WILDLIFE MANAGEMENT PLAN

SOUTHERN NUCLEAR OPERATING COMPANY

Joseph M. Farley Nuclear Plant

FARLEY NUCLEAR PLANT
WILDLIFE MANAGEMENT PLAN

2013

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What is a Wildlife Management Plan (WMP)?

A Wildlife Management Plan (WMP) is a comprehensive strategy which outlines goals of the wildlife habitat program, describes projects to achieve these goals, makes provisions for monitoring projects, and presents implementation and evaluation schedules.

A WMP serves as a tool for you to use at the facility. It provides direction and detailed information to guide you through the development of your program and each component is important in its own way. For example, knowledge of the background of the facility, such as historical use and ecological description, aids in knowing which native plants are best to select for plantings. This way the Wildlife Team can chose restoration efforts that will most likely provide benefits to wildlife.

Keep in mind that a WMP should be a working document; it is intended to be modified as goals change due to facility conditions and in response to the implementation of your projects. The WMP should be written so that if a new member joins the Wildlife Team, they would be able to quickly understand the program.

WMP Glossary

Program – The *Wildlife at Work* program, encompassing all ***projects***.

Mission – The mission is the overarching aim of a *Wildlife at Work* ***Program***.

Project – A project is a discrete wildlife enhancement venture, meeting the **four essential habitat components** for target wildlife and having one or more ***objectives.***

Objective – An objective is a broad action that must be achieved to accomplish a ***project***. Usually an objective will have multiple ***prescriptions***.

Prescription – Prescriptions are the specific management activities that must be completed to accomplish an objective. They are narrower than ***objectives*** and should be SMART: Specific, Measurable, Achievable, Relevant, and Time-bound.

Four essential habitat components – *Food*, *water*, *cover* and ***space*** are four elements essential to all wildlife. Every ***project*** must address how these components are being met for the target wildlife.

Food - Foliage, nectar, pollen, berries, seeds and nuts from native forbs, shrubs and trees. Native plants must be used to qualify for certification. A variety of native plants should be planted, monocultures are not recommended.

Water - Water is needed by wildlife for drinking, bathing, and reproduction. A source of water must be provided by the project, or be located sufficiently close depending on the species of wildlife using the habitat. Artificial water sources can include sediment ponds, rain gardens, and bird baths. Naturally occurring water sources can include streams, ponds, rivers, springs, and wetlands. Native plants can also be a source of water as plant tissue stores water and the water is released when the plant is digested by wildlife. This can be an important source of water for some wildlife in arid environments.

Cover – Wildlife need places to hide, rest, sleep, and take cover from environmental stress (sun, rain, wind, etc). Cover is species specific, birds and small mammals take cover in bushes and thickets, snags and brush piles. Aquatic organisms can take cover in under water rock piles. Native grass can provide cover to insects, mammals, birds and other wildlife. Artificial cover consists of brush piles, bat boxes, and bird houses.

Space – Wildlife need space that can encompass the entire life-cycle of the organism; from a tadpole to a frog or a caterpillar to a butterfly. The type and size of space depends on the species of wildlife. Providing a safe and appropriate place for wildlife to reproduce, raise young, and mature is essential to habitat. Examples of space are: wildflower meadow, mature forest, forest with vernal pools, and wetland.

Native Species - Native species have evolved complex relationships with other species in the same area, including plants, bacteria, mammals, birds, reptiles and amphibians. The members of the biological community have been evolving together, a process known as co-evolution, for thousands of years. Native plants are adapted to specific geographic areas depending on environmental variables such as soil type, climate, rainfall, pollinators, and seed dispersers.

Non-native Species - Non – native species (also called exotic species) are those that evolved in a different geographic location and/or environment. These species have developed complex relationships in their native range, but behave differently, sometimes invasively, when growing outside their natural range.

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Summary

Farley Nuclear Plant is owned by Alabama Power Company and operated by Southern Nuclear Operating Company, both a subsidiary of Southern Company. The plant property acquisition was completed in 1970. Construction also began in 1970 and the plant became operational in 1977. The site was farm land prior to being purchased by Alabama Power and was used for cotton, peanut and corn, with some wooded areas. Southern Nuclear and the Joseph M. Farley Nuclear Plant are committed to the protection of the environment and the enhancement of wildlife habitat. The site has and will continue to provide natural and enhanced wildlife habitat through proper management of the area surrounding the plant structures.

1.0 Background

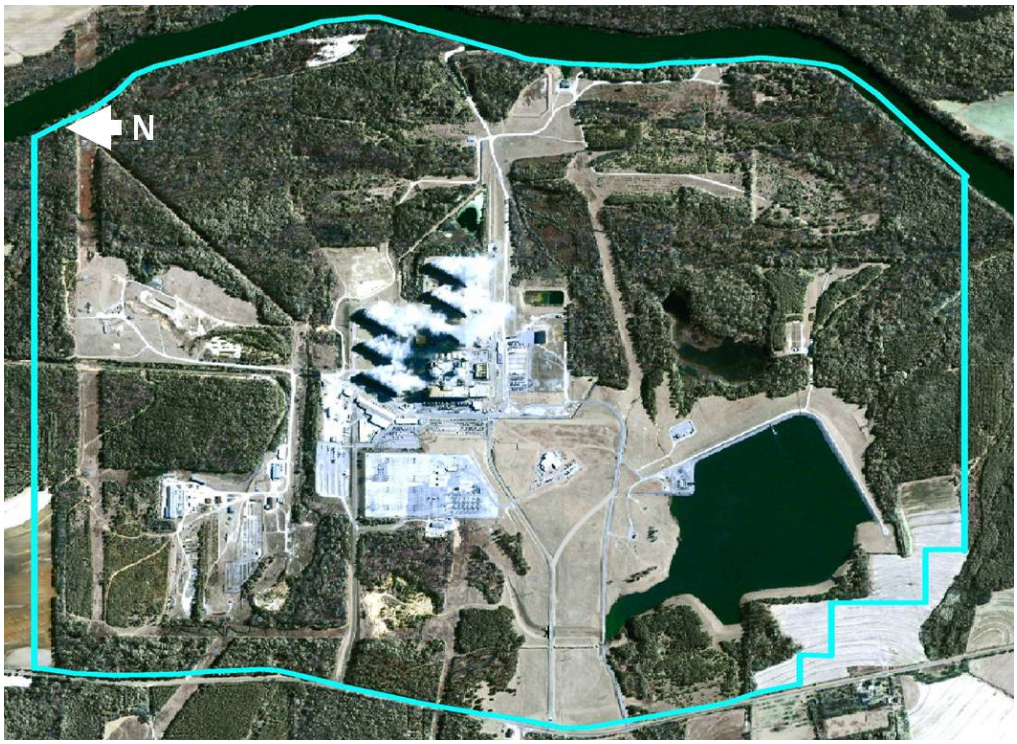
Plant Farley received initial WHC certification in 1992 and has maintained certification since that time, a standing that exemplifies its commitment to improving wildlife habitat through the enrichment of pre-existing habitat and the establishment of new habitat on the company's landholdings. Induction into the Wildlife at Work program enables the Farley Site to get assistance from the Wildlife Habitat Council in its efforts to improve the site's wildlife habitat. Furthermore, partnership with WHC provides Southern Nuclear with an opportunity to demonstrate responsible corporate environmental stewardship by formulating and implementing a balanced and operative wildlife management program. The site has undergone significant changes since that time, particularly in the area of plant security, but plant management has remained supportive of the wildlife habitat program as demonstrated through their support of the multiple projects and programs that have been maintained over the years.

1.1 Corporate Environmental Stewardship

Southern Nuclear is a division of Southern Company, which has a large portfolio of environmental stewardship projects including National Fish and Wildlife Federation (NFWF) managed programs Long Leaf Stewardship Fund and Power of Flight. Southern Company is a partner with WHC, National Association of Counties, EPA and NFWF to provide wetland restoration grants through the Five Star Restoration Program. Southern Nuclear has the unique opportunity to manage, enhance and promote land and wildlife activities because of the remote locations of our plants and support from management. Southern Nuclear also promotes recycling of materials as small as office paper or personal beverage containers and as large as steel components that can be salvaged and sold as scrap metal.

1.2 Site Description

Farley Nuclear Plant is located in the southeastern most county of Alabama in a rural area approximately 17 miles east of Dothan, AL. The plant is bordered on the east by the Chattahoochee River which also serves as the border between Alabama and Georgia. The site consists of approximately 1850 acres. The nuclear plant power block and supporting structures occupy 500 acres on the site, more or less centered on the property. The remaining approximately 1350 acres surrounding the plant are available for timber and wildlife management. These areas are managed as a mix of timber and open areas with some pre-existing habitat still in existence. The area surrounding the plant site is made up of rural farms and pastures. The most common farm crops in the area consist of peanuts, cotton, or hay for cattle feed. The immediate surrounding properties also contain substantial wooded portions that are actively hunted.



Farley Nuclear Plant

1.2.1 Wildlife Team

The wildlife team is comprised of employees from across the plant site. Plant Farley's Team Leader is the Site Environmental Specialist. General oversight and assistance comes from the Environmental Affairs organization at the corporate office. There are multiple team leaders, each associated with the different site projects. We have team members that have active roles such as checking bluebird boxes or bee hives, as well as team members that participate in the management of the deer program. The wildlife team is developing an internal website where members can post information and pictures about their projects and communicate with other members and find resources for their projects.

1.2.2 Ecological Background

The Plant Farley site is located in the Coastal Plain Region with a topography that is generally flat to gently rolling. The region has hot, humid summers but mild winters. The plant site includes forested areas, wetlands including beaver ponds, several acres of open meadow, and river frontage. The forested areas are comprised primarily of pine and hardwood. This area was once dominated by the longleaf pine ecosystem prior to the arrival of settlers and the eventual clearing and conversion to rural farms.

Historical accounts indicate the property was previously utilized by regional Indians and early settlers. Its location near the Chattahoochee River served as a communication route and as hunting grounds. Cotton farming eventually became a large industry in the area prior to the invasion of the boll weevil in the early 20th century. The boll weevil essentially wiped out cotton farming which allowed for the introduction of peanut farming, with the area now staking claim as the "peanut capital of the world".

2.0 Development

2.1 Site Inventory

See attachment D

2.2 Timeline of Completed Activities and Future Goals

Project 1 - Increase nesting success and adult viability of resident and migratory bird populations using Plant Farley lands.

The Bluebird & Wood Duck nest box programs were started in 1993.

The Bluebird nest boxes are checked regularly during the nesting season, starting in late March and continuing through the end of the summer. Number of nests, eggs, babies, and fledglings are recorded and compiled at the end of the season.

The Wood Duck boxes are only checked at the end of the nesting season during the cold months due to their locations. The boxes are checked for activity, logged, and cleaned out or replenished with fresh mulch as needed.
The Osprey platform was erected in 1999 after ospreys were observed building a nest on a nearby power pole. The platform is monitored (from the ground) several times a year during the nesting season, typically March through late summer. The results of the observations are recorded in the log. The platform is scheduled to be replaced after the 2013 nesting season with a new platform.
Two purple martin structures were initially erected in the mid 1990's. One structure is still in place but needs to be replaced. The other structure was blown over in a storm. A new 16 unit structure and 8 unit condo were erected in March, 2010. An additional 16 unit structure was erected in February, 2013.

Project 2: Cooperative habitat management for native wildlife.
Gopher Tortoises - Gopher Tortoises were most likely resident to the site prior to construction. The first effort to quantify their numbers was in 2001 when Alabama Power, owners of the property, conducted a high level survey of the site. A preliminary assessment was performed in 2012 by Southeast Conservation Inc. to better evaluate the habitat and soil types on the site. A more complete survey will be performed in 2013/2014.
Whitetail Deer Management – Whitetail Deer have always been present on the site but there was no formal management of the population until the mid 1990's when a bow hunting program was initiated. The program has continued since that time with the exception of 2001 & 2002 when it was suspended due to increased security concerns. Each deer harvest is logged and the results are compiled and submitted to the state wildlife biologist each year at the completion of the hunting season.

Project 3: Increase pollinator diversity.
Clover in open areas – The clover that is allowed to mature each year through rotational mowing was first established soon after construction of the facility.
Honeybee Apiary – The initial honeybee boxes were first put in place in 2009 when 5 boxes were installed near the service water pond. Three additional boxes were installed in late 2012.
Pollinator Garden – A pollinator garden was planted in 2008 but had to be removed in 2012 due to construction of new security upgrades. A new pollinator coordinator is being sought that can coordinate the construction of a new pollinator garden.

Project 4: Cooperative habitat enhancement.
Land Management Plan - The land management plan, used as a guideline and schedule for timber management, has been in existence since construction of the site and is updated every few years. The plan was last updated in 2011. Several tracts on the site have had timber harvested. The most recent timber harvest was in 2010. The majority of that harvest area was replanted in longleaf pine in February, 2011. Most of the seedlings died in the summer of 2011 due to a drought. A few isolated areas were replanted with

longleaf pine seedlings in 2012. The large clear-cut area is scheduled to be cleared and prepped in 2013 to be replanted with longleaf pine seedlings during the 2013/2014 winter. The next tract of land that will have timber harvested is scheduled for late 2013. That area will also be replanted in longleaf pine with a goal of replanting in the winter of 2014/2015.

3.0 Implementation

3.1 Mission of Farley Nuclear Plant Wildlife at Work Program

Plant Farley strives to be a good steward of the land and to engage employees in the protection, restoration and enhancement of wildlife habitat around the site.

Project 1: Increase nesting success and adult viability of resident and migratory bird populations using Plant Farley lands.

Reasoning Behind Project:

Urbanization has caused loss of habitat for all of our chosen bird species. Artificial nesting sites have long been used as a tool to promote nestling success for wood ducks, blue birds, ospreys and purple martins. Plant Farley offers a great location for all of these species and more.

Project's Background Information:

The nesting programs encompass the entire site. Nest boxes and other structures are placed in locations that are most beneficial to the targeted species. The projects involve numerous employees from the facility.

Essential Habitat Components:

- Food: There are numerous ponds and wetlands on the site in addition to the river and its tributary streams that provide aquatic plant life for ducks and fish for the ospreys. The ducks also eat nuts from the mast producing hardwoods. The site has many open areas where birds such as bluebirds and martins catch insects.
- Water: There are numerous ponds and wetlands on the site in addition to the river that provide a source of water
- Cover: Artificial nesting structures have been utilized to provide cover in addition to naturally occurring cover in the form of trees, bushes, riparian areas, etc.
- Space: The bluebird, martin and osprey structures have been placed in open areas, whereas the duck boxes have been placed around the ponds and wetland areas. All structures have been strategically spaced such that they do not interfere with other nesting structures.

Project 1 – Objective 1: Manage the Wood Duck nest boxes.

Prescription	Status
Coordinate with the wood duck box volunteers to ensure the boxes are checked each year.	The duck boxes were last checked in February, 2013.
Monitor the wood duck nest boxes and record observations in the monitoring log.	Refer to the monitoring section below.
Determine which boxes need to be replaced, repaired or moved.	Identified 2 boxes that need to be relocated due to difficulty in accessing. Identified 2 boxes that need to be relocated due to poor locations and no activity over the past several seasons.

Project 1 – Objective 2: Manage the Bluebird trail nest boxes.

Prescription	Status
Assemble the bluebird monitoring team for the nesting season.	The bluebird monitoring team has been formed for the 2013 nesting season.
Monitor the bluebird nest boxes during the nesting season and record observations in the monitoring log.	Refer to the monitoring section below.
Determine which boxes need to be replaced, repaired or moved.	Identified several boxes that need to be replaced due to age. Identified 2 boxes that need to be relocated due to poor locations and/or no activity over the past several seasons.
Coordinate the school nest box program with the local schools that will be participating this nesting season.	Three elementary schools (Webb, Columbia, and Early County) participated in the 2013 program.

Project 1 – Objective 3: Maintain the Osprey nesting platform

Prescription	Status
Coordinate with the osprey monitoring volunteer to ensure monitoring is performed.	Monitoring started in March for the 2013 nesting season.
Monitor the nesting platform during the nesting season and record observations in the monitoring log.	Refer to the monitoring section below.

Project 1 – Objective 4: Manage the Purple Martin nest structures.

Prescription	Status
Coordinate with the Purple Martin monitoring volunteer to ensure monitoring is performed.	Monitoring started in March for the 2013 nesting season.
Monitor the martin nesting structures during the nesting season and record observations in the monitoring log.	Refer to the monitoring section below.
Clean out the structures at the end of the nesting season.	Structures were last cleaned out at the end of the 2012 nesting season.
Determine which boxes need to be replaced, repaired or moved.	No changes at the end of the 2012 nesting season.

Project 1 – Monitoring: Monitoring Activities and Results.

Monitoring Action	Status
The wood duck nest boxes are monitored once per year. The results for the nesting season are documented for that season and recorded in the long term monitoring log.	The duck boxes were checked in February, 2013. Results have been recorded in the long term log.
The bluebird nest boxes are monitored throughout the nesting season. The information is recorded on log sheets for each individual box and transferred to the long term log at the end of the season.	The 2012 results have been recorded in the long term log. Monitoring for the 2013 nesting season is in progress.
The osprey platform is monitored, from a distance, during the nesting season. The observations are recorded in the long term osprey monitoring log.	The 2012 results have been recorded in the long term log. Monitoring for the 2013 nesting season is in progress. The platform has begun to sag and has been scheduled for replacement at the end of the nesting season.
The purple martin structures are observed from a distance throughout the nesting season. The structures are lowered at the end of the season to document activity and to clean out the structures. Results are recorded in the long term martin monitoring log.	The structures were cleaned out and activity recorded in January. Observations for the 2013 nesting season are in progress.

Project 1 – Documentation

- Nest box logs and maps are included in Attachment A.
- Photos are included on the application CD.

Project 1 – Summary

- Project Start Date: The wood duck and bluebird boxes were installed in 1991 in anticipation of our initial WHC Wildlife at Work certification. The osprey platform was erected in 1999 after ospreys were observed building a nest on a nearby power pole. The initial purple martin structures were erected in the mid 1990's.
- Employees/Volunteers Involved: There are 17 employees involved with these projects as coordinators and volunteers:
  Wood Duck Boxes – 3, Bluebird Boxes – 7 employees (plus 3 teachers and their students at the local schools), Osprey platform – 2, Purple Martin Structures – 2.
- Plants Used: There are no plants used as part of this project.
- Invasive Species Controlled: There are no invasive species controlled as part of this project.
- Evaluation: This project has resulted in nesting activity and increased numbers of all species involved since its inception. The record keeping was degraded for some of the projects for a while but efforts are being taken to get this back up to the level desired. A new monitoring team has been formed to get a fresh start on the program.
- Future Objectives: We will continue to maintain and monitor this project. Coordinators have been tasked to send reminders and updates to team members to ensure participation. Several duck boxes and bluebird boxes will be replaced and/or relocated based on monitoring results. The osprey platform will be replaced after the nesting season due to the degrading condition of the current platform.

Project 2: Cooperative habitat management for native wildlife.

Reasoning Behind Project:
There are numerous native species on the site. Two species that would be at risk without proper management are gopher tortoises (destruction of habitat) and whitetail deer (over population).
Project's Background Information:
This project encompasses the entire site. The project provides recognition and protection of the gopher tortoises and an effective method for managing the whitetail deer population.

Essential Habitat Components:

Food: The site consists of a mixture of forested areas and open areas that provide the vegetative food essential for the native species. Supplemental food plots are also utilized in the winter months as an additional food source.

Water: There are numerous ponds and wetlands on the site in addition to the river that provide a source of water

Cover: The open spaces provide the proper areas for tortoises to dig their burrows, while the forested areas provide the cover needed by deer.

Space: The combination of forested areas and open areas provide ample space for each of these species.

Project 2 – Objective 1: Properly manage the Gopher Tortoise habitat

Prescription	Status
Determine the scale of the gopher tortoise population.	An informal survey performed in 2001 determined that gopher tortoises were present on the site.
Educate employees on recognizing gopher tortoise burrows and the actions to take when they find one.	Guidance was provided to the plant population in 2003 for performing grounds and right-of-way maintenance in areas with gopher tortoise activity. This guidance has been incorporated in plant training and procedures.
Perform a more complete survey for gopher tortoises and mark their locations.	A preliminary assessment was performed in 2012 to better evaluate the habitat and soil types on the site. A more complete survey will be performed in 2013/2014.

Project 2 – Objective 2: Manage the Whitetail Deer population

Prescription	Status
Actively manage the whitetail deer population in order to avoid problems associated with over population such as poor health of the herd, over grazing of natural resources, damage to surrounding properties, etc..	Based on the recommendation of a wildlife biologist and with the assistance of state game managers Southern Nuclear was able to develop a hunting program to manage the resident whitetail deer population. Because of laws concerning possession of weapons on nuclear plant properties, bows are the only weapons allowed.

Work with state game manager to determine success of the program, making adjustments where necessary based on his feedback	Each deer harvested is logged – recording the gender, antler count, weight, approximate age and location. This information is sent to the Alabama Department of Natural Resources wildlife biologist each year for evaluation and recommendations.

Project 2 – Monitoring: Monitoring Activities and Results.

Monitoring Action	Status
There is no active monitoring program for the gopher tortoises due to their being widely scattered around the plant site and no formal mapping of the burrows. A more complete survey of the tortoises in 2013/2014 should allow us to mark the existing burrows for some degree of monitoring in the future.	The preliminary assessment performed by Conservation Southeast, Inc. in 2012 established that we have a significant enough population on site to warrant a more thorough survey and count. A more complete survey is being planned for 2013/2014.
Each deer harvested is logged, recording the gender, antler count, weight, approximate age and location. This information is sent to the state wildlife biologist each year for evaluation and recommendations.	Based on recommendations from the state wildlife biologist, supplemental food sources were established in September, 2012 for the 2012-2013 winter months.

Project 2 – Documentation

- Gopher Tortoise Preliminary Assessment Receipt and Deer Management Info are included in Attachment B.
- Gopher Tortoise photos are included on the application CD.

Project 2 – Summary

- Project Start Date: Gopher Tortoises were most likely resident to the site prior to construction. The first effort to quantify their numbers was in 2003 when Alabama Power, owners of the property, conducted a high level survey of the site and issued guidance to Plant Farley on working in the areas occupied by gopher tortoises. The deer hunting program was developed and implemented in the mid 1990's based on guidance from an Auburn University wildlife biologist.

- Employees/Volunteers Involved: There are only 3 or 4 employees directly involved in the gopher tortoise program but all employees are trained concerning gopher tortoises. The heavy equipment operator and ground maintenance crew receive an additional briefing on gopher tortoises. There are 20-25 active members of the Farley bow hunting club. The club is a partner with the Plant Farley Wildlife at Work team. Most of the hunters consider themselves conservationist. They provide "eyes and ears" in the woods, reporting anything they see that may be of interest to the Wildlife at Work program.
- Plants Used: There are no plants used related to gopher tortoises. A mixture of wheat, rye, oats, peas and clover (Deer Mix) was used to plant the supplemental food plots for deer and other animals.
- Invasive Species Controlled: There are no invasive species controlled as part of this project.
- Evaluation: Gopher Tortoises – The guidance provided to site personnel on gopher tortoises has resulted in several calls over the years by employees that thought they may have encountered a gopher tortoise burrow, resulting in the preservation of burrows. This high level survey for gopher tortoises has provided the site with information that has allowed us to make future plans for more detailed surveying and recognition of the species. Whitetail Deer Management – The site was initially treated as a wildlife sanctuary as opposed to a managed wildlife habitat. Over time this resulted in an unchecked increase of the deer herd size, with evidence of crop and habitat destruction from the herd and the increased possibility of disease due to the general poor health of the herd. The deer hunting program, reviewed each year by the Alabama DNR wildlife biologist, has resulted in a healthier herd with a population size appropriate for the site.
- Future Objectives: A more thorough gopher tortoise survey is being planned for late 2013 or early 2014. This will allow us to better quantify the number of tortoises on site and mark the existing burrows. Based on the results of the survey Alabama Power will explore the possibility of entering a Candidate Conversation Agreement with Assurances for gopher tortoises with the Alabama Department of Conservation. The deer hunting program will continue to be managed in according with guidance from the state wildlife biologist.

Project 3: Increase pollinator diversity.

Reasoning Behind Project:

Pollination is a fundamental ecological and economic service performed by a variety of species including bees, butterflies, moths, hummingbirds and bats. Nationwide trends show that pollinating species are declining sharply in number, due largely to improper pesticide use and habitat fragmentation.

Project's Background Information:

The site has several efforts directed toward increasing pollinator activity. The large open areas on the front of the property contain a mixture of clovers that bloom for several months each year. A small pollinator garden was constructed in 2008. Bee colonies were established on the site in 2009.

Essential Habitat Components:

- Food: The numerous open areas and edge areas provide a wide variety of planted food sources (clovers) as well as native sources.
- Water: There are numerous ponds and wetlands on the site in addition to the river that provide a source of water
- Cover: The site is a mixture of open areas, edges, and forested areas providing shelter for pollinators.
- Space: There are both large and small open areas around the site providing ample space for pollinators.

Project 3 – Objective 1: Maintain the pollinator habitat in the large open areas.

Prescription	Status
Large, open areas should be mowed on such a frequency that the variety of clovers are allowed to bloom and re-seed.	The large, open areas are mowed on a slow rotation such that the variety of clovers are allowed to bloom and re-seed from February to June.

Project 3 – Objective 2: Maintain the Honeybee apiary project.

Prescription	Status
Actively manage the bee boxes located on site by performing regular checks and coordinating with state bee inspectors.	The hives are maintained in accordance with state guidelines. Some of the honey collected from the hives is used as a fund raiser for the local chapter of the Alabama Power Service Organization, a charitable organization that supports needs in the local community.

Project 3 – Objective 3: Construct a new pollinator garden.

Prescription	Status
The previous coordinator for the pollinator program is in a new position and can no longer support the program. The Site Environmental Specialist supports Objectives 1 & 2 but a new coordinator is needed to support the construction and maintenance of a new pollinator garden.	Efforts to find a new coordinator for the pollinator program are in progress.

Construct a new pollinator garden to replace the garden that was removed in 2012. Work with the Dothan Botanical Gardens to determine appropriate plants native to the area.	A pollinator garden was constructed in 2008 in the courtyard next to the Service Building. The plans were developed after consultation with the Dothan Botanical Gardens and planted with native perennials. Unfortunately the garden had to be removed due to construction associated with new Security upgrades at the site. A new pollinator garden should be constructed in an appropriate location, possibly in the area around the training center.

Project 3 – Monitoring: Monitoring Activities and Results.

Monitoring Action	Status
There is no active monitoring program for the rotational mowing areas other than casual observation to verify that the clover is still coming back each year.	All the large, open areas have been mowed such that the various clovers have bloomed and re-seeded.
Check the bee hives on a regular basis and contact the state bee inspectors if invasive activity is discovered.	The bees are checked on an appropriate schedule and inspected by state bee inspectors from the Alabama Department of Agriculture and Consumer Services.

Project 3 – Documentation

- Photos are included on the application CD.

Project 3 – Summary

- Project Start Date: Clover was planted in the large, open spaces soon after construction of the facility, although the rotational moving was not implemented until the mid 90's. The initial bee colonies were established at the site in 2009.
- Employees/Volunteers Involved: There are no volunteers associated with the rotational moving of the clover areas. There are three employee volunteers that maintain the bee hives.
- Plants Used: The clover consists of white, red, and crimson clover. The bee colonies feed off the natural vegetation on site.
- Invasive Species Controlled: The bee hives are checked for invasive species such as Africanized Honeybees. The state inspectors are contacted if a colony is suspected of being invaded.

- Evaluation: The large, open areas that contain clover have been mowed on a rotational basis, allowing the various clovers (white, red, crimson) to bloom and re-seed. In addition to providing pollination sources, the clovers also contribute to improved forage quality, biological nitrogen fixation, soil improvement, and land beautification. The bee boxes have been very successful. The program has expanded from two volunteers and 5 boxes to three volunteers and 8 boxes, generating over 150 lbs of honey each year, some of which is used as a fund raiser for the local chapter of the Alabama Power charitable organization.
- Future Objectives: Find a volunteer to act as the coordinator for the pollinator program. Build a new pollinator garden and consider the installation of bat boxes.

Project 4: Cooperative habitat enhancement.

Reasoning Behind Project:

In accordance with Southern Company's commitment to be exceptional stewards of our land, the areas surrounding the actual plant footprint should be managed such that the wildlife habitat is maintained or enhanced.

Project's Background Information:

The nuclear power block and supporting structures occupy around 500 acres of the 1850 acre site, leaving approximately 1350 acres that can be managed as wildlife habitat. The wooded areas are a mixture of hardwoods and pine. Some of these areas maintain a healthy forest but some are comprised of more aggressive hardwoods such as sweetgum and maple that provide little benefit to wildlife. Other areas consist of loblolly or short leaf pines that were planted in rows years ago as a way to quickly cover an area. As these areas are being harvested for timber, in accordance with Alabama Power's Land Management Plan, they are being replanted in Longleaf Pine where possible. The Longleaf Pine forest was the dominant ecosystem for the southeast coastal area prior to settlement. A longleaf pine ecosystem supports a variety of wildlife (deer, turkey, quail, etc.) as well as provides habitat for certain endangered species (gopher tortoise, red-cockaded woodpecker, and indigo snake). This also helps support Southern Company's goal of re-establishing longleaf pine ecosystems throughout the southeast.

The site is also fortunate to contain a variety of wetland areas, some natural to the property and some resulting from construction of the facility.

Essential Habitat Components:

Food: The wooded areas provide a variety of food sources (mast producing trees, berries, grubs, etc.). The wetland areas provide aquatic plants, fish, amphibians, etc. as a food source for a variety of birds and aquatic species.

Water: There are numerous ponds and wetlands on the site in addition to the river that provide a source of water

Cover: The wooded areas provide cover for all forms of terrestrial wildlife and the wetlands and surrounding vegetation provide cover for wetland animals.

Space: There are both open areas and sheltered areas around the site providing ample space.

Project 4 – Objective 1: Properly manage the forest, replanting in Longleaf Pine where possible.

Prescription	Status
Maintain and update the long term land management plan.	Alabama Power Forestry Division maintains a long term land management plan for the site. The plan is updated to reflect the current state of the land units and to incorporate recommendations of the company forester.
Harvest timber units in accordance with the land management plan, replanting in native longleaf pine where possible.	The most recent harvest area was cut in 2009 when the Alabama Power Forestry Section harvested approximately 123 acres of hardwood/pine mix. One of the objectives of this harvest was to improve the overall health of the forest and wildlife population at Farley. Of the 123 acres that were harvested, 85 acres were clear-cut and the remaining 38 acres were managed as Streamside Management Zones (Stream buffers) where only the overly mature pine and larger, non-mast producing hardwoods were harvested. The 85 acres that were clear-cut were replanted in longleaf pine in the winter of 2010-2011.

Identify and remove invasive species when found.	Cogan Grass – The Alabama Power forester is trained to identify invasive species and has the resources required to remove many of them. Two patches of Cogan Grass were identified by the Alabama Power forester who arranged to have the grass eradicated through application of appropriate herbicides. This grass has spread across the southern U.S. since arriving as packing material in crates shipped from Asia to Mobile, AL. It is a highly invasive grass that chokes out native plants and causes problems for livestock and wildlife. It is particularly problematic in open longleaf pine habitats because the fires that are necessary for good longleaf pine management actually increases the growth and encroachment of the grass. Two additional patches have been found and reported to the forester. It is scheduled to be sprayed with herbicide in the fall when conditions are most favorable. Feral Hogs – Feral Hogs were found on the site in February, 2013. They have quickly multiplied in numbers with over 50 hogs currently taking up residence in the low lying areas near the river. Feral Hogs have become a significant problem for wildlife habitat and land owners in the southern states. The site is working with the USDA Wildlife Services group to have the hogs trapped and eradicated.

Project 4 – Objective 2: Protect and manage the wetland areas.

Prescription	Status
Most of the wetland areas are treated as "hands off" by the plant, allowing the natural habitat around the wetland area to exist on its own. The exception is the shore along the south and east sides of the service water pond. The area around the pond is mowed several times a year but a riparian area has been established around much of the shore, providing habitat for a variety of plants and animals in an area readily visible by employees.	The wetland areas are well established. There has not been any excessive beaver activity that has required our interaction. The area around the service water pond has been mowed. Several areas near the south shore line were cut to allow recreational usage by employees but select areas were left natural providing the riparian area needed by wildlife around the pond.

Project 4 – Monitoring: Monitoring Activities and Results.

Monitoring Action	Status
The forested areas should be checked by a qualified individual to ensure the health of the forest is maintained and to make recommendations for future management activities.	The Alabama Power forester inspects the forested areas a couple of times a year to check on the condition of the forest and to check and adjust the land management plan. The site has also been visited by the Alabama Department of Natural Resources wildlife biologist.
Casual observations of the wetland areas are used to ensure they are intact and providing good habitat.	There have been no changes in the wetland areas other than some trimming around select areas along the south shore of the service water pond.

Project 4 – Documentation

- Map from the Land Management Plan and Invasive Species Log are included Attachment C.
- Photos are included on the application CD.

Project 4 – Summary

- Project Start Date: The Land Management Plan has been in existence since construction of the site. It is updated every few years.
- Employees/Volunteers Involved: The land management program is implemented and maintained by company employees but there are no volunteers associated with the land management and wetland programs.

- Plants Used: Longleaf Pine are re-planted as part of the land management program wherever conditions are suitable.
- Invasive Species Controlled: Cogan Grass, Feral Hogs
- Evaluation: The land management plan was updated to incorporate some of the new security measures for the site. The majority of the longleaf pine seedlings that were replanted in 2011 died due to the drought that summer, allowing a mixture of heavy brush, loblolly pine and other non-desirable hardwoods to take over the area. Some of the seedlings were replaced in 2012 in the isolated sections that were not overgrown. The large 85 acre area that was clear-cut is scheduled to be cleared and prepped in 2013 to allow replanting of longleaf pine seedlings in the winter of 2013/2014.
- Future Objectives: Continue utilizing the land management plan as a guide for properly managing the forested areas. Look for additional areas that could be converted to longleaf pine.

3.2 New Projects

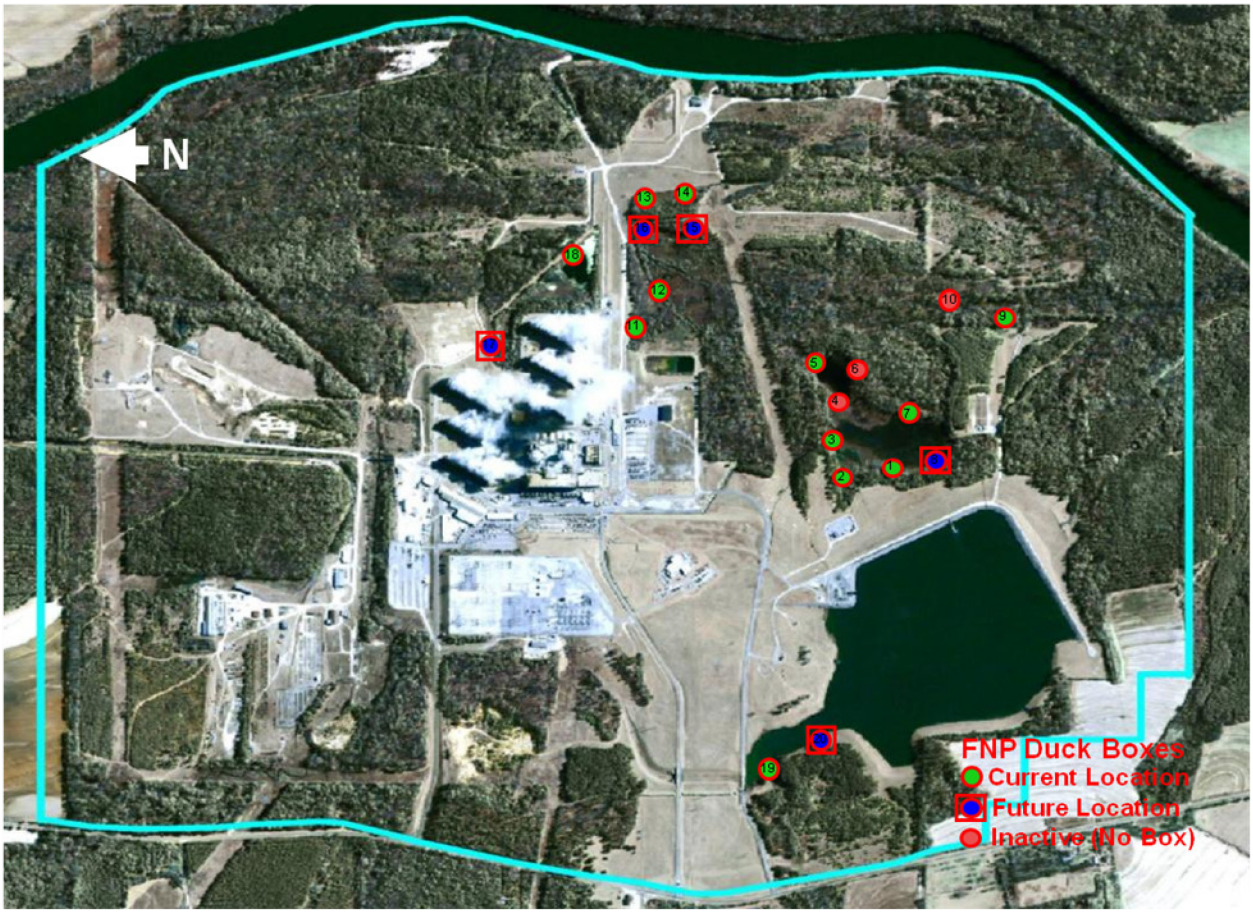
There are no new major projects currently planned but we are looking at expanding some of the current projects.

- Pollinator Garden (will need to find a coordinator)
- Work with Auburn University Raptor Rehabilitation Center to have some rehabilitated birds released on the site (possible education opportunity).
- Installation of American Kestrel boxes.
- Installation of bat boxes.

Attachment A – Documentation

Project 1 - Increase nesting success and adult viability of resident and migratory bird populations using Plant Farley lands

Farley Wood Duck Nest Box Locations



Farley Wood Duck Long Term Nest Box Log

FNP DUCK BOXES - LONG TERM LOG

Box Number	Location	Coordinates	Year Installed	2008	2009	2010	2011	2012
1	West bank, Firing Range Pond	N 31° 12.889′, W 85° 6.721′	?	Y	Y	Y	N	N
2	NW Corner, Firing Range Pond	N 31° 12.949′, W 85° 6.695′	?	Y	N	N	N	N
3	North bank, Firing Range Pond	N 31° 12.962′, W 85° 6.632′	?	N	N	N	Y	N
4	*North bank, Firing Range Pond*	No Box, Removed in 2006	N/A	N/A	N/A	N/A	N/A	N/A
5	NE Corner, Firing Range Pond	N 31° 12.973′, W 85° 6.519′	?	Y	Y	N	Y	N
6	*NE Corner, Firing Range Pond*	No Box, Removed in 2006	N/A	N/A	N/A	N/A	N/A	N/A
7	East bank, Firing Range Pond	N 31° 12.817′, W 85° 6.609′	?	Y	Y	Y	Y	Y
8	*SW Corner, Firing Range Pond*	No Box, Possible future location	N/A	N/A	N/A	N/A	N/A	N/A
9	Creek past Firing Range	N 31° 12.676′, W 85° 6.382′	2007	N	N	N	N	N
10	*Creek past Firing Range*	No Box, Removed in 2006	N/A	N/A	N/A	N/A	N/A	N/A
11	Waste Settling Pond Area	N 31° 13.251′, W 85° 6.425′	2007	N	N	N/A	N/A	N
12	North bank, Snake Creek Swamp	N 31° 13.234′, W 85° 6.329′	?	Y	Y	Y	N	N
13	North end, Small Steam	N 31° 13.248′, W 85° 6.163′	?	Y	N	N	N	N
14	South end, Small Steam	N 31° 13.175′, W 85° 6.159′	?	N	N	Y	Y	Y
15	*NE corner, Snake Creek Swamp*	No Box, Possible future location	N/A	N/A	N/A	N/A	N/A	N/A
16	*SE corner, Snake Creek Swamp*	No Box, Possible future location	N/A	N/A	N/A	N/A	N/A	N/A
17	*Small Pond below Cooling Towers*	No Box, Possible future location	N/A	N/A	N/A	N/A	N/A	N/A
18	Osprey Pond	N 31° 13.354′, W 85° 6.275′	2007	Y	Y	Y	N/A	N/A
19	NW Corner, Service Water Pond	N 31° 13.064′, W 85° 7.738′	?	N	N	N	N	N
20	*NW Corner, Service Water Pond*	No Box, Possible future location	N/A	N/A	N/A	N/A	N/A	N/A

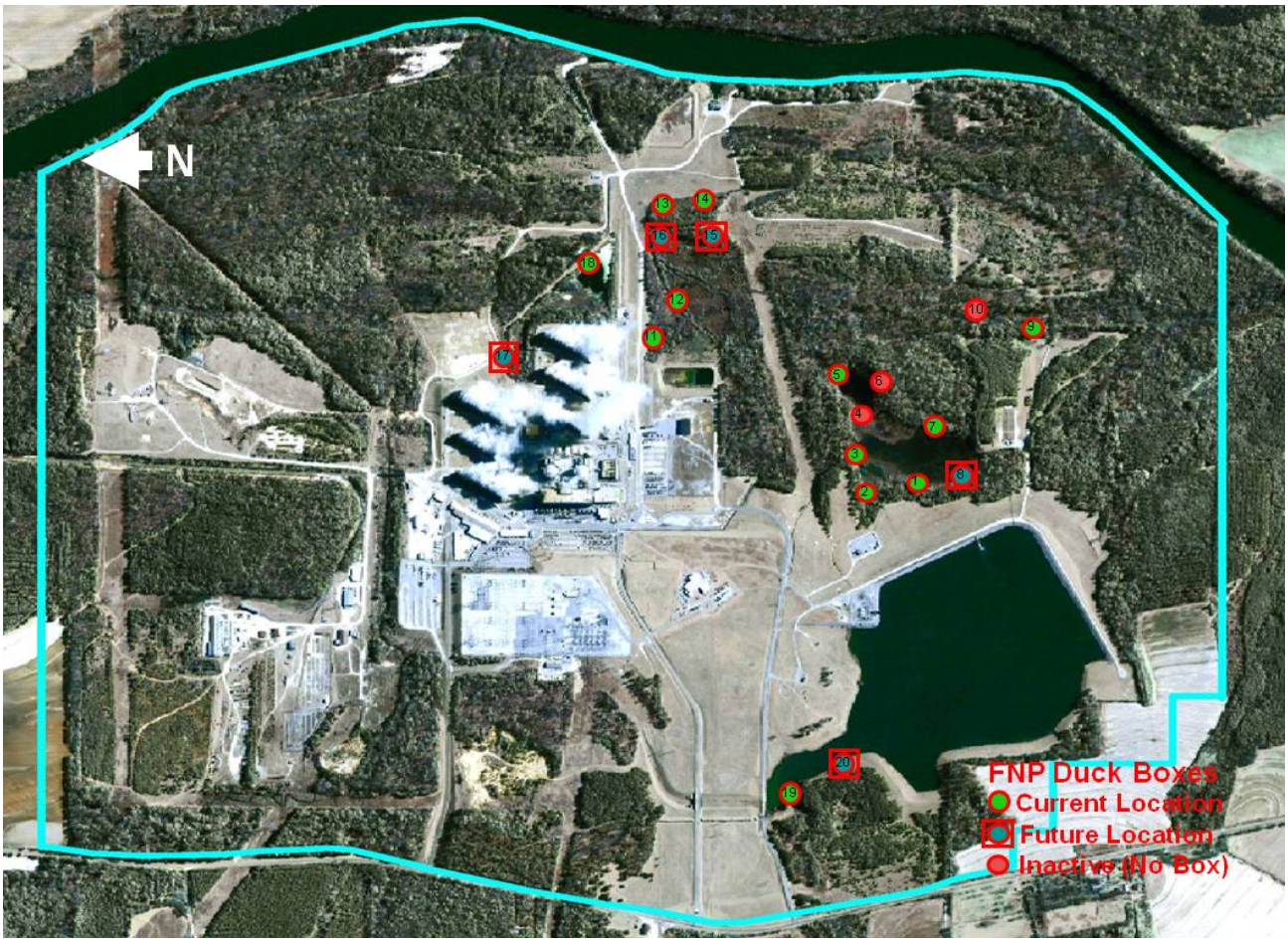
Farley Wood Duck Seasonal Log

WOODDUCK
2012 Season Nestbox Logsheet
Monitored by: Tim Baker / Michael Long

BOX NUMBER	Date	Activity Y/N	Description of eggs, Notes	Comments
1	2-21-13	N	No Activity	Cleaned Brush from in front of Box. Cleaned out wasp nest
2	2-21-13	N/A	N/A	Tree fallen on top of box Need New Box
3	2-21-13	N	No Activity	Added Mulch, Repaired Box
4			No Box	Possibly Activate in 2013 (box from #9)
5	2-21-13	N	No Activity	Added Mulch Difficult to access retire in 2013
6			No Box	Possibly Activate in 2013 (box from #11)
7	2-21-13	Y	Eggs / Feathers	Did Not Disturb
8	N/A	N/A	Possible Future Location	SW corner of beaver pond
9	2-21-13	N	No Activity	Added Mulch WILL RETIRE IN 2013
10			No Box	
11	2-21-13	N	No Activity	Poor Location WILL RETIRE IN 2013
12	2-21-13	N	No Activity	Cleaned out wasp nest
13	2-21-13	Y	Eggs / Feathers	Did Not Disturb
14	2-21-13	Y	Eggs	Did Not Disturb
15	N/A	N/A	Possible Future Location	West of #13 and #14 East side of WSP swamp
16	N/A	N/A	Possible Future Location	West of #13 and #14 East side of WSP swamp
17	N/A	N/A	Possible Future Location	Upper pond north of STP beaver pond
18	2-21-13	N/A	N/A	Unable to access. Need new box closer to bank
19	2-21-13	N	No Activity	Needs door repair
20	N/A	N/A	Possible Future Location	South of Number 19 at Svc. Water Pond

Duck Box Door: 1 x 5 x 9.5

Farley Bluebird Nest Box Locations



Farley Bluebird Nestbox Log

2013 Bluebird Nestbox Yearly Totals

Box No.	Location	No. of Nestings	Total # of Eggs	Total # of Babies	Total # of Fledglings	Comments
1	Hwy 95 Fence (N of Main Gate)	2	9	9	9	
2	Hwy 95 Fence (N of Main Gate)	1	5	4	4	
3	Hwy 95 Fence (S of Main Gate)	1	4	4	4	
4	Hwy 95 Fence (N of South Gate)	1	4	4	4	
5	Main Gate Road (5th light pole on right)	1	4	3	3	
6	Main Gate Road (7th light pole on left)	1	4	4	4	
7	Main Gate Road (Behind PEDS)	0	0	0	0	Wrens Only - Consider Relocating Box
8	Main Road from bridge to "Y" (1st light pole on left)	1	5	5	3	Ants
9	Road from barrier to "Y" (last light pole on left before "Y")	0	0	0	0	Wasp
10	Road from "Y" to ES (light pole next to digital sign)	1	5	5	5	
11	Training Center (2nd light pole on drive)	0	0	0	0	Box fell, Will be replaced
12	Training Center (N side of MTN TRN parking lot)	1	5	4	4	
13	Training Center (Power pole behind flow loop sim)	2	8	8	8	
14	Training Center (Post outside of Visitors Center)	1	6	5	5	
15	Road from "Y" to Warehouse (light pole next to stop sign)	1	3	3	3	
16	Road from "Y" to SB (west of SB annex parking lot)	0	0	0	0	Wrens Only -
17	Road from "Y" to SB (S of curve)	1	4	2	2	
18	Road from "Y" to SB (stop sign south of MTN TRN)	2	4	3	3	
19	Road from "Y" to SB (2nd light pole on left after "Y")	1	3	3	3	

20	Road to Service Water Pond (N side of road)	0	0	0	0	Wasp
21	Service Water Pond (W of pavillion)	2	6	5	5	
22	Service Water Pond (S of pavillion)	1	4	4	4	
23	Road to Firing Range (E side of road)	1	3	2	2	
24	Road to Firing Range (S side of road, before gate)	1	4	4	4	
25	South side of Fire Training Facility	0	0	0	0	Box should be relocated (located in Tall Grass)
26	Road to River (Pull boxes below STP)					
27	Road to washout past blind curve (E sife of road)	1	2	0	0	Box needs to be replaced - Ants
28	Road to River (S of road to barge slip)	1	3	3	3	Box needs to be replaced
29	Road to River (NW of RW Intake)	0	0	0	0	Box needs to be replaced
30	Road to River (SW of RW Intake)					
31	Road to River (RW Discharge)	0	0	0	0	Box needs to be replaced and Relocated
Total Numbers		25	95	84	82	

Farley Osprey Platform Log

FNP OSPREY NESTING LOG		
Year	Date Observed	Observations
2008	2/18/2008 5/2/2008 6/15/2008 9/2/2008	One osprey observed on platform with small amount of nesting material. Pair of ospreys observed on and around the platform. One, almost mature chick found dead below the platform. Appears to be one chick on the platform with parent. No more activity.
2009	3/5/2009 4/30/2009 6/25/2009 8/10/2009	One osprey observed on platform with small amount of nesting material. Pair of ospreys on and around platform with nest. Pair of ospreys with one (?) chick. Have not seen more than 3 birds at a time around the platform. No more activity. Remains of nest are still on the platform.
2010	2/25/2010 4/20/2010 6/15/2010	One osprey observed on platform. Pair of ospreys on and around the platform. Saw one returning with a fish. Pair of ospreys and appears to be 1 chick. Have not seen more than 2 mature birds at a time.
2011	3/17/2011	Pair of ospreys observed on and around the platform bringing nest materials to the platform.
2012	6/2/2012	Pair of ospreys observed on and around a distribution pole near the platform. The platform appears to be degraded and tilted to one side. Will need to be replaced.
2013	2/28/2013 3/25/2013 5/3/2013	Pair of ospreys have already begun to build a new nest on the platform, preventing the scheduled replacement of the platform. We will have to wait until the end of the nesting season for replacement. Southeast Division has a new platform that they will use to replace the current one. Pair of ospreys are using the nest. Pair of ospreys still using the nest. Cannot determine if or how many chicks.

Farley Purple Martin Log

Purple Martin Log

Date Checked	Location	Type of Units	Number of Units	Number of units used	Comments
3/10/2010	Waste Settling Pond	Guords	16		Couple of birds around the guords
6/15/2010	Waste Settling Pond	Guords	16		Several purple martins observed using the guords
6/15/2010	Plant Entrance	Condo	8		No apparent activity
3/17/2011	Waste Settling Pond	Guords	16		Observed several martins in and around the guords
3/17/2011	Plant Entrance	Condo	8		No apparent activity
11/10/2011	Waste Settling Pond	Guords	16	7	Cleaned out nests from 2011 nesting season
11/10/2011	Plant Entrance	Condo	8	0	No activity
7/8/2012	Waste Settling Pond	Guords	16	NA	Martins around the gourds
7/8/2012	Plant Entrance	Condo	8	NA	No apparent activity
1/31/2013	Waste Settling Pond	Guords	16	13	Cleaned out nests from 2012 nesting season
1/31/2013	Plant Entrance	Condo	8	0	No activity from previouis year
2/27/2013	Waste Settling Pond	Gourds	16	NA	Four martins on structure, possibly scouts
2/27/2013	Service Water Pond	Gourds	16	NA	Erected new structure
2/27/2013	Plant Entrance	Condo	8	NA	No apparent activity
5/15/2013	Waste Settling Pond	Gourds	16	NA	Observed several martins in and around the guords
5/15/2013	Service Water Pond	Gourds	16	NA	Observed several martins in and around the guords
5/15/2013	Plant Entrance	Condo	8	NA	No apparent activity

Attachment B – Documentation

Project 2 – Cooperative habitat management for native wildlife

Receipt from Conservation Southeast Inc. for preliminary assessment of Gopher Tortoise habitat and population

FROM: Mark Bailey

INVOICE

BILL TO: Alabama Power Company
Attn: Jim Lochamy, JSLOCHAM@SOUTHERNCO.COM
P.O. Box 2641, GSC #8
Birmingham, AL 35291

INVOICE NUMBER	INVOICE DATE
10090	11/01/12

RE: Contract 1-07-00958
Farley Plant Gopher Tortoise Preliminary Assessment

	Description of Work	Hours	Rate	Amount
10/22/2012	Mapping, prep	2	$ 120.00	$ 240.00
10/23/2012	Travel, field survey	8	$ 120.00	$ 960.00
			Subtotal	$ 1,200.00

	Travel	Miles	Rate	Amount
10/23/2012	Andalusia => Farley Plant => Andalusia	184	$ 0.50	$ 92.00
			Subtotal	$ 92.00
			TOTAL	$ 1,292.00

Please Remit To: Conservation Southeast Inc.
12319 Brookwood Road
Andalusia, AL 36420

(334) 312-4258

Fed. I.D. No. 75-3104323

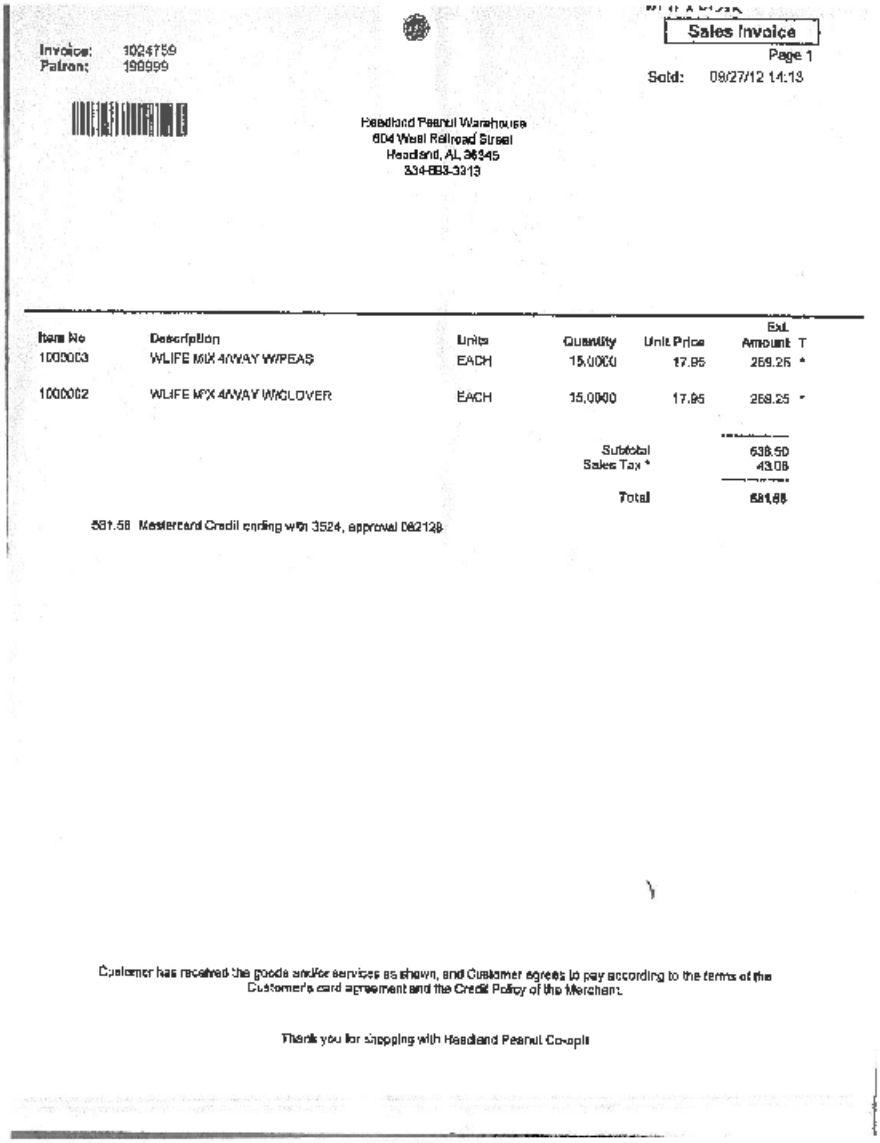
Plant Farley Deer Hunting Zones

Plant Farley Deer Hunting Log

2011 - 2012 Farley Bowhunters Deer Harvest Record

Num.	Name	Date	Zone	Sex	Weight	Points	Antler Measurements					Jawbone
							Inside Spread	Basal Circumference		Main Beam Length		
								Left	Right	Left	Right	
1	Delong	10/15/2011	19	F	90	N/A	N/A	N/A	N/A	N/A	N/A	Y
2	Delong	10/25/2011	20	F	95	N/A	N/A	N/A	N/A	N/A	N/A	Y
3	Delong	10/25/2011	20	F	105	N/A	N/A	N/A	N/A	N/A	N/A	Y
4	Youngblood	10/26/2011	16	F	85	N/A	N/A	N/A	N/A	N/A	N/A	Y
5	Youngblood	11/9/2011	1B	F	80	N/A	N/A	N/A	N/A	N/A	N/A	Y
6	Hubbard	11/12/2011	8	M	155	7	14	4 1/2	4 1/2	19 1/4	19 3/8	Y
7	Delong	11/12/2011	15	M	120	8	12	4	4	14	14	Y
8	Webb	11/30/2011	20	F	85	N/A	N/A	N/A	N/A	N/A	N/A	Y
9	Williams	12/2/2011	8	M	87	2	N/A	N/A	N/A	N/A	N/A	Y
10	Thornton	12/3/2011	24	F	95	N/A	N/A	N/A	N/A	N/A	N/A	Y
11	Hubbard	12/3/2011	25	F	95	N/A	N/A	N/A	N/A	N/A	N/A	Y
12	Towns	12/13/2011	14	F	90	N/A	N/A	N/A	N/A	N/A	N/A	Y
13	Towns	12/13/2011	14	F	110	N/A	N/A	N/A	N/A	N/A	N/A	Y
14	Hubbard	12/16/2011	5C	M	180	9	13	5	4 3/4	19	19 1/2	Y
15	Whaples	12/17/2011	5	F	107	N/A	N/A	N/A	N/A	N/A	N/A	Y
16	Towns	12/28/2011	14	F	85	N/A	N/A	N/A	N/A	N/A	N/A	Y
17	Riley	12/28/2011	16	M	110	8	11	3 1/4	3 1/4	14	12 1/2	Y
18	Riley	1/4/2012	15	F	65	N/A	N/A	N/A	N/A	N/A	N/A	Y
19	Towns	1/4/2012	14	M	140	8	16 1/2	4 1/2	4 3/4	21 3/8	21	
20	Webb	1/5/2012	18	M	90	2	N/A	N/A	N/A	N/A	N/A	Y
21	Watts	1/7/2012	21	M	85	UN-ANTLERED		N/A	N/A	N/A	N/A	Y
22	Delong	1/7/2012	21	M	90	2	N/A	N/A	N/A	N/A	N/A	Y
23	Riley	1/4/2012	16	M	85	2	N/A	N/A	N/A	1 1/2	1 1/2	Y
24												
25												

Supplemental Wildlife Food Plot Receipt



Sales Invoice
Page 1

Invoice: 1024759
Patron: 199999

Sold: 09/27/12 14:13

Headland Peanut Warehouse
604 West Railroad Street
Headland, AL 36345
334-693-3313

Item No	Description	Units	Quantity	Unit Price	Ext. Amount	T
1000003	WLIFE MIX 4WAY W/PEAS	EACH	15.0000	17.95	269.25	*
1000002	WLIFE MIX 4WAY W/CLOVER	EACH	15.0000	17.95	269.25	*

Subtotal	538.50
Sales Tax *	43.08
Total	581.58

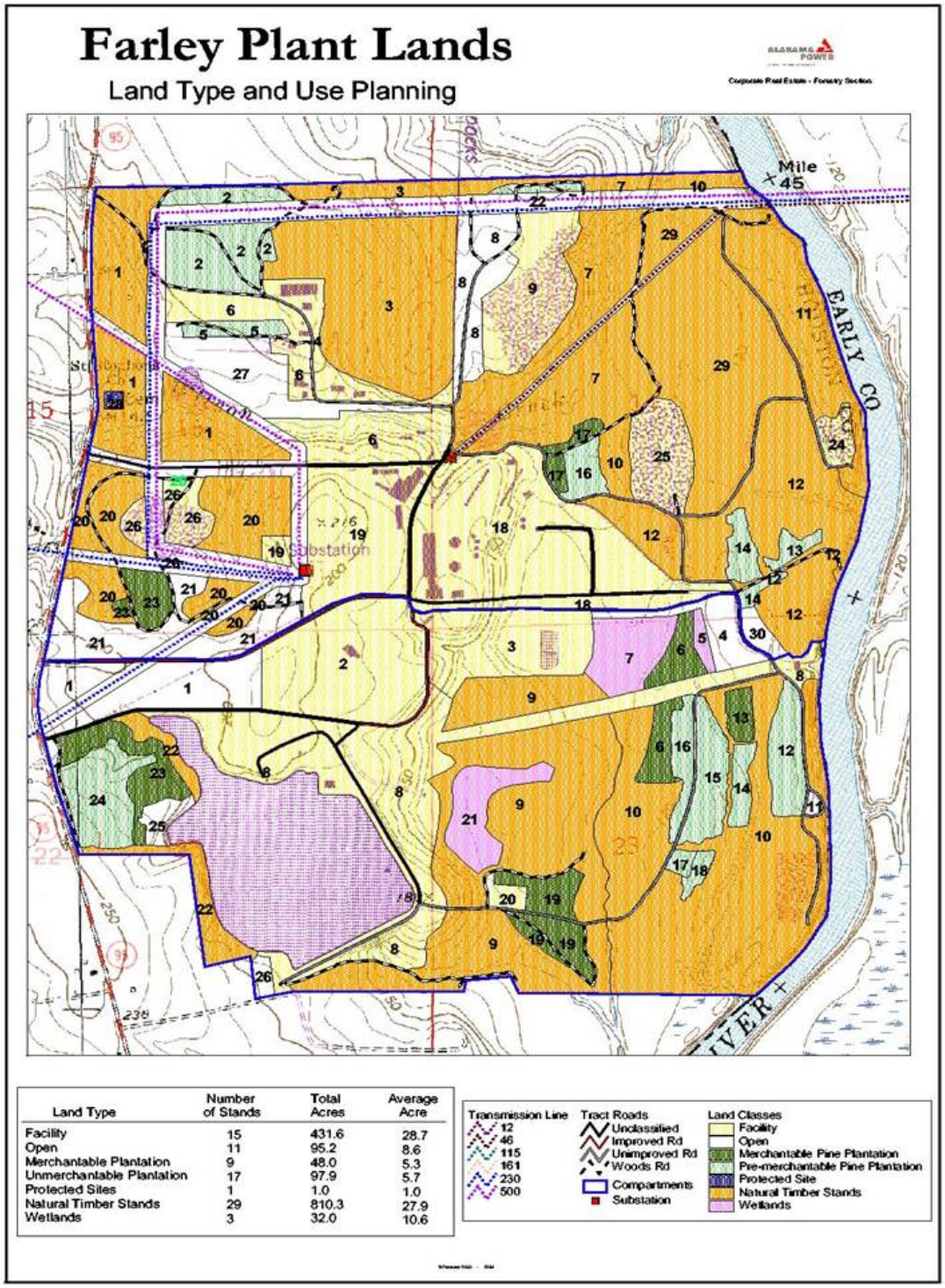
581.58 Mastercard Credit ending with 3524, approval 082128

Customer has received the goods and/or services as shown, and Customer agrees to pay according to the terms of the Customer's card agreement and the Credit Policy of the Merchant.

Thank you for shopping with Headland Peanut Co-op!!

Attachment C - Documentation

Project 4 – Cooperative Habitat Enhancement



Land Type	Number of Stands	Total Acres	Average Acre
Facility	15	431.6	28.7
Open	11	95.2	8.6
Merchantable Plantation	9	48.0	5.3
Unmerchantable Plantation	17	97.9	5.7
Protected Sites	1	1.0	1.0
Natural Timber Stands	29	810.3	27.9
Wetlands	3	32.0	10.6

Transmission Line: 12, 46, 115, 161, 230, 500

Tract Roads: Unclassified, Improved Rd, Unimproved Rd, Woods Rd, Compartments, Substation

Land Classes: Facility, Open, Merchantable Pine Plantation, Pre-merchantable Pine Plantation, Protected Site, Natural Timber Stands, Wetlands

Invasive Species Control

Timeframe	Invasive Species	Location	Plans / Results
Summer - 2010	Cogan Grass	Along dirt road below the U-2 Cooling Towers	Most likely came off the log trucks during the 2009 timber cutting operations. The grass was sprayed with herbicide in fall 2010.
Spring - 2013	Cogan Grass	Laydown area on top of the hill, on the west side of the high voltage switchyard.	Alabama Power Forestry notified. Scheduled to be sprayed in the Fall, 2013.
Spring - 2013	Cogan Grass	Behind (west) the large laydown area in Complex III	Alabama Power Forestry notified. Scheduled to be sprayed in the Fall, 2013.
Spring - 2013	Feral Hogs	They are concentrated in zones 10, 12, 13, particularly in the clear-cut are in zone 12, branching out to zones 13, 14, 15, 16.	Work with USDA Wildlife Services (Dana Johnson) on plan to trap and erradicate. Should be completed in Summer - 2013.

Attachment D – Species Inventory

	Common Name	***Scientific Name***
Birds	Red-Winged Blackbird	*Agelaius phoeniceus*
	Eastern Bluebird	*Sialia sialis*
	Blue Jay	*Cyanocitta cristata*
	Cardinal	*Richmondena cardinali*
	Chickadee	*Parus spp*.
	Chuck-Wills-Widow	*Caprimulgus carolinensis*
	Common Crow	*Corvus brachyrnynchos*
	Mourning Dove	*Zenaida macroura*
	Mallard Duck	*Anas platyrnhyncos*
	Ring Neck Duck	*Aythyna collaris*
	Wood Duck	*Aix sponsa*
	Bald Eagle	*Haliaeetus leucocephalus*
	Egret	*Bubulcus ibis*
	Canada Goose	*Branta canadensis*
	Cooper's Hawk	*Accipiter cooperii*
	Red-shouldered Hawk	*Buteo lineatus*
	Red-tailed Hawk	*Buteo jamaicensis*
	Great Blue Heron	*Ardea herodias*
	Ruby-throated Hummingbird	*Archilochus colobris*
	American Kestrel	*Falco sparverius*
	Purple Martin	*Progne subis*
	Mockingbird	*Mimus ployglottos*
	Nuthatch	*Sitta spp.*
	Osprey	*Pandion haliaetus*
	Barred Owl	*Strix varia*
	Eastern Screech Owl	*Otus asio*
	Great Horned Owl	*Bubo virginianus*
	Northern Bobwhite Quail	*Colinus virginianus*
	Bachman's Sparrow	*Aimophila aestivalis*
	Titmouse	*Parsus spp.*
	Wild Turkey	*Meleagris gallopavo*
	Black Vulture	*Coragyps atratus*
	Turkey Vulture	*Cathartes aura*
	Pileated Woodpecker	*Dryocopus pileatus*
	Red-cockaded Woodpecker	*Picoides borealis*
	Wren	*Thryothorus spp*.
	Carolina Wren	*Thryothorus ludovicianus*
Mammals	Armadillo	*Dasypodidae*
	Beaver	*Castor canadensis*
	Bobcat	*Felis rufus*
	Eastern Chipmunk	*Tamias striatus*
	White-tailed Deer	*Odocoileus virginianus*
	Gray Fox	*Urocyon cinereoargenteus*
	Cotton Mouse	*Peromyscus gossypinus*

	Oldfield Mouse	*Peromyscus polionotus*
	Virginia Opossum	*Didelphis virginiana*
	Eastern Cottontail Rabbit	*Sylvilagus floridanus*
	Swamp Rabbit	*Sylvilagus aquaticus*
Mammals	Raccoon	*Procyon lotor*
(Continued)	Striped Skunk	*Mephitis mephitis*
	Fox Squirrel	*Sciurus niger*
	Flying Squirrel	*Glaucomys volans*
	Gray Squirrel	*Sciurus carolinensis*
Reptiles and	Alligator	*Alligator mississippiensis*
Amphibians	Gopher Tortoise	*Gopheris polyphemus*
	Black Indigo Snake	*Drymarchon corais couper*
	Cottonmouth	*Agkistrodon Piscivorus*
	Eastern Diamondback	*Crotalus adamanteus*
	Eastern King Snake	*Lampropeltis getulus*
	Scarlet King Snake	*Lampropeltis triangulum*
	Gray Rat Snake	*Elaphne obsoleta s*piloides
	Racerunner	*Cnemidophorous*
	Southern Black Racer	*Coluber constrictor*
	Timber Rattlesnake	*Crotalus horridus*
	Southern Copperhead	*Agkistrodon contortrix contortrix*
	Skink	*Eumeces*
	Green Tree Frog	*Hyla Cinerea*
Fish	Largemouth Bass	*Micropterus salmoides*
	Striped X White Bass	*Morone sp.*
	White Bass	*Morone chrysops*
	Bowfin	*Amia calva*
	Smallmouth Buffalo	*Ictiobus bubalus*
	Common Carp	*Cyprinus carpio*
	Channel Catfish	*Ictalurus punctatus*
	White Catfish	*Ictalurus catus*
	Lake Chubsucker	*Erimyzon sucetta*
	Black Crappie	*Pomoxis nigromaculatus*
	White Crappie	*Pomoxis annularis*
	Spotted Gar	*Lepisosteus oculatus*
	Longnose Gar	*Lepisosteus osseus*
	Greater Jumprock	*Moxostoma lachneri*
	Needlefish	*Strongylura marina*
	Chain Pickerel	*Esox niger*
	Redfin Pickerel	*Esox americanus*
	River Redhorse	*Maxostoma carinatum*
	Gizzard Shad	*Dorosoma cepedianum*
	Threadfin Shad	*Dorosoma petenense*
	Blacktail Shiner	*Notropis venustus*
	Bluestripe Shiner	*Cyprinella callitaenia*
	Brook Silverside	*Labidesthes sicculus*
	Spotted Sucker	*Minytrema melanops*
	Bluegill Sunfish	*Lepomis macrochirus*
	Green Sunfish	*Lepomis cyanellus*

	Orangespotted Sunfish	*Lepomis humilis*
	Redbreast Sunfish	*Lepomis auritus*
	Redear Sunfish	*Lepomis microlophus*
Trees	Apple	*Malus malus*
	Eastern Red Cedar	*Juniperus virginiana*
	Cherry	*Prunus spp.*
	Black Cherry	*Prunus serotina*
	Red Chokeberry	*Aronia arbutifolia*
	Eastern Cottonwood	*Populus deltoides*
	Crabapple	*Malus spp.*
	Alternate Leaf Dogwood	*Cornus alterniflora*
	Flowering Dogwood	*Cornus florida*
	Elm	*Ulmus spp.*
	Groundsel Tree	*Baccharis halimifolia*
	Hackberry	*Celtis occidentalis*
	Hawthorn	*Crataegus spp.*
	Mockernut Hickory	*Carya tomentosa nutt*
	Laurel	*Kalmia spp.*
	Southern Magnolia	*Magnolia grandiflora*
	Red Maple	*Acer rubrum*
	Blackjack oak	*Quercus marilandica*
	Bluejack oak	*Quercus incana*
	Chapman oak	*Quercus chapmanii*
	Laurel oak	*Quercus laurifolia*
	Live oak	*Quercus virginiana*
	Myrtle oak	*Quercus myrtifolia*
	Overcup oak	*Quercus lyrata*
	Post oak	*Quercus stallata*
	Sawtooth Oak	*Quercas acutissima*
	Southern red oak	*Quercus falcata*
	Swamp chestnut oak	*Quercus michauxii*
	Turkey oak	*Quercus laevis*
	Water Oak	*Quercas nigra*
	White Oak	*Quercus alba*
	Willow oak	*Quercus phellos*
	Common Persimmon	*Diosporys virginianus*
	Loblolly Pine	*Pinus taeda*
	Longleaf Pine	*Pinus palustris*
	Shortleaf Pine	*Pinus echinata*
	Spruce Pine	*Pinus glabra*
	Eastern Redbud	*Cercis canadensis*
	Sassafras	*Sassafras albidum*
	Sweetbay	*Magnolia virgianiana*
	Sweetgum	*Liquidambar styraciflua*
	Sycamore	*Platanus occidentalis*
	Tuliptree	*Liriodendron tulipifera*
	Willow	*Salix spp.*
	Witch-hazel	*Hamamelis virginiana*
Shrubs	American Beautyberry	*Callicarpa americana*

	Bittersweet	*Celastrus scandens*
Shrubs	Common Buttonbrush	*Cephalanthus occidentalis*
(Continued)	Common Chokecherry	*Prunus virginiana*
	Trumpet Creeper	*Campsis radicans*
	Silky Dogwood	*Cornus obliqua*
	Common Elderberry	*Sambucus canadensis*
	American Holly	*Ilex opaca*
	Yaupon Holly	*Ilex vomitoria*
	Bush Honeysuckle	*Lonicera spp.*
	Trumpet Honeysuckle	*Lonicera sempervirens*
	Lilac	*Syringa spp.*
	Sweetbay Magnolia	*Mangolia virginiana*
	Wild Plum	*Prunus americana*
	Possumshaw	*Ilex decidua*
	Spicebush	*Lindera benzoin*
	Sumac	*Rhus spp.*
	Winterberry	*Ilex verticillata*
Annuals	Annual Gaillardia	*Gaillardia pulchella*
	Smartweed	*Polygonum spp.*
	Sunflower	*Helianthus*
	Tickseed Sunflower	*Centaurea cyanus*
Perennials	Smooth Aster	*Aster laevis*
	Beardtongue	*Penstemon grandifloris*
	Bee Balm	*Monarda didyma*
	Purple Bergamot	*Monarda media*
	Blazing Star	*Liatris pycnostachya*
	Bluebell	*Campanulaceae spp.*
	Butterfly Weed	*Asciepias tuberosa*
	Clover	*Trifolium spp.*
	Columbine	*Aquilegia coerulea*
	Purple Coneflower	*Echinacea purpurea*
	Lance-leaved Coreopsis	*Coreopsis lanceolata*
	Figwort	*Scrophularia spp.*
	Fireweed	*Epilobium angustifolium*
	Wild Geranium	*Geranium maculatum*
	Scented Goldenrod	*Solidago odora*
	False Indigo	*Baptisia leucantha*
	Ironweed	*Veronia altissima*
	Spring Larkspur	*Delphinium tricorne*
	Fawn Lily	*Erythonium americanum*
	Canada Milk Vetch	*Astragalus canadensis*
	Milkweed	*Asclepias spp.*
	Swamp Milkweed	*Asclepias incarnata*
	Indian Paintbrush	*Castilleja coccinea*
	Carolina Wild Petunia	*Ruellia caroliniensis*
	Plantain	*Plantago spp.*
	Evening Primrose	*Oenothera biennis*
	Lyre-leaved Sage	*Salvia lyrata*
	Shooting Star	*Dodecatheon meadia*

Perennials (Continued)	Sweet William	*Dianthus barbatus*
	Thistle	*Cirsium spp.*
	Red Turtlehead	*Chelone obliqua*
Grasses	Alfalfa	*Medicago sativa*
	Little Bluestem	*Andropogon scoparius*
	Broomsedge	*Andropogen virginicus*
	Sheep Fescue	*Festuca ovina glauca*
	Nettle	*Urtica spp.*
	False Nettles	*Boehmeria cylindrica*
	Switchgrass	*Panicum virgatum*
	Zebra grass	*Miscanthus sinensis gracillimus*