Physically Disabled Hunting Area) will be managed by ADCNR under a new lease agreement that will be executed upon issuance of a new Project license. Similar to the hunting opportunities currently managed by ADCNR at Skyline, permits, maps, and area rules and regulations will be issued by ADCNR to each hunter. Additionally, ADCNR will determine hunting seasons and bag limits as well as collect data and maintain records regarding usage. Managed opening on hunting lands at Lake Harris will be managed by ADCNR using methods similar to those described in Section 6.0 above.

ADCNR Hunting Lands at Lake Harris

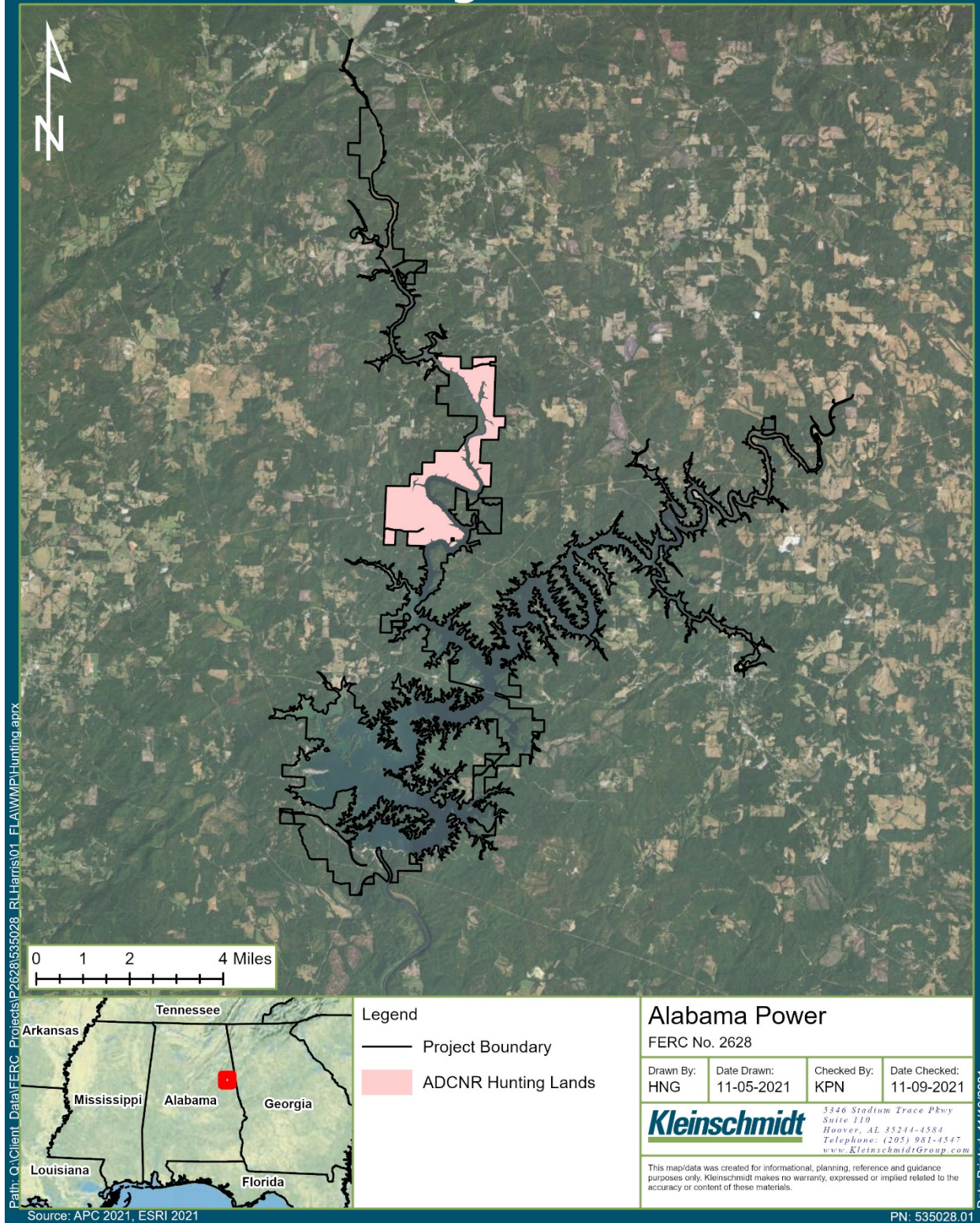


FIGURE 9-2 MAP OF LAKE HARRIS HUNTING LANDS FOR ADCNR MANAGEMENT

9.1.2 SKYLINE

Hunting opportunities at Skyline (Figure 9-1) will continue to be managed by ADCNR, including the issuance of permits and maps as well as the determination of regulations such as hunting seasons and bag limits. Managed openings on hunting lands Skyline will be managed by ADNCR using methods similar to those described in Section 6.0 above. Additionally, ADCNR will continue to maintain roads and existing camping areas as described above.

9.1.3 HARRIS PHYSICALLY DISABLED HUNTING AREA

Hunting opportunities at the Harris Physically Disabled Hunting Area (Figure 9-3) will be managed by Alabama Power. Alabama Power will continue to plant and maintain greenfields and/or other wildlife openings in the vicinity of the shooting houses annually. Shooting houses, specifically designed to accommodate disabled hunters, as well as road access to the shooting houses will be maintained. Managed openings on hunting lands at the Harris Physically Disabled Hunting Area will be managed using methods similar to those described in Section 6.0 above.

Physically Disabled Hunting Area at Lake Harris

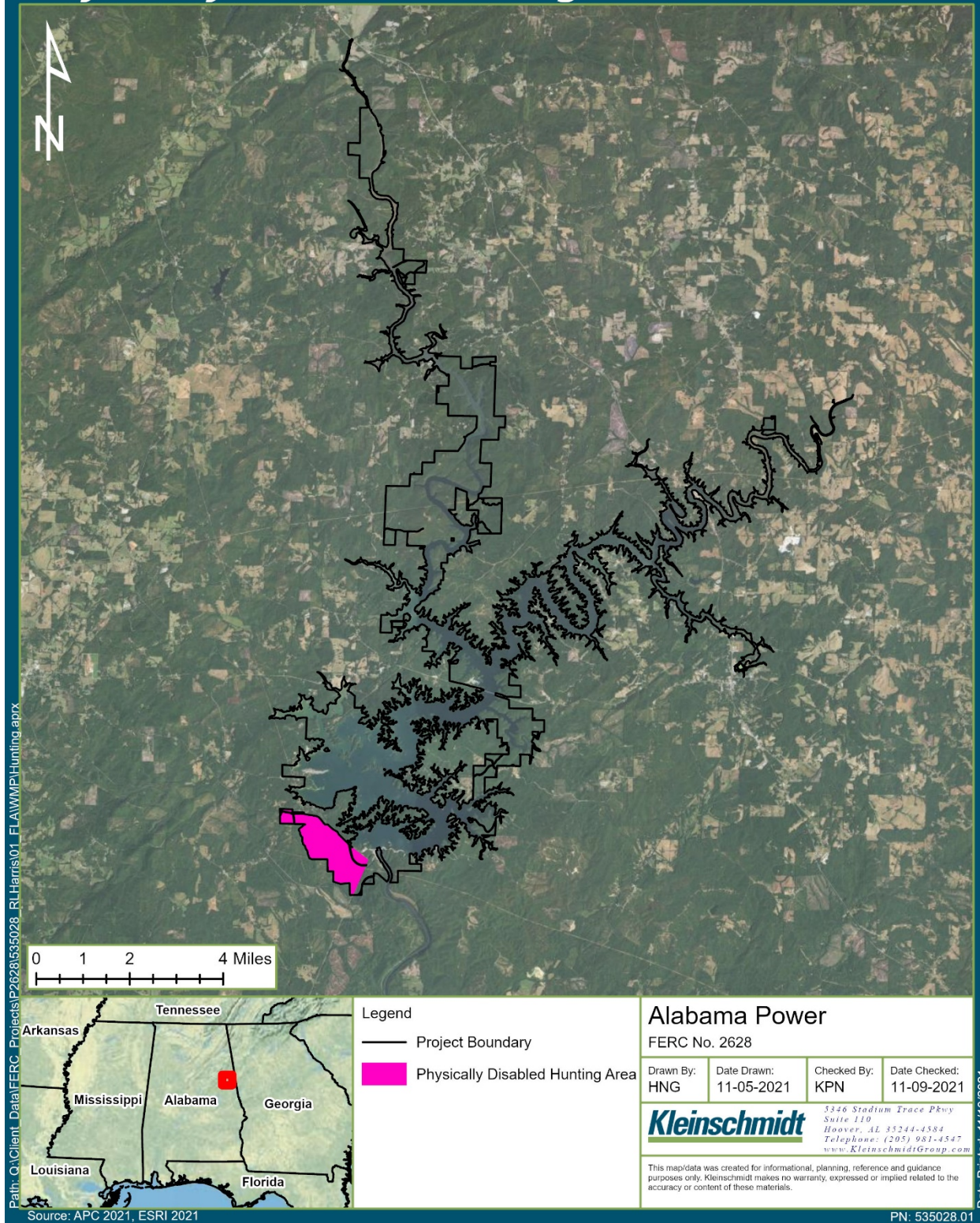


FIGURE 9-3 MAP OF HARRIS PHYSICALLY DISABLED HUNTING AREA

10.0 REFERENCES

- Alabama Forestry Commission. 2021. Alabama's Best Management Practices for Forestry. Available at: https://forestry.alabama.gov/Pages/Management/BMP_Practices.aspx
- Alabama Power Company. 2018. Pre-Application Document for the Harris Hydroelectric Project (FERC No. 2628). Alabama Power Company, Birmingham, AL.
- Cahaba Consulting. 2018. Sensitive Area (Wetlands) Assessment Report for the R.L. Harris Hydroelectric Project (FERC No. 2628). Cahaba Consulting, LLC, Birmingham, AL. November 2018.
- DeGraff, R.M., and D.D. Rudis. 1986. New England Wildlife: habitat, natural history, and distribution. Gen. Tech. Report NE-108. U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station, Broomall, Pennsylvania.
- MO eFOTG-Policy and Procedures. 2003. Indiana Bat Habitat Conservation Priorities in Missouri. Section II-F-4.
- NatureServe. 2009. International Ecological Classification Standard: Terrestrial Ecological Classifications. NatureServe Central Databases. Arlington, VA, U.S.A. Data current as of 06 February 2009. Available at: http://downloads.natureserve.org/get_data/data_sets/veg_data/nsDescriptions.pdf. Accessed November 11, 2016.
- South Carolina Department of Natural Resources. (SCDNR). 2019. First pregnant Northern long-eared bats found along South Carolina coast. SCDNR News. https://www.dnr.sc.gov/news/2019/sept/sept24_bats.php
- U.S. Fish and Wildlife Service (USFWS). 2009. Range-wide Indiana Bat Protection and Enhancement Plan Guidelines. <https://www.fws.gov/daphne/es/Bats/Indiana%20Bat.html>.
- U.S. Fish and Wildlife Service (USFWS). 2015. Biological Opinion. Forest Management Activities Affecting Northern Long-eared Bats and Indiana Bats on Region 4 National Wildlife Refuges. FWS Log #04ET1000-2015-F-0653.
- U.S. Fish and Wildlife Service (USFWS). 2016. Final Biological Opinion. Impacts to the Indiana Bat from the Continued Implementation of the National Forest in Alabama Revised Land and Natural Resource Management Plan for the Bankhead, Oakmulgee, Shoal Creek, and Talladega Ranger Districts. FWS ID # 04EA1000-2016-F-0463.

U.S. Fish and Wildlife Service (USFWS). 2016. Northern Long-eared Bat Consultation Area and Final 4(D) Rule Guidance Flowchart for Alabama.
<https://www.fws.gov/daphne/es/Bats/NLEB%20Consultation%20Map2.pdf>