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U.S. DEPARTMENT OF AGRICULTURE – AGRICULTURAL RESEARCH SERVICE

Subtropical Agricultural Research Station

Land Transfer

Brooksville, Florida

DRAFT ENVIRONMENTAL ASSESSMENT

February 2015
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1.0 INTRODUCTION AND PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

This Draft Environmental Assessment (EA) is intended to evaluate the proposed transfer of land and facilities from the U.S. Department of Agriculture–Agricultural Research Service (USDA-ARS) Subtropical Agricultural Research Station (STARS) in Brooksville, Florida, to Florida Agricultural and Mechanical University (FAMU). As required by the National Environmental Policy Act (NEPA), to give proper consideration to the environment prior to disposing of the above-referenced properties, USDA-ARS and FAMU prepared this NEPA analysis identifying potential environmental consequences associated with how the properties would be used. Title 40 of the Code of Federal Regulations (CFR) Parts 1500-1508; USDA regulations, specifically 7 CFR Part 1b; and ARS regulations, specifically 7 CFR Part 520, require the development of an EA or Environmental Impact Statement (EIS) for the transfer of land and facilities. Therefore, this Draft EA has been prepared to evaluate the transfer of land and facilities and their future proposed uses, according to FAMU’s proposed Plan of Work. The properties to be transferred to FAMU comprise approximately 3,800 acres of land in four separate sites and facilities located in Hernando County, Florida. The four properties are: Robins’ Donation 1 (RD1), Robins’ Donation 2 (RD2), Bankhead Jones 1 (BJ1), and Bankhead Jones 2 (BJ2) (together also referred to as the Brooksville sites) (Figure 1-1).

The proposed transfer of land is from the United States of America, acting by and through USDA-ARS by the Secretary of Agriculture (Secretary), to FAMU. The proposed transfer would be in accordance with Section 732 of Public Law (P.L.) 112-55, as extended under P.L. 113-76, 2014 Consolidated Appropriations Act, which authorizes the Secretary to convey, with or without consideration, certain ARS facilities to entities that are eligible to receive real property, including: land-grant colleges and universities (as defined in Section 1404(13) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977); 1994 Institutions (as defined in Section 532 of the Equity in Educational Land-Grant Status Act of 1994); and Hispanic-serving agricultural colleges and universities (as defined in Section 1404(10) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977). Under P.L. 113-76, the conveyance authority expires on September 30, 2015, and all conveyances must be completed by that date. FAMU would assume responsibility and maintenance of the facilities and land to be conveyed from USDA-ARS.

In accordance with the March 1, 2014, Memorandum of Understanding (MOU) executed between the United States Government, represented by the Secretary, and the University Board of Trustees, upon transfer to FAMU, the land will be used for agricultural and natural resources research for a period of no less than 25 years.
This Draft EA has been prepared pursuant to Section 102(2) (c) of NEPA (42 USC 4331 et seq.), the regulations of the Council on Environmental Quality (CEQ) that implement NEPA procedures (40 CFR 1500-1508). The information presented within this document will serve as the basis for deciding whether implementing the proposed action would result in a significant impact to the environment, requiring the preparation of an EIS, or result in no significant impacts, indicating that a Finding of No Significant Impact would be appropriate.

FAMU prepared a Plan of Work that describes its proposed activities for the properties (properties are described in Section 1.3). In the plan, FAMU identifies the following proposed uses for the land and facilities to be transferred:

- Conduct agricultural and natural resource research that will benefit the nation, state, and local communities;
- Develop and implement Beginning Farmers and Ranchers Development Program and outreach projects;
- Develop and implement socio-economic projects that will enable the Brooksville sites (RD1, RD2, BJ1, and BJ2) to be economically viable and self-sustaining;
- Develop youth development and experiential learning and training opportunities for students at all grade levels;
- Develop and showcase demonstrations designed for various alternative agricultural enterprises from current and future program areas in FAMU; and
- Engage faculty from FAMU and other universities to participate in various research projects.

FAMU used information contained in the Phase I and II environmental site assessments (ESA) conducted for the properties to develop its Plan of Work. As detailed in the Plan of Work, the following factors were considered:

- **Maintaining FAMU’s land-grant identity.** FAMU would ensure that its research, teaching, and outreach activities at the properties contribute to and strengthen its land-grant mission.

- **Maximum use of existing resources.** USDA-ARS used the properties as a beef cattle research station and, as such, all the land assets were put into pasture to support the research in the area. The proposed research projects would, therefore, leverage this resource base by focusing on animal grazing and pasture operation while incorporating various agronomic and horticultural cropping systems to expand the agricultural base of farming clientele. Existing pastures would be maintained and improved where necessary to support livestock research projects. Other agricultural enterprises would be added as farmer needs and financial resources are identified.
• **Use of existing buildings and other infrastructure.** The existing buildings—offices, storage facilities, accommodations, and silos—would be cleaned and put to their original use. Infrastructure such as roads and fences would be maintained to support livestock operations and other enterprises on site.

• **Protecting the natural resource base.** Maintaining and protecting the natural resource base of the area would be a top priority. The lake area, watershed, wetlands, and other sensitive areas would be maintained, protected, and enhanced, where necessary.

• **Minimum environmental impact.** The proposed research and outreach projects would not have any adverse environmental impact on lands around the area. Best management practices (BMPs) would be used by all parties involved at the Brooksville sites.

• **Sustainability.** It is essential that the research projects be sustainable. FAMU has recently initiated a Sustainability Institute that will provide leadership in ensuring that any enterprise initiated by the FAMU: (1) enhances the academic and research mission of FAMU; (2) improves efficiencies and environmental stewardships of all FAMU operations; and (3) provides outreach and engages FAMU and broader communities.

• **Resource limitations.** Limited funds (capital and operating) would be available from FAMU. This would dictate the management style, research, and extension activities at the Brooksville sites.

### 1.2 BACKGROUND

#### 1.2.1 USDA-ARS STARS

The STARS was a cooperative research unit of USDA-ARS and the University of Florida’s Institute of Food and Agricultural Sciences (UF/IFAS), in support of the beef cattle industry, particularly for producers in the subtropical zones of the United States. The UF/IFAS staff, research scientists, and students conducted research and performed numerous agricultural-related projects and tasks on the USDA-ARS properties and worked primarily with university-owned cattle. The UF/IFAS staff was responsible for the animals and for all activities and equipment related to care and well-being of the livestock. Cattle used for research at STARS included approximately 600 head of breeding females with a total of approximately 1,000 head of cows, calves, and bulls (USDA 2011).

The unit was one of the 10 units designated for closure in the Fiscal Year 2012 Presidential budget and was closed in 2012.
1.2.2 **Florida Agricultural and Mechanical University**

FAMU was founded on October 3, 1887, as the State Normal College for Colored Students and is part of the State University System of Florida. The College of Agriculture and Food Sciences (CAFS) is a significant academic component of FAMU that focuses on professions related to agriculture and food sciences.

1.2.3 **City of Brooksville**

Brooksville is an incorporated city in Hernando County, Florida. The county seat of Hernando County, it is located northeast of the Tampa-St. Petersburg-Clearwater, Florida Metropolitan Area. As Figure 1-2 shows, the four USDA-ARS properties are located north and northeast of the city of Brooksville.

1.3 **DESCRIPTION OF THE PROPERTIES**

This section describes the four USDA-ARS properties and adjacent areas.

1.3.1 **Robins' Donation 1 (RD1)**

**Site Description:** This property is approximately 140 acres located north of State Road 485B (Yontz Road), west of Karry Creek Lane, and east of Joyce Drive, north of Brooksville (see Figure 1-3). The site contains structures that were used for cattle management operations and supported agricultural research. USDA-ARS refers to this property as the “CCC camp” because, during the 1930s, the property was used as a Civilian Conservation Corps (CCC) camp. However, there are no remaining structures from that time. Portions of the site were previously used for cattle grazing, but none of the properties currently house livestock.

The only point of access to the site is through a gate at the northeast corner, at the end of Ted Road. There are no roads on the property, and the acreage consists of a mixture of cleared and wooded land. The northern quadrant is a mixture of wooded and cleared land, while the southern quadrant consists of densely wooded land. Wetlands are present in the wooded areas of the northeast and southern quadrants.

No buildings exist on RD1, but the property contains a cattle holding pen and loading area in the northeast quadrant, adjacent to the gate leading into the property. Onsite utilities include an active water well and electrical meter, which were previously used to provide water to a cattle trough in the northwest quadrant of the property.

**Adjacent Properties:** RD1 is largely surrounded by rural property, mainly undeveloped wooded land with a few scattered, single-family residences. Two mobile home parks and a church are east of the property. A church is also located just west of the property.
Figure 1-2 Properties to be Transferred
Figure 1-3 Robins’ Donation 1
Figure 1-4 Robins’ Donation 2
1.3.2 Robins’ Donation 2 (RD2)

Site Description: This property is approximately 788.5 acres at 22271 Chinsegut Hill Road, northwest of Highway 45/Highway 41 (Broad Street) and west of County Road 581 (Snow Memorial Highway), northeast of Brooksville (see Figure 1-4). The site contains buildings that were used for office/administration and laboratory and supported agricultural research. USDA refers to this property as the “Main Station.”

RD2 consists primarily of open pastures with some wooded areas in the northern and the southwestern quadrants of the property west of Lake Lindsey. The southern shore of Lake Lindsey encroaches onto the property’s northeastern quadrant.

Twenty-two buildings and structures are located on RD2, most in the east-central quadrant. These buildings/structures include administrative/office buildings, a laboratory, a residence, garages, storage buildings, workshops, barns, sheds, cattle handling pens, feed lots, feed silos, an assembly hall, water well structures, livestock handling areas, and other small structures. Most of the buildings/structures were constructed in the 1930s, with occasional new construction occurring from the late 1950s through the mid-1980s. Onsite utilities include water wells and septic systems.

RD2 was used for administrative purposes as well as field and laboratory research activities. The Main Station is the location where most of the USDA research operations in the Brooksville area took place. The majority of this property was used for agricultural purposes. Currently, minimal operations such as hay-making and mowing occur on the property.

Adjacent Properties: Lake Lindsey Road runs adjacent to the northwest corner of RD2, and the property is bordered by Lake Lindsey to the northeast. Properties north of RD2 consist of sparsely developed rural and agricultural land with a few scattered, single-family residential structures and a church. Chinsegut Hill Manor House, which is listed on the National Register of Historic Places (NRHP), is located on the adjacent property, on the hilltop just northeast of the USDA-ARS administrative buildings. Chinsegut Wildlife and Environmental Area (Nature Center Tract) is located east of the property, along County Road 481. RD2 is bordered to the south and southwest by Chinsegut Wildlife and Environmental Area (Big Pine Tract). Properties west of RD2 are primarily undeveloped, rural, wooded land, with some scattered, single-family residential structures. An area of land in the center of RD2 contains an air strip and residential structures, which are not owned by USDA.
1.3.3 Bankhead Jones 1 (BJ1)

**Site Description:** This property is approximately 731 acres located east of Highway 45/Highway 41 (Broad Street) between Deer Run Road and County Road 476 (Lake Lindsey Road), northeast of Brooksville (see Figure 1-5). The site contains structures that were used for cattle management operations and supported agricultural research. USDA refers to this property as the “Land Use Area.”

BJ1 consists primarily of open pastureland, particularly in the central and southern quadrants of the property. The northern quadrant and the west-central quadrants of BJ1 consist primarily of wooded land. The only existing structures on BJ1 are a livestock handling area and an open-sided chemical mixing area on Root Road near the center of BJ1 and a stock tank/cattle watering hole in the east-central quadrant of the property. Several livestock watering troughs are located throughout the pasturelands. Onsite utilities include water wells for agricultural and livestock use. BJ1 was used primarily for livestock grazing.

**Adjacent Properties:** BJ1 is largely surrounded by rural property, mainly undeveloped wooded land with a few scattered, single-family residential structures. This property is located slightly south of Lake Lindsey Road, and a fire station is located to north of the property, along with sparse commercial, residential, and agricultural development. Chinsegut Wildlife and Environmental Area (Nature Center Tract) is located just west of the property.

1.3.4 Bankhead Jones 2 (BJ2)

**Site Description:** This property is approximately 2,186 acres located at 27590 Lake Lindsey Road, bordered by Daly Road on the west, Lucilles Shady Lane/Twin Pond Road on the east, County Road 476 (Lake Lindsey Road) on the north, and Trail 2 on the south (see Figure 1-6). This site contains buildings that were used for equipment maintenance, material storage, and as a residence and also supported agricultural research. USDA refers to this property as the “Turnley Unit.”

BJ2 consists primarily of open pastureland with several small, wooded areas. Buildings and structures on BJ2, which include a maintenance shop/storage building, hay barns, livestock handling areas, a pesticide mixing area, and a residence, are located adjacent to the main road that extends north-to-south from the entrance at Lake Lindsey Road. A storage building is located in the northwest quadrant of BJ2, and it is accessible from the west, through a gate on Daly Road. The livestock handling area and an open-sided chemical mixing area are located near the south end of the main road running through the property. Several livestock watering troughs are located throughout the pasturelands, including Townsend Prairie, located along Lake Lindsey Road.
Figure 1-5 Bankhead Jones 1
Figure 1-6 Bankhead Jones 2
Onsite utilities include a water well and septic system. A septic tank collects wastewater from the residence near the center of BJ2, and a water well near the maintenance shop provides water to the shop and to the residence south of the well. BJ2 was used primarily for agricultural research and livestock grazing. This was also the primary site for equipment storage and maintenance as well as fuel storage for USDA vehicles and farm equipment. Several barns were used for excess hay storage. Currently minimal operations such as hay-making and mowing occur on the property.

Adjacent Properties: BJ2 is largely surrounded by rural property, mainly undeveloped wooded land with a few scattered, single-family residential structures. Croom Wildlife Management Area is adjacent to the property on the south and east sides. Lake Lindsey Road lies just north of BJ2.

1.4 PURPOSE AND NEED

The purpose of the proposed action is to transfer land and facilities in Hernando County, Florida, from USDA-ARS to FAMU to facilitate continued agricultural and natural resources research and establish a Beginning Farmers and Ranchers Development Program.

The proposed action would be in accordance with Section 732 of P.L. 112-55, as extended under P.L. 113-76, 2014 Consolidated Appropriations Act. Compliance with the law requires that the land be used for agricultural and natural resource research for a period of not less than 25 years. As stated in FAMU’s Plan of Work, this would allow FAMU to support and enhance agricultural research and technology transfer to farmers and local communities to include small farmers, minority farmers, Native Americans, and projects associated with the Beginning Farmers and Ranchers Development Program, and to support the USDA’s and FAMU’s strategic goals and objectives to:

- “Assist rural communities to create prosperity so they are self-sustaining, repopulating, and economically thriving;
- Ensure our national forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing and preserving our water resources;
- Help America and the state of Florida promote agricultural production and biotechnology exports and America works [sic] to increase food security; and
- Ensure that all of America’s children have access to safe, nutritious, and balanced meals.”

The proposed action is also needed to ensure continuation of research and conservation at the USDA-ARS sites, which were closed in 2012 as a result of federal budget cuts. The proposed action would support continued research at the property for a minimum of 25 years to meet the needs of the nation’s agricultural sector while contributing to public education in the state of Florida.
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2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This section describes the two alternatives analyzed in detail in this Draft EA: the proposed action alternative and the no action alternative.

2.2 PROPOSED ACTION ALTERNATIVE

Under the proposed action alternative, the Secretary would transfer the USDA-ARS land and facilities to FAMU, and FAMU, its tenant(s), and/or its partner(s) would implement the Reasonably Foreseeable Future Actions (RFFAs) upon transfer of the land and facilities. In its Plan of Work, FAMU identifies the following RFFAs it plans to implement at the USDA-ARS properties:

- Survey and identification of areas
- Repairs and improvement to infrastructure
- Grazing systems research and demonstration
- Hay production research and demonstration
- Livestock and management research
- Grapes, small fruits, and medicinal plants research
- Vegetable and integrated pest management (IPM)\(^1\) research, training, and entrepreneurship
- Bioprocessing and product development, research, and entrepreneurship
- Watershed and wetland research
- Terrestrial and biological station research
- Collaborative research

Brief descriptions of each of the planned activities to be implemented under the proposed action alternative are provided in the following section. Details and approximate locations of planned activities are provided as available based on FAMU’s Plan of Work (Appendix A). The actual area to be used for this activities would be determined after a survey of the site has been completed and evaluated. All RFFAs described in FAMU’s Plan of Work would be implemented using existing buildings, roads, and infrastructure.

**Grazing Systems Research and Demonstration.** FAMU will work with Florida black farmers and agriculturalists, veterans, Native Americans, and other interested parties to

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\(^{1}\) IPM is an ecosystem-based pest control strategy that combines a variety of practices and techniques, including cultural, biological, and structural methods.
conduct the grazing systems research. FAMU’s goal of grazing system research is to evaluate production, environmental remediation strategies, and economic viability and profitability for livestock production that could benefit other ranchers and farmers in the area.

This proposed grazing systems research and demonstration project would be located in the RD1 and BJ2 areas.

**Hay Production Research and Demonstration.** This project would evaluate different management systems and strategies for hay production. This research is considered important because it would collect the necessary technical and economic data to help new and beginning farmers and ranchers in central and south Florida.

This proposed hay production research and demonstration project would use land located in the BJ1 area.

**Livestock Production and Management Research.** FAMU would work with small farmers, including underrepresented minority farmers, veterans, and other interested parties, to conduct animal production research, including but not limited to cattle and small ruminants. One of the research projects being considered is silvopastoral\(^2\) systems research for small ruminants.\(^3\) The goal of this research is to explore alternative enterprises as part of the Beginning Farmers and Ranchers Development Program and to use the area as an education and demonstration site to train new and beginning farmers.

This proposed livestock production and management research project would use the BJ1 area.

**Grapes, Small Fruits, and Medicinal Plants Research.** FAMU would expand and relocate some of its viticulture and small fruit research to the Brooksville area to support the economic growth and development of the Florida grape and wine industry and the small fruit industry.

The proposed project would use the land in the RD2 area.

**Vegetable and IPM Research, Training, and Entrepreneurship.** These research and extension activities address CAFS’ commitment to meet the needs of Florida’s small farm

\(^2\) Silvopasture is an integrated approach to forestry and livestock grazing where both activities occur simultaneously in a mutually beneficial way.

\(^3\) Ruminants are mammals that have specialized stomachs facilitating fermentation of plant-based foods prior to digestion. Domestic ruminants include cattle, sheep, and goats.
producers, socially disadvantaged farmers, and those in underserved communities by providing outreach for improving crop production practices and food safety and security. The goal of these research and extension activities is to explore alternative enterprises as part of the Beginning Farmers and Ranchers Development Program, and to use the area as an education and demonstration site to train new and beginning farmers.

The site for this proposed vegetable and IPM research, training, and entrepreneurship project would be in the RD2 area.

**Bioprocessing and Product Development, Research, and Entrepreneurship.** FAMU would establish and operate a state-of-the-art bioprocessing and business incubator center at the site. This facility would conduct wide-ranging research and training in processing and value-added product development from grapes and other fruits and vegetables that would become available after the third year.

The site for the bioprocessing and product development facility would be in the RD2 area where the vineyards, small fruits, and vegetable areas would be located.

**Watershed and Wetland Research.** Lake Lindsey in the RD2 area and the wetland area in the RD1 area present opportunities for various research projects that could be conducted by the faculty and students from the Center for Air and Water Quality, the School of the Environment, the Center for Biocontrol, and other research institutions dealing with environmental issues.

**Terrestrial and Biological Station.** FAMU proposes to establish a terrestrial biological station at the USDA-ARS properties. A suitable site would be selected for the station to be used for a wide range of research, educational, and training purposes. More specifically, the station would provide opportunities for researchers to conduct interdisciplinary studies in terrestrial, biological, and ecological systems and their interactions with environmental factors and human dimensions. The station could include a range of ecosystems, including agricultural, pasture, wooded, wetland, and aquatic systems.

**Collaborative Research.** FAMU would set aside an area, within one of the four properties, for general biological and agricultural collaborative research. This site would be available for faculty and staff from other universities, especially the other 1890 Land Grant institutions that would like to conduct research in the area. The collaboration would also be extended to private industries, corporations, and non-profit foundations.

**2.2.1 Prospective Future Research**

FAMU’s Plan of Work also identifies additional research projects it may implement in the future as well as the possible expansion of facilities. These research ideas are still in the early planning process and will require additional considerations and regulatory approval.
prior to implementation. These research projects and construction of new buildings, roads, or other infrastructure are not considered to be RFFAs and are not ripe for decision and therefore, are not analyzed in the Draft EA. For potential future development opportunities, FAMU would ensure the appropriate environmental review is completed when the projects are proposed for implementation.

Aquaculture and Aquaponics Research and Demonstration. FAMU will work with various stakeholders and other interested parties to jointly conduct Aquaculture and Aquaponics projects as the opportunity arises. These projects will also be used as demonstration sites for small farmers to learn about aquaculture and aquaponics and to adopt these alternative enterprises for their own farms where feasible. Potential areas of research may include aquatic species relationships, stocking density, nutrition and diet formulations for optimum growth, and disease management and prevention.

Extension and Outreach. The Cooperative Extension Leadership in FAMU would collaborate with its counterpart in the UF to determine what outreach projects could be implemented. Some of the projects that are being considered include:

Youth Development. FAMU would seek corporate, state, and federal grant support (e.g., USDA 1890 Facilities Grant) to establish and operate a 4-H Youth Development Center to serve minority and underrepresented youth. FAMU would also reach out to the Future Farmers of America and 4-H club members to participate in the youth development programs. Land and resources would be provided to participating students and clubs for crop and animal enterprises. These activities would be considered part of the Beginning Farmers and Ranchers Development Program to promote agriculture as a career and profession.

FAMU would identify an area of land in the BJ2 area for this proposed youth development project.

Community Resource Development. This effort would provide assistance with initiating and implementing strategic development opportunities designed to promote community and economic growth through interaction with local clientele. A proposed project includes community gardening to help local communities in the area to grow their own food and learn that home and community gardening is a viable and healthy option for obtaining vegetables. The project would be supervised by the Hernando County extension agents in the area with assistance and consultation from CAFS’ faculty and staff.

This proposed community resource development project would be located in the BJ2 area.
**Educational Tours.** Where appropriate and feasible, FAMU would encourage the faculty to arrange for field trips to the site to see the livestock operations and other ongoing projects. This could be done during the semester as well as for summer camps for students to have a better understanding and appreciation of beef cattle production, goat production, grape growing, fruit and vegetable production, and other agricultural enterprises.

**Teaching and Graduate Student Research.** With the support of the teaching, research, and extension faculty, FAMU would submit proposals for graduate student research to be undertaken at the site. Where practical and appropriate, collaborative research with faculty from UF/IFAS and other universities in beef cattle, meat goat, pasture, vegetable and small fruit crops, soil, and watershed management would be encouraged.

### 2.2.2 Proposed Personnel

Under the proposed action alternative, FAMU estimates that the following staff would be required to maintain facilities and conduct the activities outlined in the Plan of Work:

<table>
<thead>
<tr>
<th>Position Title</th>
<th>Number of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientist</td>
<td>2</td>
</tr>
<tr>
<td>Research Associate</td>
<td>2</td>
</tr>
<tr>
<td>Research Assistant</td>
<td>2</td>
</tr>
<tr>
<td>Farm Manager</td>
<td>1</td>
</tr>
<tr>
<td>Assistant Manager</td>
<td>1</td>
</tr>
<tr>
<td>Tractor Driver</td>
<td>4</td>
</tr>
<tr>
<td>Office Assistant</td>
<td>1</td>
</tr>
<tr>
<td>General Labor</td>
<td>2</td>
</tr>
</tbody>
</table>

The number of staff would be similar to the personnel that used to be employed at the facilities while under USDA-ARS (USDA 2011).

FAMU estimates that the facilities would generate the following volume of visitors for each of the outreach and extension activities shown below, annually:

<table>
<thead>
<tr>
<th>Outreach/Extension Activity</th>
<th>Number of Annual Visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-H Youth Development</td>
<td>50–100</td>
</tr>
<tr>
<td>Community Resource Development</td>
<td>50–100</td>
</tr>
<tr>
<td>Educational Visits</td>
<td>80–150</td>
</tr>
</tbody>
</table>
2.3 NO ACTION ALTERNATIVE

Under the no action alternative, the USDA-ARS land and facilities would not be transferred to FAMU. It is assumed that, under the no action alternative, USDA-ARS would have no appropriated resources to operate and/or maintain the properties and that the properties would fall into a state of disrepair.

2.4 ALTERNATIVES NOT CONSIDERED

The Draft EA does not consider the scenario of USDA retaining possession of the properties. Under such a scenario, a possible outcome is that the properties would be transferred to the General Services Administration (GSA) for disposal. This alternative is not considered in the Draft EA because the potential impacts cannot reasonably be determined as it is unknown who would ultimately take possession of the property or how it would be used. Additionally, should this be the final disposition of the properties, GSA would be required to consider the NEPA process prior to disposal.
3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes the existing conditions of environmental resources that could be impacted by the implementation of the proposed action alternative, either adversely or beneficially, and an analysis of potential impacts. A summary of the environmental consequences for the proposed action alternative and the no action alternative is provided in Section 4.

Table 3-1 identifies the elements that are generally analyzed in NEPA documents. For the resources listed in the table that are either “not present” or “present not impacted,” an explanation is provided on why the resource is not present or why the proposed action alternative would not impact that particular resource. The reader is also referred to the appropriate section for additional discussion on the impacts. Similarly, for the resources that are “present impacted” by the proposed action alternative, the reader is referred to the appropriate section for additional discussion on the impact(s).

Table 3-1 Resources Considered in Impact Analysis

<table>
<thead>
<tr>
<th>Resource</th>
<th>Not Present</th>
<th>Present Not Impacted</th>
<th>Present Impacted</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td>X</td>
<td></td>
<td></td>
<td>See Section 3.6.</td>
</tr>
<tr>
<td>Climate Change</td>
<td>X</td>
<td></td>
<td></td>
<td>See Section 3.15.</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>X</td>
<td></td>
<td></td>
<td>See Section 3.10.</td>
</tr>
<tr>
<td>Energy Use</td>
<td>X</td>
<td></td>
<td></td>
<td>See Utilities, Section 3.11. No alternative energy use is proposed.</td>
</tr>
<tr>
<td>Environmental Justice</td>
<td>X</td>
<td></td>
<td></td>
<td>See Section 3.12.</td>
</tr>
<tr>
<td>Flow Variation</td>
<td>X</td>
<td></td>
<td></td>
<td>Under the RFFAs, no additional impervious surface is proposed that would affect flow into streams, and water would not be drawn from streams.</td>
</tr>
<tr>
<td>Floodplains</td>
<td>X</td>
<td></td>
<td></td>
<td>See Section 3.3.</td>
</tr>
<tr>
<td>Geology</td>
<td>X</td>
<td></td>
<td></td>
<td>See Section 3.2.</td>
</tr>
<tr>
<td>Invasive, Non-Native Species</td>
<td>X</td>
<td></td>
<td></td>
<td>See Section 3.5.</td>
</tr>
<tr>
<td>Land Use</td>
<td>X</td>
<td></td>
<td></td>
<td>See Section 3.11.</td>
</tr>
<tr>
<td>Local Meteorological Conditions or Air Movement Patterns</td>
<td>X</td>
<td></td>
<td></td>
<td>The RFFAs would not result in a change to local meteorological conditions or air movement patterns.</td>
</tr>
<tr>
<td>Local or Regional Systems</td>
<td>X</td>
<td></td>
<td></td>
<td>See Sections 3.8 and 3.9.</td>
</tr>
</tbody>
</table>
3.1 GENERAL APPROACH AND METHODOLOGY FOR ESTABLISHING IMPACT THRESHOLDS AND MEASURING EFFECTS BY RESOURCE

Potential impacts are described in terms of type (beneficial or adverse); duration (short-or long-term); and intensity (negligible, minor, moderate, or major). Explanations of these terms are as follows:

Type: The impact type refers to whether it is adverse (negative) or beneficial (positive). Adverse impacts would potentially harm resources, while beneficial impacts would improve resource conditions. Within the analysis, impacts are assumed to be adverse unless identified as beneficial.
Duration: Impacts resulting from construction are considered short-term and would occur during construction or site improvements. Long-term impacts would persist during the operation of properties and facilities.

Intensity: The intensity of an impact describes the magnitude of change that the impact generates. The intensity thresholds are as follows:

- **Negligible**: There would be no impact, or the impact would not result in a noticeable change in the resource.
- **Minor**: The impact would be slight, but detectable, resulting in a small but measurable change in the resource.
- **Moderate**: The impact would be readily apparent and/or easily detectable.
- **Major**: The impact would be widespread and would substantially alter the resource. A major, adverse impact would be considered significant under NEPA.

In addition to the factors detailed above, impacts may be characterized as direct, indirect, or cumulative. A direct impact is caused by an action and occurs at the same time and place. An indirect impact is caused by an action, but occurs later in time, or farther removed in distance. A cumulative impact occurs when the proposed action is considered together with other past, ongoing, or planned actions.

### 3.2 GEOLOGY, TOPOGRAPHY, AND SOILS

#### 3.2.1 Affected Environment

##### 3.2.1.1 Geology and Topography

Hernando County is located in the Atlantic Coastal Plain physiographic province of the United States. Hernando County can be divided into four general parts based on physiography: the coastal swamps, the Gulf Coastal lowlands, Brooksville Ridge, and Tsola Apopka Plain. The Brooksville Ridge occupies most of the county with rolling, deep, sandy ridges on the western and eastern edges with deep, sandy soils and rolling topography in the central part with poorly drained to well-drained, sandy to clayey soils (USDA 1977).

The general geologic sequence in Hernando County is a surficial layer of Plio-Pleistocene Age sand ranging from a few feet to nearly 100 feet thick, underlain by a discontinuous clayey-sand layer from zero to 30 feet thick. The clay-sand layer is a remnant of the Miocene Age Hawthorn Group. The sand and clay layers are underlain by a thick limestone sequence, consisting of, in descending order, the Suwannee limestone, Ocala limestone, and Avon Park Formation. The Suwannee limestone increases to more than 100 feet thick beneath the Brooksville Ridge, but thins along the eastern edge of the ridge. The clay layer separating the surficial sands from the underlying limestone is also thicker beneath the Brooksville Ridge, from zero to 100 feet thick (Fretwell 1985). Site-specific information on
geology and topography for each of the four properties is provided in the following subsections.

**Robins’ Donation 1**

Geology

Table 3-2 provides the geologic information for RD1 (USDA 2013a).

<table>
<thead>
<tr>
<th>Rock Stratigraphic Unit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Era</td>
<td>Cenozoic</td>
</tr>
<tr>
<td>System</td>
<td>Tertiary</td>
</tr>
<tr>
<td>Series</td>
<td>Oligocene</td>
</tr>
<tr>
<td>Code</td>
<td>To</td>
</tr>
</tbody>
</table>

**Geologic Age Identification**

<table>
<thead>
<tr>
<th>Category</th>
<th>Stratified Sequence – Sedimentary Rocks</th>
</tr>
</thead>
</table>

**Topography**

Based on the United States Geological Survey (USGS) 7.5-minute quadrangle topographic map of the area (*Brooksville, FL* dated 1998) (Figure 3-1), the surface topography at RD1 generally slopes from northwest-to-southeast, and the elevation ranges from 150 feet above mean sea level (msl), at the northwest corner of the property, down to approximately 95 feet above msl, near the eastern boundary of the property. Surrounding area elevations are consistent with the site.

Surface water drainage from the site flows in a southeasterly/southerly direction, and shallow groundwater flow is expected to flow in a similar direction to the surface topographic grade. An unnamed stream is located near the center of the property and flows from west-to-east.

**Robins’ Donation 2**

Geology

Table 3-3 provides the geologic information for RD2 (USDA 2013a).
Table 3-3 RD2 Site Geology

<table>
<thead>
<tr>
<th>Rock Stratigraphic Unit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Era</td>
<td>Cenozoic</td>
</tr>
<tr>
<td>System</td>
<td>Tertiary</td>
</tr>
<tr>
<td>Series</td>
<td>Oligocene</td>
</tr>
<tr>
<td>Code</td>
<td>To</td>
</tr>
</tbody>
</table>

Geologic Age Identification

<table>
<thead>
<tr>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stratified Sequence – Sedimentary Rocks</td>
</tr>
</tbody>
</table>

Topography

Based on the USGS 7.5-minute quadrangle topographic maps of the property (Brooksville, FL; Brooksville SE, FL; Brooksville NW, FL; and Nobelton, FL [dated 1998]), the surface topography at RD2 generally slopes away from topographic high, located near the east-central quadrant, towards the north, south, and west boundaries of the property. The elevation ranges from a high of approximately 270 feet above msl down to an elevation of approximately 70 feet above msl at the southeastern, the southern, and the southwestern boundaries. The elevation decreases to approximately 140 feet above msl along the western boundary of the property, and drops to an elevation of approximately 70 feet above msl near the northwestern, the northern, and the northeastern boundaries of the property. The highest elevation on RD2 is approximately 270 feet above msl, at a point near the east-central property boundary, east of Chinsegut Hill Road. The southwestern quadrant of Lake Lindsey is located in the northeastern quadrant of the property.

Surface water drainage from the site flows away from the topographic high located in the east-central quadrant of RD2 toward the southeast, south, southwest, west, northwest, and north. Shallow groundwater flow is expected to flow in a similar direction to the surface topographic grade.

Bankhead Jones 1

Geology

Table 3-4 provides the geologic information for BJ1 (USDA 2013a).
Table 3-4 BJ1 Site Geology

<table>
<thead>
<tr>
<th>Rock Stratigraphic Unit</th>
<th>Geologic Age Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Era</td>
<td>Cenozoic</td>
</tr>
<tr>
<td>System</td>
<td>Tertiary</td>
</tr>
<tr>
<td>Series</td>
<td>Miocene</td>
</tr>
<tr>
<td>Code</td>
<td>Tm</td>
</tr>
<tr>
<td>Category</td>
<td>Stratified Sequence – Sedimentary Rocks</td>
</tr>
</tbody>
</table>

Topography

The elevation on BJ1 ranges from a high of 220 feet above msl, in the northeast quadrant of the property, to a low elevation of 50 feet above msl, near the southeast corner/boundary of the property. A secondary topographic high (130 feet above msl) is located near the south-central boundary of BJ1, and an east-west trending low (70 feet above msl) is located across the south-central quadrant of the property.

In the northern quadrant of BJ1, surface water drainage flows away from the topographic high towards the northwest, west, and southwest (toward the topographic low). In the southern quadrant of the property, surface water drainage flows from the center of the quadrant towards the east, southeast, south, west and towards the north (toward the topographic low).
Figure 3-1 Topography
Bankhead Jones 2

Geology

Table 3-5 shows the geologic information for BJ2 (USDA 2013a).

Table 3-5 BJ2 Site Geology

<table>
<thead>
<tr>
<th>Rock Stratigraphic Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Era</td>
</tr>
<tr>
<td>System</td>
</tr>
<tr>
<td>Formation</td>
</tr>
</tbody>
</table>

Topography

The elevation of BJ2 ranges from a high of 120 feet above msl, in the central quadrant and in the southwest quadrant of the property, to a low elevation of 50 feet above msl, in the south-central and northeast quadrants of the property. The primary topographic high (120 feet above msl) that is generally aligned in a north-south direction is located in the central area of BJ2, and topographic lows are located on the east and west flanks of this ridge. The surface water drainage flows away from the two topographic highs towards the lower elevations located on the flanks of the hills/ridges.

3.2.1.2 Soils

Soils, a component of the physical surface and subsurface, consist of a combination of mineral and rock particles combined with various amounts of organic matter, air, and water. In general, the term soil characterizes the earth’s outer surface, which hosts an array of organisms and provides an environment that is conducive to plant and animal life. Characteristics of soils include porosity, nutrient-holding capacity, texture, and physical composition. The four USDA-ARS properties occur within the Nobleton-Blichton-Flemington Association of soils. The slopes vary from small, sharp-breaking, wet areas to long, seepy hillsides. This soil is made up of large to small areas of nearly level to strongly sloping soils on uplands that are interspersed in many areas with sinkholes. A review of the USDA Natural Resources Conservation Service soil surveys for Hernando County identified 22 soil types in the properties (USDA 2014a) (Table 3-6 and Figure 3-2).
### Table 3-6 Acres of Soil Types by USDA-ARS Property

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Amount Within Each Property (Acres)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RD1</td>
<td>RD2</td>
<td>BJ1</td>
<td>BJ2</td>
</tr>
<tr>
<td>Arredondo fine sand, 0 to 5 percent slopes</td>
<td>0</td>
<td>106.1</td>
<td>80.2</td>
<td>176.7</td>
</tr>
<tr>
<td>Arredondo fine sand, 5 to 8 percent slopes</td>
<td>0</td>
<td>173.7</td>
<td>35.9</td>
<td>0</td>
</tr>
<tr>
<td>Basinger fine sand, depressional, 0 to 1 percent slopes</td>
<td>0</td>
<td>2.9</td>
<td>0</td>
<td>8.2</td>
</tr>
<tr>
<td>Blichton loamy fine sand, 0 to 2 percent slopes</td>
<td>0</td>
<td>6.4</td>
<td>35.8</td>
<td>0</td>
</tr>
<tr>
<td>Blichton loamy fine sand, 2 to 5 percent slopes</td>
<td>52.0</td>
<td>78.8</td>
<td>72.1</td>
<td>0</td>
</tr>
<tr>
<td>Blichton loamy fine sand, 5 to 8 percent slopes</td>
<td>0</td>
<td>13.3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Candler fine sand, 0 to 5 percent slopes</td>
<td>0</td>
<td>0</td>
<td>273.4</td>
<td>940.5</td>
</tr>
<tr>
<td>Candler fine sand, 5 to 8 percent slopes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>564.6</td>
</tr>
<tr>
<td>Flemington fine sandy loam, 2 to 5 percent slopes</td>
<td>55.6</td>
<td>13.9</td>
<td>119.0</td>
<td>0</td>
</tr>
<tr>
<td>Flemington fine sandy loam, 8 to 12 percent slopes</td>
<td>0</td>
<td>33.6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Floridana fine sand</td>
<td>0</td>
<td>36.0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Floridana variant loamy fine sand</td>
<td>3.0</td>
<td>10.9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Kanapaha fine sand</td>
<td>0</td>
<td>0</td>
<td>25.5</td>
<td>0</td>
</tr>
<tr>
<td>Kendrick fine sand, 0 to 5 percent slopes</td>
<td>5.9</td>
<td>88.9</td>
<td>36.8</td>
<td>53.8</td>
</tr>
<tr>
<td>Lake fine sand, 0 to 5 percent slopes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>215.2</td>
</tr>
<tr>
<td>Micanopy loamy fine sand, 2 to 5 percent slopes (Prime farmland if drained)</td>
<td>0</td>
<td>14.7</td>
<td>19.6</td>
<td>20.1</td>
</tr>
<tr>
<td>Myakka-Myakka, wet, fine sands, 0 to 2 percent slopes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>17.2</td>
</tr>
<tr>
<td>Nobleton fine sand, 0 to 5 percent slopes</td>
<td>23.9</td>
<td>18.8</td>
<td>16.4</td>
<td>14.8</td>
</tr>
<tr>
<td>Pompano fine sand</td>
<td>0</td>
<td>9.6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sparr fine sand, 0 to 5 percent slopes</td>
<td>0</td>
<td>85.3</td>
<td>14.8</td>
<td>94.4</td>
</tr>
<tr>
<td>Tavares fine sand, 0 to 5 percent slopes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>22.0</td>
</tr>
<tr>
<td>Wauchula fine sand, 0 to 5 percent slopes</td>
<td>0</td>
<td>48.8</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: USDA 2014a
Figure 3-2 Soil Types
**Prime Farmland Soils**

The Farmland Protection Policy Act of 1981 was passed to minimize the amount of land irreversibly converted from farmland due to federal actions. As defined by the Natural Resources Conservation Service, prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. One soil type, Micanopy loamy fine sand, 2 to 5 percent slopes, which is designated as prime farmland if drained, occurs on three of the four USDA-ARS properties (USDA 2014a). Table 3-7 shows the acreage of prime farmland within each property.

**Table 3-7 Acres of Prime Farmland by USDA-ARS Property**

<table>
<thead>
<tr>
<th>Property</th>
<th>RD1</th>
<th>RD2</th>
<th>BJ1</th>
<th>BJ2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount Within Each Property (Acres)</td>
<td>0</td>
<td>14.7</td>
<td>19.6</td>
<td>20.1</td>
</tr>
</tbody>
</table>

Source: USDA 2014a

3.2.2 **Environmental Consequences**

3.2.2.1 **Proposed Action Alternative**

Under the proposed action alternative, proposed research activities conducted by FAMU would be similar in nature to the type of agricultural research historically conducted by USDA-ARS at the site. In general, the previous land use would continue on the four properties, including BMPs that maintain and control erosion and reduce potential sediment load release in the local drainages.

Soil conditions would remain the same or similar to current conditions, and no new soil disturbance or impacts on geological resources would be expected under the proposed action alternative in areas where land uses are similar to previous uses. Proposed activities with livestock would remain at or below previous levels. Continued soil tilling over time, where this practice is applied on RD2, BJ1, and BJ2, would have a negative impact on soil structure stability due to wind erosion and the breakdown of soil particles. Prime farmland soils located in RD2, BJ1, and BJ2 would not be converted to nonagricultural use under the proposed action alternative; therefore, the proposed action would be in compliance with the Farmland Protection Policy Act of 1981. No prime farmland soils occur in RD1.

Research related to watersheds, wetlands, water quality, irrigation, and conservation would result in beneficial impacts on geology and soil resources over the long-term.
Therefore, impacts on geology, topography, and soils under the proposed action alternative would be adverse and negligible over the long-term with additional long-term beneficial impacts.

3.2.2.2 No Action Alternative

Under the no action alternative, there would be no direct impacts on geology or soils; however, indirect impacts may be expected to the quality of prime farmland present through lack of maintenance. Negative impacts on soil stability or erosion potential are not expected due to the flat topography of the area.

3.3 WATER RESOURCES

3.3.1 Affected Environment

3.3.1.1 Surface Water

The USDA-ARS properties proposed for the transfer are located within the Withlacoochee River watershed, which encompasses approximately 2,100 square miles (SWFWMD n.d.). The Withlacoochee River, the largest surface water feature in the region, runs from the southeast to the northwest approximately 160 miles from Polk County to the Gulf of Mexico (SWFWMD 2011a). The river flows close to the northeast portion of BJ2. The Florida Department of Environmental Protection (FDEP) designated the Withlacoochee River an Outstanding Florida Water, meaning that it has additional protections to preserve its natural characteristics. These include a prohibition on the lowering of the existing ambient water quality such as through direct or indirect discharges to the waterbody (FDEP 2011). Most of the other surface waters surrounding the USDA-ARS properties consist of wetlands with some perennial and intermittent ponds and water storage reservoirs. Many of these waterbodies are characterized by seasonally fluctuating water levels (USFWS 1988). There are few rivers or streams in the area. Other than the Withlacoochee River to the northeast, most of the linear drainages occur to the southeast of RD1 (Figure 3-3). These include small intermittent streams, canals and ditches, and other artificial paths, many of which drain into small wetlands, lakes, ponds, or sinkholes (USFWS 1988).
Figure 3-3 Water Resources
Surface Water Quality—Surface water quality criteria for Florida waterbodies are based on classifications and designated uses of the waterbody. Lake Lindsey is classified as a Class III freshwater waterbody, meaning that the designated uses are recreation; propagation; and maintenance of a healthy, well-balanced population of fish and wildlife in freshwater; however, these designations do not prevent the use of the water for other purposes. Typical surface water quality issues within agricultural areas are excess nutrients, fecal coliform, and pesticides.

Surface Water Flow—The establishment of a minimum flow and level (MFL) allows water use withdrawals while also protecting water resources. An MFL was developed for Lake Lindsey (SWFWMD 2011a). The minimum lake level for Lake Lindsey was set at 66.1 feet above the National Geodetic Vertical Datum of 1929 (NGVD29) (Chapter 40D-8, F.A.C.). A high minimum level was set at 68.5 feet NGVD29 and ensures that higher lake levels occasionally occur. The low guidance level was set at 63.9 feet NGVD29. Guidance levels are advisory guidelines for various structural and operational purposes.

Surface Water Uses—Within Hernando County, surface water is used for recreation and mining (Ferguson 2014). Total annual average water withdrawals from surface water and groundwater in Hernando County for all uses were 33.851 million gallons per day (mgd) in 2012 (Ferguson 2014). Of this, only 0.318 mgd (1 percent) was from surface water sources.

3.3.1.2 Stormwater

Impervious surfaces such as buildings, roads, and driveways decrease the amount of rainfall that can infiltrate the ground and increase the volume and velocity of stormwater runoff during storms. Land cover for the properties includes cleared land, open pastures, and wooded areas. Because there is very little impervious area associated with the properties, stormwater infiltration is possible throughout most of the land area. Each property is mainly agricultural and rural undeveloped land containing a few structures and roads except for RD2, which has twenty-two buildings and structures.

3.3.1.3 Groundwater

The Upper Floridian aquifer is the main water storage and groundwater conveyance aquifer beneath the USDA-ARS properties (SWFWMD 2011a). A surficial aquifer and confining unit exist within the region. However, in general, around the study area, there is a thin layer or no layer of overlying quaternary sands, silts, and clays allowing the Upper Floridian aquifer to exist in unconfined conditions with the surficial aquifer (Guvanasen et al. 2000, SWFWMD 2011a). This aquifer supplies most of the water for all uses in the area (SWFWMD 2011a).
Hernando County, especially within the area of the USDA-ARS properties, has a karst landscape that typically lacks surface-water drainage and contains many sinkholes and closed depressions (Champion and Stark 2011). Within the karst area of the region, the surface waters could drain and recharge the groundwater depending on the location and season (Guwanasen et al. 2000). Because much of the surface water in the area is captured by the karst landscape and becomes part of the groundwater resources, much of the study area is within an area of high groundwater recharge potential for the aquifer (Champion and Stark 2011). Across the USDA-ARS properties, the potentiometric surface elevation increases from southeast to northwest (SWFWMD 2011b). Therefore, overall groundwater flow would be to the northwest, in the direction of the lower potentiometric elevation.

*Groundwater Quality*—Groundwater quality standards are based on the classification of and designated beneficial uses of the groundwaters of the state. The standards are designed to protect the designated uses and the future availability of these resources. The 2014 Integrated Water Quality Assessment Report summarized groundwater for the Withlacoochee basin (FDEP 2014a). In the 2011-2013 sampling period, arsenic, lead, nitrate-nitrite, and sodium achieved the primary groundwater standards; however, 25 percent of the total coliform samples did not meet the standards.

The Florida Ground Water Quality Monitoring Network was established under the Water Quality Assurance Act to collect and assess the current and future conditions of the groundwater of the state. Silvanima et al. (2008) prepared a report detailing the water quality of aquifers used for potable water supply for the time period 1994-1997. Data for two sites close to the USDA-ARS properties are detailed in Table 3-8; these data were typically limited to one collection per site. Figure 3-4 shows the locations of the sites.

| Table 3-8 Groundwater Quality Data for Wells Close to the USDA-ARS Properties |
|----------------------------------|------------------|
| Parameter                        | Range (mg/L)     |
| Arsenic                          | Below detection limit |
| Cadmium                          | Below detection limit – 0.00051 |
| Chromium                         | Below detection limit – 0.0051 |
| Fluoride                         | Below detection limit – 0.12 |
| Lead                             | Below detection limit – 0.0674a |
| Mercury                          | Below detection limit |
| Total Nitrate-Nitrite            | 0.28 – 0.55      |
| Sodium                           | 3.79 – 16.1      |
| Chloride                         | 4.9 – 32.0       |
| Iron                             | Below detection limit – 0.69a |
| Sulfate                          | 5.0 – 6.7        |

Source: Silvanima et al. 2008

Notes: mg/L – milligrams per liter

a Above maximum contaminant level.
Figure 3-4 Selected Groundwater Well Sites
Groundwater Uses—Withdrawals of groundwater from wells located on the properties are included under several water use permits authorizing agricultural, public supply, and commercial/industrial water uses. The permits with agriculture as the predominant water use were authorized for 100,000 gallons per day or less. The permits that report public supply as the predominant use were authorized for 500,000 gallons per day or more.

Almost all the water demand within Hernando County is met through groundwater withdrawal (SWFWMD 2011a). Total annual average surface water and groundwater withdrawals in Hernando County for all uses were 33.851 mgd in 2012. Of this total, 33.533 mgd (99 percent) was from groundwater sources. Water for agricultural uses was withdrawn from groundwater sources only, and amounted to 2.644 mgd or approximately 8 percent of the total annual average water withdrawals (Ferguson 2014). Groundwater withdrawals for public water supply were 19.224 mgd (57 percent).

The Regional Water Supply Plan for the Northern Planning Region of the SWFWMD projected that there would be an overall 20 mgd increase in water demand due to all uses in Hernando County over the time period 2005–2030 (SWFWMD 2011a). Of this total, a 15.3 mgd increase (54.4 percent) in water demand was projected for public water supply and a 0.14 mgd increase (6.1 percent) for agriculture (SWFWMD 2011a). Most of the demand for water in the future would likely be met through groundwater withdrawals (SWFWMD 2011a). Additionally, an overall 0.1 mgd decrease (0.4 percent) in agricultural groundwater usage was predicted. The increased demand could be met with either conservation or alternative water sources. The decrease in demand could be used to meet additional permits or permanently taken out of the system for environmental use.

### 3.3.1.4 Floodplains

Hernando County tends to flood after heavy rain events due to ponding and sheet-runoff from lowlands with poorly draining soil (FEMA 2012b). The floodplain of the Withlacoochee River can also flood during high river stages.

FDEP and the water management districts provide guidance on floodplain protection within the state. SWFWMD administers floodplain management in the state of Florida and has the same goals as Executive Order 11988. The SWFWMD Watershed Management Program collects and provides information related to floodplains and associated hazards and prepares a Watershed Management Plan that outlines flood protection responsibilities, strategies, and BMPs. Impacts on floodplains and flood protection should be mitigated if they cannot be avoided or minimized.
3.3.1.5 Robins’ Donation 1

**Surface Water**—The surface waters within RD1 are limited (Figure 3-3). Only one intermittent stream intersects the site. This unnamed stream flows from west to east through the middle of the property and eventually drains into a wetland located outside the property. Wetlands are discussed in more detail in Section 3.4 *Wetlands*. There are no other surface waters present.

**Stormwater**—The Phase I ESA identified stormwater flow direction on this property as moving towards the south-southeast (USDA 2013a). There are no impervious surfaces to alter and prevent stormwater infiltration.

**Groundwater**—Examination of surface water flow suggests that shallow groundwater at RD1 flows east-southeast, towards a surface waterbody located offsite (USDA 2013a). Because this prediction is based on the examination of topography and surface water flows for the ESA, however, actual groundwater flow direction may be different.

**Groundwater Quality**—The Phase I ESA in Section 3.13 concluded that it is unlikely that the shallow groundwater aquifer within RD1 is contaminated with hazardous materials.

**Groundwater Uses**—This property is part of a small, general water use permit for agricultural water use and has one groundwater withdrawal well for livestock watering and other agricultural uses.

**Floodplains**—Most of this property is within an area of minimal flood hazard outside of the 500-year floodplain (see Figure 3-3) (FEMA 2012a). A small area along each side of the intermittent stream is within the 100-year floodplain and is subject to flooding during the one percent annual chance flood. There are two small areas located in the north and south of the property that are considered within the 100-year floodplain. These were mapped by approximate methods and correspond to the locations of wetlands.

3.3.1.6 Robins’ Donation 2

**Surface Water**—All or part of three surface waters are located in RD2 (see Figure 3-3). The largest feature in this property is Lake Lindsey, a perennial lake in the northeastern corner with a 3-square-mile drainage area (Leeper 2004). Approximately half of the 115-acre surface area of this lake falls within the property boundaries. A small outlet ditch drains from the southwest portion of the lake. A small, unnamed perennial pond lies along the northern boundary a short distance to the west of Lake Lindsey. A wetland fringe surrounds this approximately 0.5-acre pond. A small part of Burns Prairie, an approximately 14-acre perennial pond, crosses into the southwestern part of the property.
Surface Water Quality—Lake Lindsey was listed in the 2014 Integrated Water Quality Assessment Report as impaired due to dissolved oxygen (FDEP 2014a). One potential cause of this reduced dissolved oxygen issue is that there has been an increase in the deposition of organic material into Lake Lindsey (SWFWMD 2010, SWFWMD 2013a). Several projects have been completed or are ongoing to remove tussocks and to dredge the lake to remove the organic material. Two water quality samples were collected at Lake Lindsey in 2010 and 2011. Chlorophyll $a$ values were 11.67 µg/L and 5.65 µg/L, total nitrogen was 0.86 mg/L and 1.07 mg/L, and total phosphorus was 0.036 mg/L and 0.029 mg/L (SWFWMD 2014a). Fecal coliform counts from several sampling sites on Lake Lindsey from the 1990s ranged from 14 colony forming units (cfu)/100 milliliters (mL) to 300 cfu/100 mL, with one peak of 3,000 cfu/100mL.

Surface Water Flow—Data obtained from the SWFWMD Water Management Information System (WMIS) showed daily aggregate water elevations above the NGVD29 measured from 1982 to 2014 for Lake Lindsey (SWFWMD 2014b). Approximately 65 percent of the aggregate values were below the minimum lake level of 66.1 feet NGVD29. Approximately 3 percent of the values were above the high minimum level. Historically, the water levels fluctuate seasonally and annually in Lake Lindsey (Leeper 2004).

Surface Water Uses—Currently, Lake Lindsey has a boat ramp and is used for recreation. There are no known permits for water withdrawals from Lake Lindsey (Leeper 2004, SWFWMD 2014c).

Stormwater—The surface water drains in all directions away from the topographic high located in the east-central portion of the site (USDA 2013a). There are buildings, paved roads, and other small impervious surfaces that would prevent infiltration of stormwater runoff in limited areas.

Groundwater—Groundwater within RD2 could flow in all directions away from the topographic high located in the east-central portion of the site (USDA 2013a). Because this prediction is based on examination of topography and surface water flows for the ESA, however, actual groundwater flow direction may be different.

Groundwater Quality—Most of the previous USDA operations for agricultural research on the four properties considered in this Draft EA were located on the pastures and land within RD2 (USDA 2013a). Because of these operations, various sizes and types of containers holding hazardous substances and/or petroleum products were found to be currently or historically present, including leaking underground storage tanks (USTs), fuel dispenser lines, and a motor oil dump site; see further discussion in Section 3.13 (USDA 2013a). In the past, groundwater sampling has detected lead, petroleum-related compounds, nitrate, sulfate, and other constituents (USDA 2013a, b).
Groundwater Uses—RD2 is part of a small, general water use permit for agricultural water use and has one existing groundwater withdrawal well for livestock watering and other agricultural uses.

Floodplains—A majority of this property is within an area of minimal flood hazard outside of the 500-year floodplain (FEMA 2012a). The area in the northern portion of the site surrounding Lake Lindsey is within the 100-year floodplain and, therefore, is subject to flooding during the one percent annual chance (see Figure 3-3). Included in this 100-year floodplain is the area around the lake outlet channel draining from the southwestern side of the lake. A flood control structure that is part of a flood control project is associated with this outlet drainage. These areas have a base flood elevation ranging from 73.4 to 73.7 feet above North American Vertical Datum of 1988 (NAVD88). A 100-year floodplain is present in the southwest including the area of Burns Prairie. Several small locations of 100-year floodplain occur in the southeastern portion of the property. These have base flood elevations of 84.6 to 94.1 feet NAVD88.

3.3.1.7 Bankhead Jones 1

Surface Water—This site contains two small surface waterbodies (see Figure 3-3). The first, located close to the western border, is an intermittent pond with a surface area of approximately 1.5 acres. The second feature is a water storage reservoir with a surface area of approximately 0.5 acre.

There is one water reservoir that is used for cattle watering.

Stormwater—Surface water in the northern portion of this site flows in a westerly direction, whereas runoff in the southern portion flows away from the topographic high in multiple directions (USDA 2013a). There are two small buildings, which would prevent infiltration of stormwater runoff in limited areas.

Groundwater—Groundwater was predicted to flow towards all westerly directions in the north and in multiple directions in the south away from the topographic high located in the center (USDA 2013a). Because this prediction is based on examination of topography and surface water flows for the ESA, however, actual groundwater flow direction may be different.

Groundwater Quality—The Phase I ESA concluded that contamination of the shallow groundwater aquifer within BJ1 with hazardous materials is unlikely.

Groundwater Uses—This property is part of a small, general water use permit for agricultural water use and has one existing groundwater withdrawal well for livestock watering and other agricultural uses.
**Floodplains**—Most of this property is within an area of minimal flood hazard outside of the 500-year floodplain (FEMA 2012a). In the central portion of the site, a 100-year floodplain exists and therefore is subject to flooding during the one percent annual chance flood (see Figure 3-3). The western part of this floodplain corresponds to an intermittent pond. Scattered through the south part of the site are nine small areas of 100-year floodplain. These have base flood elevations ranging from 63.1 to 120.7 feet NAVD88. There are also two small areas that are considered part of the 500-year floodplain and that would have a two percent chance of flooding in any year.

3.3.1.8 **Bankhead Jones 2**

**Surface Water**—A small, perennial pond with a surface area of approximately 0.74 acre lies on the northeastern portion of this site (see Figure 3-3). This property also has a few wetlands of varying sizes.

**Stormwater**—Because the high ground on this site runs north-south, surface runoff drains to the low points to the east or west (USDA 2013a). There are several buildings, paved roads, and other small, impervious surfaces that would prevent infiltration of stormwater runoff in limited areas.

**Groundwater**—This site has a topographic high running north-south through the site and therefore groundwater flows either to the west or east towards the low points (USDA 2013a). Because this prediction is based on examination of topography and surface water flows for the ESA, actual groundwater flow direction may be different.

**Groundwater Quality**—A septic tank and water well are present on the site. Additionally, various sizes and types of containers holding hazardous substances and/or petroleum products were present at the time of an ESA survey. The Phase I ESA concluded that contamination of the shallow groundwater aquifer with hazardous materials is unlikely.

Table 3-9 shows values of select water quality parameters for water samples collected from a monitoring well in the southern portion of the site.

**Groundwater Uses**—This property is part of a small, general water use permit for agricultural water use and has four existing groundwater withdrawal wells for livestock watering and other agricultural uses.
Table 3-9 Groundwater Quality Data for Bankhead Jones 2

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Minimum (mg/L)</th>
<th>Maximum (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>Below detection limit</td>
<td>Below detection limit</td>
</tr>
<tr>
<td>Fluoride</td>
<td>Below detection limit</td>
<td>0.1</td>
</tr>
<tr>
<td>Nitrite</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Total Nitrate-Nitrite</td>
<td>0.213</td>
<td>0.213</td>
</tr>
<tr>
<td>Sodium</td>
<td>3.2</td>
<td>3.8</td>
</tr>
<tr>
<td>Chloride</td>
<td>5.3</td>
<td>6.1</td>
</tr>
<tr>
<td>Iron</td>
<td>Below detection limit</td>
<td>0.035</td>
</tr>
<tr>
<td>Sulfate</td>
<td>7.0</td>
<td>8.6</td>
</tr>
<tr>
<td>Total Dissolved Solids</td>
<td>110</td>
<td>129</td>
</tr>
</tbody>
</table>

Source: SWFWMD 2014a
Notes: mg/L – milligrams per liter

**Floodplains**—Most of this property is within an area of minimal flood hazard outside of the 500-year floodplain (FEMA 2012a). Scattered through the site are 38 small areas of 100-year floodplain that are subject to flooding during the one percent annual chance flood (see Figure 3-3). These have base flood elevations ranging from 46.6 to 114.6 feet NAVD88. Three of these floodplains correspond to wetlands on the site, and one is the location of a perennial pond. There are also five small areas that are considered part of the 500-year floodplain and that would have a two percent chance of flooding in any year.

### 3.3.2 Environmental Consequences

#### 3.3.2.1 Proposed Action Alternative

Previous land uses were focused on research in support of the beef cattle industry and included livestock research and grazing as well as agricultural research. Under the proposed action alternative, future land uses as identified in the RFFAs would be similar to previous uses, and livestock stocking levels would be similar to or below previous levels. Changes in groundwater withdrawals would be minimal resulting in negligible to no impact on groundwater resources. Although indirect adverse impacts on the quality of surface water and groundwater resources and direct impacts on water quantity could result from these activities, FAMU’s Plan of Work states that natural resources such as the watershed, lake, and other sensitive areas would be maintained and protected. Therefore, BMPs for agricultural husbandry and livestock management, including stock and grazing, would be implemented to minimize adverse impacts on water resources from bacteria, nutrients, soil erosion and sediment, and other potential pollutants as well as water demand. BMPs would be specific to the site conditions and project characteristics. In addition to the use of BMPs, monitoring for soil erosion and nutrient movement within surface water and groundwater...
would take place. Minimal application and monitoring of fertilizers would prevent impacts on water quality.

Any uses of water from Lake Lindsey would follow applicable state and local regulations, and recommendations and guidelines provided by the Florida Department of Agriculture and Consumer Services (FDACS), FDEP, and Southwest Florida Water Management District (SWFWMD) would be followed.

Minimal increases in groundwater usage could be handled by the current permits. Minor increases in groundwater withdrawals would not impact the groundwater resources and should not lead to increased potential for sinkholes.

Under the RFFAs, FAMU would reuse existing buildings, protect the natural resource base, and there would be minimal environmental impact. There is very little floodplain area within the USDA-ARS properties. Any potential new development and construction projects in the future would be designed and constructed to minimize impacts on existing floodplains, appropriate permits would be obtained, and FAMU would conduct appropriate environmental review at that time. Therefore, impacts on floodplains are not anticipated.

Research related to watersheds, wetlands, water quality, irrigation, and conservation would result in beneficial impacts on water resources over the long-term.

Therefore, impacts on water resources under the proposed action alternative would be adverse and negligible over the long-term with additional long-term beneficial impacts.

3.3.2.2 No Action Alternative

Termination of the agricultural and livestock research uses of the sites has likely reduced sediment, nutrient, coliform, and other pollutant loadings into surface waters and groundwater resulting in long-term beneficial impacts on water resources. Withdrawal of groundwater from onsite wells has been reduced, resulting in short- and long-term beneficial impacts on this resource. Therefore, the no action alternative would result in short- and long-term beneficial impacts on the existing water resources on the sites.

3.4 WETLANDS

3.4.1 Affected Environment

The United States Army Corps of Engineers (USACE) and the United States Environmental Protection Agency (USEPA) define jurisdictional wetlands as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR, Part 328.3). USACE regulates
development in jurisdictional wetlands pursuant to Section 404 of the Clean Water Act (33 CFR, Parts 320-330).

Waters of the United States include all isolated and non-isolated bodies that satisfy all three wetland criteria (hydrophytic vegetation, hydric soils, and wetland hydrology), or are navigable waterways, rivers, streams, lakes, and impoundments. Isolated wetlands are those wetlands that do not have a direct surface connection or are not adjacent to another aquatic resource, thus they are not afforded USACE jurisdiction. Relatively permanent waters are defined as tributaries with year-round flow or continuous seasonal flow for at least three months per year (USEPA 2007).

A review of the National Wetlands Inventory (NWI) maps for the four USDA-ARS properties identifies a total of approximately 38 acres of NWI wetlands, 18 acres of NWI freshwater ponds, and 42 acres of NWI freshwater lakes (USFWS 2000) (Figure 3-5). Table 3-10 describes the acreage by property.

### Table 3-10 Summary of NWI Wetlands by USDA-ARS Property

<table>
<thead>
<tr>
<th>Property</th>
<th># NWI Wetlands</th>
<th>Type</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>RD1</td>
<td>1</td>
<td>Freshwater Emergent Wetland</td>
<td>0.54</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Freshwater Forested/Shrub Wetland</td>
<td>4.49</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td></td>
<td>5.03</td>
</tr>
<tr>
<td>RD2</td>
<td>4</td>
<td>Freshwater Emergent Wetland</td>
<td>15.62</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Freshwater Forested/Shrub Wetland</td>
<td>8.43</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Freshwater Pond</td>
<td>1.59</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Lake</td>
<td>42.66</td>
</tr>
<tr>
<td>Subtotal</td>
<td>11</td>
<td></td>
<td>68.30</td>
</tr>
<tr>
<td>BJ1</td>
<td>1</td>
<td>Freshwater Pond</td>
<td>1.05</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1</td>
<td></td>
<td>1.05</td>
</tr>
<tr>
<td>BJ2</td>
<td>5</td>
<td>Freshwater Emergent Wetland</td>
<td>8.84</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Freshwater Pond</td>
<td>15.48</td>
</tr>
<tr>
<td>Subtotal</td>
<td>8</td>
<td></td>
<td>24.33</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td></td>
<td>98.71</td>
</tr>
</tbody>
</table>

Source: USFWS 2000
Figure 3-5 NWI Wetland Types
Three freshwater emergent wetland types, two freshwater forested/shrub wetland types, three freshwater pond types, and two freshwater lake types, as identified by NWI, occur on the four USDA-ARS properties:

- palustrine emergent persistent temporary flooded wetland (PEM1A);
- palustrine emergent persistent semi-permanently flooded wetland (PEM1F);
- palustrine emergent persistent intermittently exposed wetland (PEM1G);
- palustrine forested needle-leaved deciduous semi-permanently flooded wetland (PFO2F);
- palustrine forested deciduous seasonally flooded wetlands (PFO6C);
- palustrine aquatic bed rooted vascular permanently flooded freshwater pond (PAB3H);
- palustrine aquatic bed floating vascular permanently flooded freshwater pond (PAB4H);
- palustrine unconsolidated bottom permanently flooded freshwater pond (PUBH);
- lacustrine littoral aquatic bed rooted vascular permanently flooded freshwater lake (L2AB3H); and
- lacustrine limnetic unconsolidated bottom permanently flooded freshwater lake (L1UBH) (USFWS 2000).

The freshwater emergent wetland types identified by NWI correlate with the freshwater marshes and floating/emergent aquatic vegetation, and the freshwater forested/shrub wetland types correlate with the cypress and mixed wetland hardwood vegetation described by the Florida Natural Areas Inventory (FNAI) (FNAI 2010). The cypress and mixed hardwood vegetation communities are discussed in Section 3.5.1.1 Vegetation.

The ponds, lakes, and intermittent stream found on the four USDA-ARS properties are discussed in detail under Section 3.3 Water Resources.

### 3.4.1.1 Robins’ Donation 1

The NWI wetlands within RD1 include one freshwater emergent wetland and two freshwater forested/shrub wetlands totaling approximately 5 acres. The freshwater emergent wetland occurs in the northeast portion of the property and is surrounded by one of the forest/shrub wetlands. The second forest/shrub wetland occurs in the south portion of the property (USFWS 2000). One intermittent stream also intersects the site flowing east through the middle of the property and eventually drains into a wetland outside the property.

### 3.4.1.2 Robins’ Donation 2

The NWI wetlands within RD2 include four freshwater emergent wetlands, three freshwater forested/shrub wetlands, one freshwater pond, and one freshwater lake
totaling approximately 68 acres. Lake Lindsey, a perennial lake, is located in the northeastern corner of the property. A small outlet ditch drains from the southwest portion of the lake. The pond occurs along the southern boundary, which is surrounded by a forest/shrub fringe wetland. The remaining wetland occurs in the northern portion of the property with three emergent and one forest/shrub wetland on the fringes of Lake Lindsey (USFWS 2014a).

3.4.1.3 Bankhead Jones 1

The NWI wetlands within BJ1 include one freshwater pond totaling approximately 1 acre (USFWS 2014a).

3.4.1.4 Bankhead Jones 2

The NWI wetlands within BJ2 include five freshwater emergent wetlands and three freshwater ponds totaling approximately 24 acres. The five emergent wetlands are located in the north and northeastern portion of the property. The emergent wetland that occurs in the northern portion of the property is a fringe wetland to one of the ponds (USFWS 2014a).

3.4.2 Environmental Consequences

3.4.2.1 Proposed Action Alternative

Under the proposed action alternative, FAMU would manage and maintain the four properties and continue to use them for agricultural and natural resource research extending its current agricultural research efforts. Proposed research activities conducted by FAMU would be similar in nature to the type of agricultural research historically conducted by USDA-ARS at the sites.

On RD1, the proposed activities would be limited to watershed and wetland research and grazing. On RD2, BJ1, and BJ2, because proposed agricultural research activities would not be conducted in or near wetlands, direct impacts on wetlands from research activities are not expected. Because livestock access to the emergent and forest/shrub wetlands would be restricted year-round, impacts on wetlands from livestock use are not expected. Continued soil tilling over time, where this practice is applied on RD2, BJ1, and BJ2, would have a negative impact on soil structure stability due to wind erosion and the breakdown of soil particles causing indirect adverse impacts on wetlands if runoff occurs. The use of BMPs would continue to minimize and prevent adverse impacts and maintain and control erosion and reduce potential sediment load release in the wetlands.

Research related to watersheds, wetlands, water quality, irrigation, and conservation would result in beneficial impacts on wetlands over the long-term. Additionally, wetlands
would continue to provide infiltration areas for sediment and provide habitat for fish and wildlife.

Therefore, impacts on wetlands under the proposed action alternative would be indirect adverse and negligible over the long-term with additional long-term beneficial impacts.

3.4.2.2 No Action Alternative

The USDA-ARS properties no longer function as an agricultural research station and may fall into a state of disrepair because USDA would have no appropriated resources for the continued maintenance of the properties. The lack of such use would benefit wetlands, ponds, and the lake at the properties over the short- and long-term. The wetland buffer (i.e., fringes) near the ponds and lake would expand as grazing and mowing decrease, which would increase the functionality of the wetlands for fish and wildlife habitat. Additionally, soil loss from agricultural fields would be reduced over time, which would decrease sediment loading into wetland and riparian areas, further increasing the functionality of this habitat, resulting in long-term beneficial impacts.

3.5 BIOLOGICAL RESOURCES

3.5.1 Vegetation

3.5.1.1 Affected Environment

The four USDA properties are located completely within the Southern Coastal Plain ecoregion (level IV) which covers parts of northern Florida and all of central Florida. The ecoregion consists of mostly flat plains and swampy lowlands along the Gulf and Atlantic coasts. It is warmer, more heterogeneous, and has a longer growing season and coarser textured soils than the Middle Atlantic Coastal Plain. Once covered by a variety of forest communities that included trees of longleaf pine, slash pine, pond pine, beech, sweetgum, southern magnolia, white oak, and laurel oak, land cover in the region is now mostly slash and loblolly pine with oak-gum-cypress forest in some low lying areas, citrus groves, pasture for beef cattle, and urban areas.

The Central Florida Ridges and Uplands subregion located within the Southern Coastal Plain encompasses the four USDA-ARS properties that include upland xeric, sandy, well-drained areas and permanent ridges. This current land cover in this subregion consists of citrus orchards, herbaceous rangeland, cropland and pasture, and urban/built-up land. Areas of natural vegetation consist of forests of longleaf pine, turkey oak, and wiregrass.

The Guide to the Natural Communities of Florida (FNAI 2010) developed by FNAI presents a hierarchical classification of Florida natural communities. The 2010 FNAI natural community classification groups natural communities into categories based on a
combination of vegetation, landscape position, and hydrology. The acreage of these natural communities within the four USDA-ARS properties is depicted in Figure 3-6 and included in Table 3-11 and discussed below. Croplands/agricultural lands and rural open forests are also included in Table 3-11. Marshes and communities with floating/emergent aquatic vegetation also occur within the four USDA-ARS properties and are discussed in Section 3.4.

**Robins’ Donation 1**

The property is in a rural area consisting of wooded land in the southern portion of the site with partial clearing in the northern portion.

The 2010 FNAI natural communities within RD1 include cypress and mixed hardwood-coniferous forest. The property also includes cropland and pasture.

The area surrounding RD1 is primarily undeveloped land with several roadways adjacent to the property and residential development. Land to the north is wooded land with scattered residential development, and the land to the east contains some wooded land with mostly developed residential property. State Road 48SB/Yontz Road follows the property to the south between the site, and an area of undeveloped wooded land with several residential structures and Joyce Drive is to the west between the site and a developed residential area.

**Robins’ Donation 2**

The majority of the property was used for agricultural purposes, and the land consisted primarily of open pastures with some wooded areas located in the northern and the southwestern quadrants of the property. The southern shore of Lake Lindsey encroaches onto the northeastern quadrant of the site.

The property has some wooded areas and open pasture. The 2010 FNAI natural communities within RD2 include cypress, upland pine, xeric hammock, mixed hardwood-coniferous forest, and mixed wetland hardwood. The property also includes cropland and pasture.

The area surrounding RD2 is a mix of agricultural, undeveloped, developed, and wooded land. Land to the east is a mix of agricultural, undeveloped, and wooded land while land to the east contained areas that are partially developed and wooded areas.

**Bankhead Jones 1**

BJ1 consists of undeveloped, wooded land in the northeast portion and large cleared areas in the northwest portion, the south one-third, the east-central portion, and the southern one-third.
The 2010 FNAI natural communities within BJ1 include sandhill and mixed hardwood-coniferous forest. The property also includes cropland and pasture.

Table 3-11 Acres of Vegetation Types by USDA-ARS Property

<table>
<thead>
<tr>
<th>Vegetation Description</th>
<th>Amount Within Each Property (Acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RD1</td>
</tr>
<tr>
<td>Mixed Hardwood-Coniferous Forest/Woodland</td>
<td>105.2</td>
</tr>
<tr>
<td>Upland Pine</td>
<td>0</td>
</tr>
<tr>
<td>Xeric Hammock</td>
<td>0</td>
</tr>
<tr>
<td>Sandhill</td>
<td>0</td>
</tr>
<tr>
<td>Cypress</td>
<td>4.4</td>
</tr>
<tr>
<td>Mixed Wetland Hardwood</td>
<td>0</td>
</tr>
<tr>
<td>Croplands/Agriculture</td>
<td>28.6</td>
</tr>
<tr>
<td>Rural Open Forest</td>
<td>0</td>
</tr>
</tbody>
</table>

The area surrounding BJ1 is a mix of developed land and undeveloped wooded land. Land to the north is sparsely developed along Lake Lindsey Road with the remainder of the land to the north undeveloped, wooded land. The area to the east and west consists of undeveloped wooded land with some cleared areas to the east and a limited area cleared with several structures to the west. Land to the south is undeveloped, wooded land.

**Bankhead Jones 2**

BJ2 consists mostly of croplands/agricultural lands with a minor amount of rural open forest. The 2010 FNAI natural communities within BJ2 include sandhill and mixed hardwood-coniferous forest with a small amount of mixed wetland hardwood. The property also includes cropland and pasture.

The area surrounding BJ2 is primarily undeveloped land with several roadways adjacent to the property, minor agricultural lands, and residential development. Land to the north is bordered by Lake Lindsey Road and rural undeveloped land and Townsend Lake. Lucille Shady Lane borders the property to the east between the site and an area of undeveloped land with minor, agricultural land adjacent to the northeast corner of the site. Land to the south is undeveloped, rural land, and Daly Road borders the western portion of the site between the site and cleared land used for agriculture with residential development near the southwest corner of the site.
Figure 3-6 Natural Communities within USDA-ARS Properties
Invasive Species

Invasive and noxious weeds are plants that are not native to Florida and were introduced accidentally, unintentionally, and/or intentionally. Invasive and noxious weeds rapidly displace desirable plants that provide habitat for wildlife and food for people and livestock. Noxious weeds are recognized on state and federal lists and are generally considered those that are exotics and/or negatively impact agriculture, navigation, fish, wildlife, and public health. On February 3, 1999, Executive Order 13112 was issued to discourage the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health impacts that invasive species cause. Executive Order 13112 requires that each federal agency whose actions may affect the status of invasive species to the extent practicable and permitted by law to undertake the following:

..... be subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: 1) prevent the introduction of invasive species; 2) detect and respond rapidly to, and control, populations of such species in a cost-effective and environmentally sound manner; 3) monitor invasive species populations accurately and reliably; and 4) provide for restoration of native species and habitat conditions in ecosystems that have been invaded.

Damage from invasive exotic plants is a common problem in mixed hardwood, sandhill, and upland pine forests in Florida. Past and ongoing disturbance leaves hammocks vulnerable to invasion by a wide variety of invasive exotic plants, which compete with native plants and often become the dominant ground or vine cover. Table 3-12 lists the 14 plant species found in Hernando County, Florida, that are considered invasive that may occur at the four USDA-ARS properties.

Table 3-12 Invasive Species Known in Hernando County, Florida

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Potato</td>
<td>Dioscorea bulbifera</td>
</tr>
<tr>
<td>Caesar’s Weed</td>
<td>Urena lobata</td>
</tr>
<tr>
<td>Camphor Tree</td>
<td>Cinnamomum camphora</td>
</tr>
<tr>
<td>Chinaberry</td>
<td>Melia azedarach</td>
</tr>
<tr>
<td>Chinese Fan Palm</td>
<td>Livistona chinensis</td>
</tr>
<tr>
<td>Chinese Tallow</td>
<td>Sapium sebiferum</td>
</tr>
<tr>
<td>Cogon Grass</td>
<td>Imperata cylindrica</td>
</tr>
</tbody>
</table>
3.5.1.2 Environmental Consequences

Determination of significance of potential impacts on the vegetation community is based on: (1) the importance (i.e., legal, commercial, recreational, ecological, or scientific) of the vegetation; (2) the proportion of the vegetation that would be affected relative to its occurrence in the region; (3) the sensitivity of the proposed activities; and (4) the duration of ecological ramifications. Impacts on the vegetation community are significant if species or habitat crucial to the vegetation community is adversely affected over relatively large areas or where disturbances cause reductions in the size or distribution of the vegetation community.

Proposed Action Alternative

Under the proposed action alternative, FAMU would manage and maintain the four properties and continue to use them for agricultural and natural resource research extending its current agricultural research efforts.

Proposed research activities conducted by FAMU would be similar in nature to the type of agricultural research historically conducted by USDA-ARS at the sites. In general, the previous land use would continue on the four properties, including BMPs that maintain and control erosion and reduce potential sediment load release in the local drainages. No major changes are proposed by FAMU as part of the proposed action alternative.

The transfer of ownership would not impact existing vegetation at RD1, RD2, BJ1, and BJ2, and agricultural research land would be maintained, cultivated, and harvested in a manner similar to the previous agricultural research activities conducted by USDA-ARS. Conversion of forested areas to other cover types such as pasture or cropland is not proposed, so forested acreage would remain similar to present conditions. Cattle, at previous levels or
lower, would be added in vegetation types meant for livestock grazing, causing negligible adverse impacts.

Research related to watersheds, wetlands, water quality, irrigation, and conservation would result in beneficial impacts on vegetation over the long-term.

Therefore, impacts on vegetation under the proposed action alternative would be adverse and negligible over the long-term with additional long-term beneficial impacts.

**Invasive Species**

Continued management of the four USDA-ARS properties under the proposed action alternative would be beneficial to the suppression of exotic weeds and other invasive species. Invasive and exotic plants were managed at the four USDA-ARS properties by a variety means, which would continue in the future under the proposed action alternative. The potential for proliferation of invasive and exotic weeds in abandoned fields would not occur under the proposed action alternative.

**No Action Alternative**

Under the no action alternative, existing vegetation would remain the same, and the properties would continue to go fallow and may fall into a state of disrepair because USDA-ARS would have no appropriated resources for continued maintenance. Consequently, there would be a high probability for increased growth of invasive and noxious weeds within the short-term within the USDA-ARS’ fallow fields. The alternative would lead to a potentially adverse effect in the short-term by indirectly affecting the balance of invasive and noxious weed species and increasing those species’ ability to germinate and disperse their seeds to adjacent areas. In the long-term, former agricultural lands would succeed back to a more natural/unmanaged state if the land is not maintained.

**Invasive Species**

Under the no action alternative, invasive species and exotic weeds would likely invade disturbed areas and fields. These conditions could be short-term or more persistent in the long-term depending on which species become established. This condition could indirectly affect neighboring property owners by the expansion of invasive and exotic plants, which would be a seed source for adjacent property.

**3.5.2 Wildlife**

**3.5.2.1 Affected Environment**

Wildlife habitat within the four USDA-ARS properties occurs primarily as agricultural lands and croplands, including fields and pastures. Although the properties had been actively
managed as part of the USDA-ARS operations, these areas do serve as habitat for those species that prefer open areas and grassland habitats. FNAI identified the following habitat associations for common fish and wildlife species (FNAI 2010). See Table 3-11 in Section 3.5.1.1 Vegetation, Affected Environment, for a description of the properties where these habitat types occur and the acreages of each. Figure 3-6 in Section 3.5.1.1 Vegetation, Affected Environment, depicts the location of each habitat type within the four properties. Terrestrial and aquatic wildlife species known to occur or likely to occur within one or more of the habitat types present on the USDA-ARS properties are listed in Appendix C.

**Mixed Hardwood-Coniferous Forest/Woodland**

Mixed hardwood-coniferous forests and woodlands are characterized as well-developed, closed-canopy forests of upland hardwoods on rolling hills that have similar physical environments. More than 50 rare plants occur in upland hardwood forest throughout its range, and several wildlife species reach their southern limit within hardwood forest in northern Florida. This habitat type is found within all four properties.

**Upland Pine**

Upland pine forest is a rolling forest of widely spaced pines with few understory shrubs and a dense ground cover of grasses and herbs. This habitat type occurs in a minimal amount on RD2.

**Xeric Hammock**

Xeric hammock is characterized as either a scrubby, dense, low canopy forest with little understory other than palmetto, or a multi-storied forest of tall trees with an open or closed canopy. This habitat type occurs in a minimal amount on RD2.

**Sandhill**

Sandhills are characterized as a forest of widely spaced pine trees with a sparse understory of deciduous oaks and a fairly dense ground cover of grasses and herbs on rolling hills of sand. A large portion of the sandhills community in Florida has been converted to citrus groves, pastures, pine plantations, or developed land. Therefore, managing the remaining areas of this habitat is important (FNAI 2010). This habitat type occurs in a minimal amount on BJ1 and in larger amounts on BJ2.

**Cypress**

Cypress forests are freshwater, forested wetlands that occur on floodplains or depressions dominated entirely by cypress or tupelo; or these species are important in the canopy. These communities provide important wildlife habitat, contribute to flood attenuation, and help protect the overall water quality of streams and rivers. They provide important
foraging and nesting habitat for several rare animals, and many wading birds depend on
the mosaic of habitats found in these communities for roosting, feeding, and nesting. This
habitat type occurs on RD1 and RD2.

*Mixed Wetland Hardwood*

Mixed wetland hardwood communities are dominated by a mix of hydrophytic hardwood
trees that occur at the base of slopes, edges of floodplains, or in depressions. Communities
in this habitat range from bottomland forests that are low-lying, closed-canopy forest, to
floodplain forest that occurs on drier soils at slight elevations. These forests harbor a
diverse array of animals including both temporary and permanent residents and contribute
to the overall water quality of streams and river systems with which they are connected.
Large mammals such as the Florida black bear often rely on long corridors of forested
wetlands. This habitat type occurs on RD2 and BJ2.

*Wetlands*

Wetland habitat within the four USDA-ARS properties includes one freshwater emergent
wetland and two freshwater forested/shrub wetlands located in RD1; four freshwater
emergent wetlands and three freshwater forested/shrub wetlands in RD2; and five
freshwater emergent wetlands of varying size in BJ2 (USFWS 2014a).

*Lakes, Ponds, and Streams*

Surface waters within the four USDA-ARS properties include one intermittent stream that
intersects RD1, Lake Lindsey and one freshwater perennial pond in RD2, a freshwater
intermittent pond and a water storage reservoir in BJ1, and three freshwater small
perennial pond in BJ2 (USFWS 2014a). Lakes are important breeding areas for many
terrestrial and semi-aquatic amphibians. They are frequently very important feeding and
nesting areas for many wading birds, ducks, reptiles, and fish.

**3.5.2.2 Environmental Consequences**

Determination of significance of potential impacts on wildlife resources is based on: (1) the
importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource;
(2) the proportion of the resource that would be affected relative to its occurrence in the
region; (3) the sensitivity of the resource to proposed activities; and (4) the duration of
ecological ramifications. Impacts on wildlife resources are significant if species or habitats
-crucial to the continued existence of the resource are adversely affected or disturbances
cause reductions in population size or distribution of a resource.
3.5.2.3 Proposed Action Alternative

Under the proposed action alternative, FAMU would manage and maintain the four properties and continue to use them for livestock production and management, extending its current agricultural and natural resource research efforts. Proposed research activities conducted by FAMU would be similar in nature to the type of agricultural research historically conducted by USDA-ARS at the site. Effects on wildlife from FAMU’s proposed agricultural research activities would remain similar or the same as under previous USDA-ARS research conditions, with similar levels of disturbance to wildlife from tractors, vehicles, and people. FAMU does not propose any major changes as part of the proposed action alternative.

The transfer of ownership would not impact existing habitat at RD1, RD2, BJ1, and BJ2, and FAMU would maintain, cultivate, and harvest agricultural research land in a manner similar to the previous USDA-ARS agricultural research activities. Conversion of forested areas to other cover types such as pasture or cropland is not proposed, so forested acreage would remain similar to present conditions.

Research related to watersheds, wetlands, water quality, irrigation, and conservation would result in beneficial impacts on fish and wildlife and their habitats over the long-term. Educational and teaching events at the properties would temporarily draw people to the site. These events could increase disturbances to wildlife for short durations. However, this effect is expected to be minor because it would be temporary.

Therefore, impacts on wildlife under the proposed action alternative would be adverse and negligible to minor over the long-term with additional long-term beneficial impacts.

3.5.2.4 No Action Alternative

Under the no action alternative, the existing wildlife would remain the same. Farmland would continue to go fallow, and existing facilities may fall into a state of disrepair because USDA would have no appropriated resources for the continued maintenance of the properties. Consequently, there would be a high probability for increased growth of invasive and noxious weeds within the short-term within USDA’s fallow fields and a subsequent change in species composition of wildlife. The alternative would lead to an increase in the diversity of wildlife in the long-term as existing vegetation succeeds to a new vegetation composition, and former agricultural lands would succeed back to a more natural/unmanaged state if the property is not developed. Because the four properties would continue to be unused under the no action alternative, non-native areas would revert to native vegetation, and grasslands would revert to forest. This change would have benefits to fish and wildlife species over time. As soil and vegetation disturbance ceased
over the long-term, the potential for effects on water resources and fish and wildlife habitat would decrease. As a result, long-term beneficial impacts would occur, and the no action alternative would not cause adverse impacts on wildlife.

3.5.3 **Special-Status Species**

3.5.3.1 **Affected Environment**

Special-status species include federal- and state-listed species or state species of special concern. Federally listed species are those designated by the United States Fish and Wildlife Service (USFWS) as threatened or endangered under the Endangered Species Act of 1973. State-listed species are those given separate or additional protection at the state level in Florida under the Florida Endangered and Threatened Species Act. Species granted protection at the state level are designated by the Florida Fish and Wildlife Conservation Commission (FWC). Although these designations are separate from federal designation under the Endangered Species Act, state-level designations in Florida are typically at the same level or higher than federal listings. Bald eagles also are protected at the federal level under the Bald and Golden Eagle Protection Act of 1940, and most migratory bird species are protected under the Migratory Bird Treaty Act of 1918 (MBTA).

The MBTA, originally implemented in 1918, prohibits the take, transportation, or sale of migratory birds, feathers, eggs, or nests. The MBTA was originally an agreement between the United States and Canada, but has since been amended to include Mexico, Japan, and Russia. The MBTA was further amended by executive order in 2001, extending responsibility of implementation for the purposes of migratory bird conservation to all federal agencies. Executive Order 13186 requires all federal agencies “taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations” to develop and implement an MOU with USFWS to promote the conservation of migratory bird populations.

The area of the four properties contains four federally listed threatened or endangered species along with one candidate species and one species listed due to similarity of appearance. Additionally, 14 state-listed species are known to occur or likely to occur in one or more of the properties. Critical habitat has not been designated for any of these species. Special-status species occurring or potentially occurring within the project area are listed in Table 3-13 and described below. All of the species may occur in any or all of the four properties unless otherwise noted.

Species lists were compiled from the most recent lists published by USFWS and FWC (USFWS 2014b, FWC 2013). Additional sources of information include a letter from USFWS dated September 21, 1988, announcing the final rule for the designation of two endangered plant species known to occur on USDA-ARS property (USFWS 1988). Informal
consultations with USFWS in April 2012 and November 2014 concluded with a determination of “no effect” on the four federally listed species known to occur or likely to occur on the properties (Florida scrub-jay, eastern indigo snake, Brooksville bellflower, and Cooley’s water-willow).

**Birds**

**Burrowing owl (Athene cunicularia)**

The burrowing owl is one of the smallest owl species, characterized by brown dorsal feathers with patches of white spots, and a white underside with brown bar-shaped spots and large yellow eyes. Burrowing owls occur throughout most of peninsular Florida. This species digs burrows in the ground in which to nest, and nesting occurs between October and May, with March being the primary time for laying eggs. Threats to this species include loss of habitat due to land development, harassment by humans and domestic animals, and flooding (FWC 2014b).

**Florida sandhill crane (Grus canadensis pratensis)**

The Florida sandhill crane is a large wading species characterized by its long neck and legs and a bald spot of red skin on the top of its head. This species occurs throughout most of peninsular Florida. Nesting occurs in trees in or near freshwater ponds and marshes. This species has been documented at RD2 (Pers. Comm., Griffin, E., 2015a). Threats to this species include degradation or direct loss of habitat due to wetland drainage or conversion of prairie for development or agricultural use. Historically, overhunting has played a role in the decline of this species (FWC 2014f).

**Florida scrub-jay (Aphelocoma coerulescens)**

The Florida scrub-jay is a blue and gray jay species which is only found in Florida, and occurs throughout most of peninsular portion of the state. Scrub-jays have a short breeding season with eggs and juveniles typically documented from March through June (FWC 2014g). An umbrella habitat conservation plan for the Florida scrub-jay was prepared by USFWS in 2007 and covers 34 Florida counties including Hernando County (USFWS 2007). The primary threats to the Florida scrub-jay are habitat destruction, fragmentation, and degradation from development and agriculture. Other threats include fire suppression and vehicle strikes (FWC 2014g).
Table 3-13 Special-status Species in the Project Area

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Federal Status</th>
<th>Florida Status</th>
<th>Preferred Habitat</th>
<th>Likely to Occur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burrowing owl</td>
<td><em>Athene cunicularia</em></td>
<td>SSC</td>
<td></td>
<td>Open prairie</td>
<td>May occur anywhere on property</td>
</tr>
<tr>
<td>Florida sandhill crane</td>
<td><em>Grus canadensis pratensis</em></td>
<td>ST</td>
<td></td>
<td>Freshwater marshes; prairies and pastures</td>
<td>May occur in or around wetland areas of RD1 or near Lake Lindsey in RD2</td>
</tr>
<tr>
<td>Florida scrub-jay</td>
<td><em>Aphelocoma coerulescens</em></td>
<td>FT</td>
<td></td>
<td>Pine and oak scrub; sand dunes</td>
<td>May occur anywhere on property</td>
</tr>
<tr>
<td>Limpkin</td>
<td><em>Aramus guarauna</em></td>
<td>SSC</td>
<td></td>
<td>Shallows along rivers, streams, lakes, and in marshes</td>
<td>Known to occur in RD2</td>
</tr>
<tr>
<td>Little blue heron</td>
<td><em>Egretta caerulea</em></td>
<td>SSC</td>
<td></td>
<td>Fresh, salt, and brackish water environments; thickets near waterbodies</td>
<td>May occur in or around wetland areas of RD1 or near Lake Lindsey in RD2</td>
</tr>
<tr>
<td>Southeastern American kestrel</td>
<td><em>Falco sparverius Paulus</em></td>
<td>ST</td>
<td></td>
<td>Open woodlands, sandhill, and fire maintained pine savannah, pastures, open prairie</td>
<td>May occur anywhere on property</td>
</tr>
<tr>
<td>Tricolored heron</td>
<td><em>Egretta tricolor</em></td>
<td>SSC</td>
<td></td>
<td>Trees and shrubs near standing water</td>
<td>May occur in or around wetland areas of RD1 or near Lake Lindsey in RD2</td>
</tr>
<tr>
<td>White ibis</td>
<td><em>Eudocimus albus</em></td>
<td>SSC</td>
<td></td>
<td>Coastal marsh and wetland habitats</td>
<td>May occur in or around wetland areas of RD1 or near Lake Lindsey in RD2</td>
</tr>
<tr>
<td>Reptiles &amp; Amphibians</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American alligator</td>
<td><em>Alligator mississippiensis</em></td>
<td>FT (SOA)</td>
<td></td>
<td>Rivers, swamps, estuaries, lakes, and marshes</td>
<td>May occur in or around wetland areas of RD1 or near Lake Lindsey in RD2</td>
</tr>
<tr>
<td>Eastern indigo snake</td>
<td><em>Drymarchon corais couperi</em></td>
<td>FT</td>
<td></td>
<td>Pine flatwoods, hardwood forests, moist hammocks, and areas surrounding cypress swamps</td>
<td>May occur anywhere on property</td>
</tr>
<tr>
<td>Florida pine snake</td>
<td><em>Pituophis</em></td>
<td>SSC</td>
<td></td>
<td>Long-leaf pine and scrub</td>
<td>May occur anywhere on property</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Federal Status</td>
<td>Florida Status</td>
<td>Preferred Habitat</td>
<td>Likely to Occur</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>melanoleucus</td>
<td>musculus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gopher frog</td>
<td>Lithobates capito</td>
<td>SSC</td>
<td></td>
<td>Forest, scrub, and prairie</td>
<td>May occur anywhere on property</td>
</tr>
<tr>
<td>Gopher tortoise</td>
<td>Gopherus polyphemus</td>
<td>FC</td>
<td>ST</td>
<td>Longleaf pine-xeric oak sandhills; scrub; dry hammocks; pine flatwoods; dry prairies; coastal grasslands and dunes; mixed hardwood-pine communities; pastures</td>
<td>May occur anywhere on property</td>
</tr>
<tr>
<td>Short-tailed snake</td>
<td>Lampropeltis extenuate</td>
<td>ST</td>
<td></td>
<td>Longleaf pine and xeric oak sandhills; scrub; xeric hammock</td>
<td>May occur anywhere on property</td>
</tr>
<tr>
<td><strong>Mammals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida mouse</td>
<td>Podomys floridanus</td>
<td>SSC</td>
<td></td>
<td>Xeric uplands including sandhill and scrub habitats; gopher tortoise burrows</td>
<td>May occur anywhere on property</td>
</tr>
<tr>
<td>Homosassa shrew</td>
<td>Sorex longirostris</td>
<td>SSC</td>
<td></td>
<td>Hardwood swamp/mixed wetland forest, hydric and xeric hammocks, industrial/commercial pineland, mixed hardwood-pine forest, natural pineland, and disturbed/transitional habitat</td>
<td>May occur anywhere on property</td>
</tr>
<tr>
<td>Sherman's fox</td>
<td>ciurus niger</td>
<td>SSC</td>
<td></td>
<td>Fire-maintained longleaf pine, turkey oak, sandhills, and flatwoods</td>
<td>Known to occur in BJ2</td>
</tr>
<tr>
<td>Squirrel</td>
<td>shermani</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Plants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brooksville bellflower</td>
<td>Campanula</td>
<td>FE</td>
<td></td>
<td>Wet prairie habitat and along the edges of ponds near pastureland</td>
<td>Known to occur near Burn's Prairie in RD2</td>
</tr>
<tr>
<td>Cooley's water-willow</td>
<td>Justicia cooleyi</td>
<td>FE</td>
<td></td>
<td>Hardwood forests on uplands or hills; wet hammocks or swamps</td>
<td>Known to occur in RD2</td>
</tr>
</tbody>
</table>

1 FE = Federally endangered; FT = Federally threatened; FC = Federal candidate species; FT (SOA) federally threatened due to similarity of appearance; 2 ST = State-threatened SSC = State species of special concern 3 Source: FWC 2013, USFWS 2014b
Limpkin \((Aramus guarauna)\)

The limpkin is a long-legged species of water bird that has dark brown feathers with streaks of white on the head and neck and a long down-curved bill. In the United States, this species is only found in Florida and is relatively common throughout most of peninsular Florida but rarer in the Panhandle and Keys. Nesting occurs between February and June. Threats to the limpkin include declines in the abundance of their primary prey item (apple snails), habitat destruction, pollution, and the spread of aquatic invasive plant species (mainly hyacinths and cattails). Historically, this species was hunted to near extirpation in Florida, but populations have since recovered (FWC 2014k).

Little blue heron \((Egretta caerulea)\)

The little blue heron is a small wading bird species characterized by a grayish-blue body and a dark red head during breeding, and a purplish head and neck during non-breeding periods. In the United States, the little blue heron can be found from Missouri, east to Virginia, south to Florida, and west to Texas. In peninsular Florida, they are relatively common and widespread but somewhat rare in the Panhandle. Primary threats to the little blue heron include coastal development, disturbance at foraging and breeding sites, degradation of feeding habitat, reduced prey availability, and predation. Other threats may include exposure to pesticides, toxins, and infection by parasites (FWC 2014l).

Southeastern American kestrel \((Falco sparverius Paulus)\)

The Southeastern American kestrel is the smallest falcon species found in the United States, and it has a brownish dorsal area with black flecking, a white belly, and black marks extending from the eyes downward. This species occurs throughout Florida and is also found remotely in the coastal plains of Louisiana, Georgia, and South Carolina. This species nests in cavities excavated in large dead trees by woodpeckers, and breeding occurs from March until June. Primary threats to this species include loss of nesting and feeding habitat due to residential and agricultural development, removal of trees in agriculture fields, and fire suppression. Kestrels are also vulnerable to pollutants such as polychlorinated biphenyls (PCBs), pesticides, and heavy metals (FWC 2014o).

Tricolored heron \((Egretta tricolor)\)

The tricolored heron is a wading species characterized by dark slate-blue colored head and upper body, a purple chest, a white underside, and a long, slender neck and bill. This species occurs from Massachusetts, south throughout the Gulf of Mexico and Caribbean, to northern Brazil. Breeding sites can also be found on the Pacific Coast from Baja California south to Ecuador. Tricolored herons are widespread, permanent residents in Florida, although they are less common in some parts of the Panhandle. Tricolored herons breed in
colonies between the months of February and August. Primary threats to this species include habitat loss and degradation due to alterations to hydrology, reduced prey abundance, and exposure to pollutants and pesticides (FWC 2014p).

**White ibis (Eudocimus albus)**

The white ibis is mostly white with black tipped wings, a red face, red legs, and a very distinct down curved, pink bill, which is used to probe the ground for food while foraging. This species ranges from Baja California and Sinaloa, Mexico, east through south Texas, Louisiana, Alabama, Georgia, coastal North Carolina, south throughout the Greater Antilles, and South America to Peru, and French Guiana. This species is found throughout most of Florida. Ibis breed in large, colonial groups along the coast and inland between February and October, with the peak in the spring and summer. Nests may be located on the ground or as high as 50 feet up in trees. The primary threat to the white ibis is the loss of wetland habitat due to development and hydrologic alteration (FWC 2014q).

**Reptiles and Amphibians**

**American alligator (Alligator mississippiensis)**

The American alligator was previously listed as an endangered species at the federal level due to overharvesting, but has been considered fully recovered by USFWS since 1987. However, the American alligator is now listed as “threatened due to similarity of appearance,” given its close resemblance to other species protected under the Endangered Species Act such as the American crocodile (Crocodylus acutus) (USFWS 2008). The American alligator is a large reptile that can reach lengths in excess of 14 feet and is blackish in appearance with pale crossbands on the back and vertical markings on the sides. Alligators occur throughout the southeastern United States from southeast Oklahoma and east Texas, east to North Carolina, and south to Florida. Breeding typically occurs in May or June. The primary threats to the American alligator are loss and destruction of wetland habitat due to urban development (FWC 2014a).

**Eastern indigo snake (Drymarchon corais couperi)**

The eastern indigo snake is a non-venomous species that is bluish-black in color with smooth scales and a red or brown chin, cheek, and throat. This species occurs throughout Peninsular Florida and southeastern Georgia. This species breeds between the months of November and April and nests between the months of May and August. They frequently deposit their eggs in gopher tortoise burrows. The primary threats to the eastern indigo snake are habitat loss, degradation, and fragmentation due to urban development (FWC 2014c).
Florida pine snake (*Pituophis melanoleucus mugitus*)

The Florida pine snake has a brown back with dark blotches, white belly, ridged scales, small head, and pointed snout. The range of this species extends from southwest South Carolina, west to Mobile Bay in Alabama, and south to Florida. The Florida pine snake occurs throughout most of Florida with the exception of the Everglades. This species nests in burrows from June to August, with the eggs hatching in September and October. The primary threats to the Florida pine snake are habitat loss, degradation, and fragmentation due to commercial, residential, and agricultural development (FWC 2014e).

Gopher frog (*Lithobates capito*)

The gopher frog is a stout-bodied frog that has a cream to brown-colored body with irregular dark spots on its sides and back, a large head, warty skin, rounded snout, short legs, and a light brown ridge found behind its eyes. This species is found throughout most of Florida and is relatively resistant to habitat disturbances. Breeding occurs in shallow pools or ponds and can occur from early spring to summer, depending on geographic location. The primary threats to the gopher frog are habitat loss and degradation due to fire suppression, and reduced reproductive success due to the introduction of fish species that feed on eggs and tadpoles (FWC 2014h).

Gopher tortoise (*Gopherus polyphemus*)

The gopher tortoise is a moderate-sized, terrestrial turtle with a brown, gray, or tan upper shell (carapace), a yellow lower shell (plastron), and brown to dark gray skin. Gopher tortoises are also characterized by their stumpy, elephant-like hind feet and flattened, shovel-like forelimbs that are used for digging burrows. This long-lived species can exceed 60 years of age and reaches sexual maturity at between 10 and 20 years. The range of this species extends from southern South Carolina, southwest to extreme southeastern Louisiana, and throughout Florida. Gopher tortoises dig burrows that average 15 feet in length and more than 6 feet in depth, and breeding occurs from March to October. The primary threats to this species include habitat loss, degradation, and fragmentation due to urban development, road mortality, and poaching (FWC 2014i).

Short-tailed snake (*Lampropeltis extenuate*)

The short-tailed snake has a gray-colored body with 50-80 brown spots that are separated by yellow to red sections, a small head that is indistinct from its body, smooth scales, and a tail that makes up less than 10 percent of its total body length. This species is only found in Florida from the Suwannee River south to Highlands County. Little is known about the short-tailed snake’s nesting and reproductive behavior because it spends most of its life underground. The primary threats to this species are habitat loss, degradation, and
fragmentation due to commercial, residential, and agricultural development and associated declines in prey abundance, and predation by invasive red fire ants (FWC 2014n).

**Mammals**

**Florida mouse (Podomys floridanus)**

The Florida mouse is a large mouse species characterized by a yellowish-brown upper body with orange-colored sides and a white belly. This species occurs throughout most of Peninsular Florida but is rare throughout the Panhandle, the Everglades, and the Keys. This species nests inside gopher tortoise burrows where it digs small sub-burrows in which to build its nest. Reproduction occurs throughout the year, but peaks in the fall and winter. The primary threats to this species are habitat loss, degradation, and fragmentation due to commercial, residential, and agricultural development and habitat alteration due to fire suppression (FWC 2014d).

**Homosassa shrew (Sorex longirostris eonis)**

The Homosassa shrew is a small mammal species that has brownish-gray fur that covers its small eyes and ears. The Homosassa shrew occurs from north-central to south-central Florida with its range extending to both coastlines. Breeding occurs from March to October. The primary threats to this species are habitat loss, degradation, and fragmentation due to commercial, residential, and agricultural development and mortality due to invasive predators such as domestic cats (FWC 2014j).

**Sherman’s fox squirrel (ciurus niger shermani)**

Sherman’s fox squirrel is a large rodent species with an overall color that varies from black to brown with a black head, white ears, and a white snout. Fox squirrels are known for their long, bushy tails and their strong hind legs that enable them to leap far. This species occurs throughout the peninsula of Florida, north to central Georgia. Sherman’s fox squirrel has two breeding seasons annually. The winter breeding season is from October to February, and the summer breeding season is from April to August. This species has been observed in BJ2 (Pers. Comm., Griffin, E., 2015a). The primary threats to this species are habitat loss, degradation, and fragmentation due to commercial, residential, and agricultural development and fire suppression (FWC 2014m).

**Plants**

**Brooksville bellflower (Campanula robinsiae)**

The Florida Brooksville bellflower is an annual herb species that produces deep purple bell-shaped flowers during March and April. This species is native to the Brooksville Ridge, in north central Hernando County. There are currently only two known populations of the
Brooksville bellflower, one of which is located at Burn’s Prairie in the southwestern portion of RD2. This species was previously found in a pasture on the north side of Chinsegut Hill, but no longer occurs there (USFWS 2010a). A recovery plan for the Brooksville bellflower was prepared by USFWS in 1994 (USFWS 1994). Surveys for this species were conducted on RD2 in 2008 and 2009, and a 5-year review was prepared by USFWS in 2010 (USFWS 2010a). USDA-ARS currently permits FWC to manage the known population of the Brooksville bellflower at Burn’s Prairie in RD2 by controlling invasive vegetation. The primary threats to this species are habitat loss and degradation due to residential and agricultural development; exposure to runoff containing fertilizers, pesticides, and other contaminants; and hydrological changes associated with urbanization (USFWS 2014b).

Cooley’s water-willow (*Justicia cooleyi*)

Cooley’s water-willow is a perennial herb species that produces small purple and white flowers that form on forked, zigzag branches that are slightly longer than the leaves. Flowering occurs from August to December. Like the Brooksville bellflower, this species is native to the Brooksville Ridge, in north-central Hernando County (USFWS 2014b). This species is known to occur on the north side of Chinsegut Hill, in property RD2 of the project area (USFWS 1988). A recovery plan for Cooley’s water-willow was prepared by USFWS in 1994 (USFWS 1994), and a 5-year review was conducted in 2010 (USFWS 2010b). However, USFWS has not conducted a rangewide population survey since 1992, so the current distribution and population size of Cooley’s water-willow is largely unknown (USFWS 2010b). The primary threats to this species are habitat loss and degradation due to residential and agricultural development and limestone mining activities (USFWS 2014b).

3.5.3.2 Environmental Consequences

*Proposed Action Alternative*

Under the proposed action alternative, re-initiation of agricultural research activities could result in short-term disturbances to habitats, indirectly affecting special-status species. However, land use activities under the proposed action alternative would not constitute a significant change from previous use. Therefore, the proposed action alternative would have no effect on special-status species. Impacts on special-status species would be further minimized by avoiding and preserving sensitive habitats where possible. FAMU would ensure that all activities comply with conditions outlined in species recovery plans and habitat conservation plans, where appropriate, and would work with federal and state agencies to ensure that special-status species receive appropriate protection and management. FAMU would avoid conducting any project activities within the known range of the Brooksville Bellflower on the property and would continue to work in cooperation with FWC and USFWS, as appropriate, to ensure adequate conservation of this species.
The transfer of property from USDA to FAMU, described under the proposed action alternative, would not constitute a significant change from previous land use, and is not likely to have measurable negative effects on migratory bird populations. Impacts of the proposed action and activities outlined in FAMU’s Plan of Work would be minimized by the implementation of BMPs designed to avoid impacts on migratory birds and their habitats. Therefore, the proposed land transfer does not require the development of an MOU with USFWS under the MBTA.

**No Action Alternative**

Under the no action alternative, the four USDA-ARS properties would not be transferred to FAMU. The land and facilities would remain in their present state and may fall into a state of disrepair due to the absence of appropriated resources required to maintain research operations. As a result, no impacts on special-status species, including migratory birds, would occur.

### 3.6 AIR QUALITY

#### 3.6.1 Affected Environment

##### 3.6.1.1 National Ambient Air Quality Standards

USEPA defines ambient air in 40 CFR 50.1(e) as “that portion of the atmosphere, external to buildings, to which the general public has access.” In compliance with the 1970 Clean Air Act and the 1977 and 1990 Clean Air Act Amendments, USEPA has promulgated National Ambient Air Quality Standards (NAAQS) for the protection of the public health and welfare, allowing for an adequate margin of safety. To date, USEPA has issued NAAQS for the following criteria pollutants: carbon monoxide (CO), sulfur dioxide (SO2), particulate matter [particles with a diameter less than or equal to a nominal 10 micrometers (PM10)] and particles with a diameter less than or equal to nominal 2.5 micrometers (PM2.5)], ozone (O3), nitrogen dioxide (NO2), and lead (Pb).

##### 3.6.1.1 Air Quality General Conformity

Federal regulations designate counties in violation of the NAAQS as nonattainment areas. According to the severity of the pollution problem, nonattainment areas can be categorized as marginal, moderate, serious, severe, or extreme. USEPA classifies Hernando County as in attainment for all criteria pollutants. Table 3-14 presents the NAAQS for all criteria pollutants.
### Table 3-14 National Ambient Air Quality Standards

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Period</th>
<th>Federal Primary Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>O$_3$</td>
<td>8-hour</td>
<td>0.075 ppm</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>Annual</td>
<td>12.0 µg/m$^3$</td>
</tr>
<tr>
<td></td>
<td>24-hour</td>
<td>35 µg/m$^3$</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>24-hour</td>
<td>150 µg/m$^3$</td>
</tr>
<tr>
<td>CO</td>
<td>8-hour</td>
<td>9 ppm</td>
</tr>
<tr>
<td></td>
<td>1-hour</td>
<td>35 ppm</td>
</tr>
<tr>
<td>NO$_2$</td>
<td>Annual</td>
<td>0.053 ppm</td>
</tr>
<tr>
<td></td>
<td>1-hour</td>
<td>0.100 ppm</td>
</tr>
<tr>
<td>SO$_2$</td>
<td>1-hour</td>
<td>0.75 ppm</td>
</tr>
<tr>
<td>Pb</td>
<td>Rolling 3-month average</td>
<td>0.15 µg/m$^3$</td>
</tr>
</tbody>
</table>

Source: USEPA 2011

To regulate the emission levels resulting from a project, federal actions located in nonattainment or maintenance areas are required to demonstrate compliance with the general conformity guidelines established in 40 CFR Part 93, Determining Conformity of Federal Actions to State or Federal Implementation Plans (the Rule). Section 93.153 of the Rule sets the applicability requirements for projects subject to the Rule through the establishment of *de minimis* levels for annual criteria pollutant emissions. These *de minimis* levels are set according to criteria pollutant nonattainment area designations. For projects below the *de minimis* levels, a full conformity determination is not required. Those at or above the levels are required to perform a conformity analysis as established in the Rule. The *de minimis* levels apply to emissions that can occur during the construction or operation phases of the action. Because the project area is in attainment for all criteria pollutants, general conformity does not apply.

#### 3.6.1.2 Existing Ambient Air Quality Concentrations

With the exception of a few metropolitan areas, the majority of Florida is in attainment for all criteria pollutants. As a result, there are no monitors located within Hernando County. Existing ambient conditions are below the nonattainment levels for all criteria pollutants.
3.6.1.3 Regional Air Quality Index Summary

USEPA calculates the Air Quality Index (AQI) for five major air pollutants regulated by the Clean Air Act: ground-level O₃, PM, CO, SO₂, and NO₂. USEPA collects data daily to determine air quality and releases it in the form of the AQI. The AQI ranges from zero to 500, with zero being no air pollution and 500 representing severely unhealthy air pollution levels. An AQI value between 101 and 150 indicates that air quality is unhealthy for sensitive groups, which may be subject to negative health effects. Sensitive groups may include those with lung or heart disease, who would be negatively affected by lower levels of ground-level O₃ and PM than the rest of the general public. An AQI value between 151 and 200 is considered to be unhealthy and may result in negative health effects for the general public, with more severe effects possible for those in sensitive groups. AQI values above 200 are considered very unhealthy. An AQI over 300 represents hazardous air quality (AirNow 2013).

AQI data are not collected for Hernando County. However, in 2014 in nearby Pasco County, there were no days with an AQI above 100 (USEPA 2013).

3.6.1.4 Air Permit Requirements

During USDA-ARS operations, the properties did not produce enough emissions from stationary sources to be considered a Title V (major source) facility under the Clean Air Act. Therefore, there are no air operation permits for the facility.

3.6.1.5 Air Pollution Emissions

Emissions from the four USDA-ARS properties, while they were in use, included boiler emissions from the operations of the facilities on-site as well as mobile source emissions from vehicle traffic to and from the sites.

3.6.2 Environmental Consequences

3.6.2.1 Proposed Action Alternative

Under the proposed action alternative, the proposed research and demonstration projects may result in a more diverse use of the land, but would not significantly impact the local or regional air quality. The proposed bioprocessing center would be located in the existing structures on RD2 and is not anticipated to increase emissions or impact the local or regional air quality. There could be an increase in vehicle trips to or from the sites, but increased emissions would be negligible because FAMU projects minimal staffing (estimated at 15 personnel total) and limited annual visitors (estimated at 180 to 350 per year) for the four properties. As discussed in Section 3.9 Transportation, those proposed changes would have a negligible impact on local and regional traffic in the short- and long-
term. The proposed action alternative would not result in significant impacts and would not alter the existing attainment status for Hernando County.

3.6.2.2 No Action Alternative

Under the no action alternative, no land transfer would occur, and there would be no impact on air quality.

3.7 NOISE

3.7.1 Affected Environment

Noise is generally defined as unwanted sound. Ambient noise (the existing background noise environment) can be generated by a number of noise sources, including mobile sources, such as automobiles and trucks and stationary sources such as construction sites, machinery, or industrial operations. In addition, there is an existing and variable level of natural ambient noise from sources such as wind, streams and rivers, wildlife, and other sources.

The standard measurement unit of noise is the decibel (dB), which represents the acoustical energy present. Noise levels are measured in A-weighted decibels (dBA), a logarithmic scale that approaches the sensitivity of the human ear across the frequency spectrum. A 3-dB increase is equivalent to doubling the sound pressure level, but is barely perceptible to the human ear. Figure 3-7 provides some examples of sound levels of typical noise sources and noise environments.

No data was available for ambient noise in the area of the four USDA-ARS properties, which are predominantly located adjacent to agricultural areas and some residential areas along a number of thoroughfares; as such, the noise environment is typical to these land uses. Hernando County’s code limits noise levels to those stated in Table 3-15. It is important to note that maximum permissible sound levels are not based on the land use of the site creating the noise but on the land use receiving the noise. While the project sites are considered agricultural, in the instances where residential areas are nearby, residential maximum permissible sound levels would apply.
<table>
<thead>
<tr>
<th>Noise Source (at a given distance)</th>
<th>Typical Reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Defense Siren (100 ft)</td>
<td>140 (Pain)</td>
</tr>
<tr>
<td>Jackhammer (50 ft)</td>
<td>130 (Maximum Vocal Effort)</td>
</tr>
<tr>
<td>Pile Driver (50 ft)</td>
<td>120 (Maximum Vocal Effort)</td>
</tr>
<tr>
<td>Ambulance Siren (100 ft)</td>
<td>110 (Maximum Vocal Effort)</td>
</tr>
<tr>
<td>Motorcycle (25 ft)</td>
<td>100 (Very Annoying/Discomfort)</td>
</tr>
<tr>
<td>Power Lawnmower</td>
<td></td>
</tr>
<tr>
<td>Garbage Disposal (3 ft)</td>
<td>90 (Very Annoying/Discomfort)</td>
</tr>
<tr>
<td>Alarm Clock</td>
<td></td>
</tr>
<tr>
<td>Vacuum Cleaner (3 ft)</td>
<td>80 (Very Annoying/Discomfort)</td>
</tr>
<tr>
<td></td>
<td>70 (Intrusive)</td>
</tr>
<tr>
<td>Normal Conversation (5 ft)</td>
<td>60 (Normal Speech)</td>
</tr>
<tr>
<td>Dishwasher</td>
<td></td>
</tr>
<tr>
<td>Light Traffic (100 ft)</td>
<td>50 (Normal Speech)</td>
</tr>
<tr>
<td>Bird Calls (Distant)</td>
<td>40 (Quiet)</td>
</tr>
<tr>
<td>Soft Whisper (5 ft)</td>
<td>30 (Just Audible)</td>
</tr>
<tr>
<td>Human Breathing</td>
<td>20 (Just Audible)</td>
</tr>
</tbody>
</table>

Source: DoD n.d.

**Figure 3-7 Typical Noise Levels**
### Table 3-15 Maximum Permissible Sound Levels Within Hernando County, Florida

<table>
<thead>
<tr>
<th>Time</th>
<th>Residential, Public Space, or Institutional</th>
<th>Commercial or Business</th>
<th>Manufacturing, Industrial, or Agricultural</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 a.m. – 10 p.m.</td>
<td>60 dBA</td>
<td>65 dBA</td>
<td>-</td>
</tr>
<tr>
<td>10 p.m. – 7 a.m.</td>
<td>55 dBA</td>
<td>60 dBA</td>
<td>-</td>
</tr>
<tr>
<td>At All Times</td>
<td>-</td>
<td>-</td>
<td>75 dBA</td>
</tr>
</tbody>
</table>

Source: Hernando County n.d.

Notes: dB – Decibel, dBA – A-weighted decibels

### 3.7.2 Environmental Consequences

#### 3.7.2.1 Proposed Action Alternative

Under the proposed action alternative, proposed future activities at the sites would be similar to previous USDA-ARS use, in alignment with surrounding land uses, and continue to follow all applicable Hernando County noise regulations. Additionally, FAMU would conduct the activities on the properties so that noise disturbance would be minimized to the residential areas that are adjacent to the properties, resulting in overall negligible impacts on noise.

#### 3.7.2.2 No Action Alternative

Under the no action alternative, noise from the properties would remain unchanged, and there would be no noise impacts.

### 3.8 Utility Infrastructure

#### 3.8.1 Affected Environment

Table 3-16 provides a summary of utilities currently serving each of the four USDA-ARS properties.

#### 3.8.1.1 Electrical

Electricity is provided to each of the four properties by Withlacoochee River Electric Cooperative, Inc. (WREC) (USDA 2013a). Electricity is used at each of the properties to power the groundwater wells. It is also used at RD2 to power the administrative offices,
laboratories, residences, and workshops and at BJ2 to power the maintenance building and residence.

### Table 3-16 Summary of Utilities Currently Serving Each Site

<table>
<thead>
<tr>
<th>Utility</th>
<th>Property Name</th>
<th>RD1</th>
<th>RD2</th>
<th>BJ1</th>
<th>BJ2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>Provided by WREC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Gas</td>
<td>Not provided</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>Onsite groundwater wells</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wastewater</td>
<td>No infrastructure identified</td>
<td>Onsite septic systems</td>
<td>No infrastructure identified</td>
<td>Onsite septic system</td>
<td></td>
</tr>
</tbody>
</table>
| Solid Waste      | Minimal amounts of solid waste were transported by USDA to dumpster located at RD2. | Municipal solid waste was stored in onsite dumpster. Waste Services, Inc. transports waste offsite for disposal. | Minimal amounts of solid waste were transported by USDA to dumpster located at RD2. | Solid waste was transported by USDA to dumpster located at RD2. |}

Source: USDA 2013a

#### 3.8.1.1 Natural Gas

Natural gas is not provided to any of the four USDA-ARS properties.

#### 3.8.1.2 Water

Groundwater withdrawal wells are located at each of the four properties and were used for livestock watering and other agricultural operations. Water was also used at RD2 and BJ2 in the laboratories and residences.

#### 3.8.1.3 Wastewater

Onsite septic systems provide wastewater disposal for RD2 and BJ2. Wastewater infrastructure has not been identified at RD1 and BJ1 (USDA 2013a).

#### 3.8.1.4 Solid Waste Management

USDA employees transported all municipal domestic solid waste materials to a dumpster at RD2. On an as-needed basis, Waste Services, Inc., collected waste material and transported it off-site for disposal (USDA 2013a).

In addition to the utilities serving USDA-ARS, there are several revocable utilities permits in place to supply water to other entities. Table 3-17 lists these USDA-ARS issued revocable permits.
### Table 3-17 USDA-Issued Revocable Permits

<table>
<thead>
<tr>
<th>USDA Permit #</th>
<th>Permittee</th>
<th>Purpose</th>
<th>Current Start and End Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>57-6619-14-003</td>
<td>Florida Department of Agriculture and Consumer Services</td>
<td>Maintain and use water well/pump to supply State-owned buildings</td>
<td>10/24/2013 - 10/23/2018</td>
</tr>
<tr>
<td>57-6619-14-009</td>
<td>Hernando County</td>
<td>Maintain and use water well/pump to supply County-owned buildings</td>
<td>12/13/2013 - 9/30/2015</td>
</tr>
</tbody>
</table>

Source: Baete, 2014a and 2014b

3.8.2 **Environmental Consequences**

#### 3.8.2.1 Proposed Action Alternative

Previous activities focused on livestock research and grazing as well as agricultural research. FAMU's proposed activities would be similar to existing uses but would also include small fruit and vegetable research and bioprocessing research. FAMU indicated that existing irrigation infrastructure would be used in the pasture areas, and new irrigation would be introduced to support the small fruit and vegetable research. This new irrigation would increase the demand for water. If greater water supply or a change in water use is needed in the future, a new water use permit would be required. Any change in demand for power would be coordinated with WREC to ensure adequate supplies are available. Overall, minor increases in demand for water and electricity are expected due to the proposed action, and those increases would have minor impacts on the onsite utility infrastructure.

All revocable utility permits would terminate upon transfer of the properties from USDA-ARS to FAMU (Pers. Comm., Baete, L.M., 2015). If the utility privileges continue uninterrupted, there would be no impact on the permittees. FAMU will negotiate in good faith with all current permit holders for the continuation of their permitted uses on all four USDA-ARS properties and therefore, no impacts are anticipated.

#### 3.8.2.2 No Action Alternative

Under the no action alternative, utility systems on the USDA-ARS properties would not be maintained, which could lead to eventual failure of the utility system and could result in long-term, significant adverse impact to the permit holders.
3.9 TRANSPORTATION

3.9.1 Affected Environment

The region of influence for transportation consists of portions of Hernando County in proximity to the four sites, as shown on Figure 1-2. Hernando County as a whole has about 29 miles of four-lane interstate (including 17.7 toll miles) as part of the state highway system. It is largely a rural county, with only about 46 miles of urban roads in the state highway system, compared with 49 miles of rural roads. Hernando County also has 1,159.4 miles of paved county roads, and 486.8 miles of unpaved county roads (FDOT 2014). The road volumes on the roadways in the region of influence indicate that there is available roadway capacity for the region, with many roadways having excess capacity (FDOT 2013).

3.9.1.1 Roads

As noted in the site description, RD1 borders State Road 485B (Yontz Road), but the only access is from Ted Road, which dead ends at a gate to the site. Ted Road connects to Cindy Drive, which connects to Violet Road, which connects to Joyce Drive, which connects to Yontz Road. Except for Yontz Road, these are local, paved, unmarked roads. Access to RD1 is the most indirect of any of the sites (from its far northeast corner). Yontz Road is classified under the federal highway classification system as an urban major collector from State Road 700/US 98/Ponce Leo to Howell Avenue (FDOT 2014) where it dead-ends. Annual Average Daily Travel (AADT) on Yontz Road ranges from 3,100 to 3,300 vehicles per day\(^4\) (FDOT 2013). It is a two-lane road with a painted median line, painted edges, and no shoulders (Google Earth 2014). People traveling to RD1 from the south (Brooksville) can use Howell Avenue (east of the site) or US 98 (west of the site). Howell Avenue is classified as an urban major collector, while US 98 is part of the National Highway System. People traveling north from RD1 can use US 98 or Howell, which intersects with US Highway (HWY) 41/HWY 45/ Broad Street a few hundred feet from the intersection with Yontz Road.

All four properties connect directly or indirectly to Broad Street, which is classified as a principal arterial-other. It is classified as an urban principal arterial-other from County Road (CR) 578 to Candlelight and from Main Street to East Fort Doyle, and classified as a rural principal arterial-other from East Fort Doyle/ Mundor Hill north to the Citrus County Line (FDOT 2014). It is a two-lane road with a solid painted median line and marked

\(^4\) For reference, the travel volume ranges in the FDOT system are as follows: <15,000; 15,001-36,000; 36,001-70,000; 70,001-130,000; and >130,000 (FDOT 2013). Using these ranges, travel volumes on Yontz Road and the other roads identified in the study are quite low; traffic congestion is not anticipated to be a problem.
shoulders in the vicinity of the study sites (Google Earth 2014). Broad Street carries an AADT volume of 9,200 prior to the split between Snow Memorial Highway (CR 481) and HWY 41 / HWY 45 Broad Street. Broad Street/CR 45 has an AADT of 4,900 prior to Lake Lindsey Road and an AADT of 3,300 after Lake Lindsey Road (FDOT 2013). In summary, excess capacity is available on the main state and local streets connecting the properties to Brooksville and other locations to the south (such as Tampa and St. Petersburg) and sites to the north.

RD2 is west of Broad Street, and has road access from Chinsegut Hill Road. Chinsegut Hill Road is a local road, two lanes, with no shoulders. Chinsegut Hill Road dead-ends at Snow Memorial Highway, which runs roughly north-south from Broad Street. Snow Memorial Highway is classified as a rural major collector (FDOT 2014), and is a two-lane road with no paved shoulders. Snow Memorial Highway (CR 481) has an AADT of 2,400 prior to Lake Lindsey Road and an AADT of 2,500 after Lake Lindsey Road (FDOT 2013). As noted above, Snow Memorial Highway branches off of Broad Street, which is the main north-south connector for most of the sites.

BJ1 is east of and immediately adjacent to Broad Street. Deer Run Road is unpaved and provides access from Broad Street to the center of the property (Google Earth 2014). Lake Lindsey Road crosses Broad Street and forms the northern boundary for BJ1. Lake Lindsey Road is classified as a rural major collector (FDOT 2014). Lake Lindsey Road’s AADT is 750 (FDOT 2013). Government Road connects with Lake Lindsey Road to the north of the site, and forms the eastern boundary for BJ1. Government Road is a local two-lane unpaved road (Google Earth 2014). Lake Lindsey forms the northern border for BJ2 and is also the primary road providing access to the site. Daly Road connects with Lake Lindsey Road to the north of the site, and forms the western boundary for BJ2. Daly Road is a local two-lane paved road with no paved shoulders. Lucilles Shady Lane and Twin Pond Road (continuous road with a change of name) form the eastern boundary for BJ2. Lucilles Shady Lane/ Twin Pond Road is a two-lane unmarked paved road. Several unnamed dirt roads provide access to the interior of the site from the main access roads (Google Earth 2014). No plans to request additional access to the site are indicated in the source documents provided; it is anticipated that any additional access would require appropriate permits and possibly additional studies.

3.9.1.2 Public Transit Services

Hernando County operates bus services in the more urbanized areas of the county. The Purple Line operates along Yontz Road and US 98 on its most northern extension. This does not bring the bus within one-quarter-mile of the current entrance to RD1 (at the far northeast corner of the site); therefore, none of the facilities can be designated as accessible by local public transit (The Bus 2014).
3.9.2  Environmental Consequences

3.9.2.1  Proposed Action Alternative

Under the proposed action alternative, FAMU proposes minimal staffing (estimated at 15 personnel total, similar to the staff level during USDA-ARS operations) and limited annual visitors (estimated at 180 to 350 per year) for the four properties. Those proposed changes would have a negligible impact on local and regional traffic in the short- and long-term. No plans to request additional access to the site are anticipated under the proposed action alternative.

3.9.2.2  No Action Alternative

Under the no action alternative, the properties would not be transferred and would continue with the minimal operations, therefore, continuing the existing negligible impacts on traffic.

3.10  CULTURAL RESOURCES

Cultural resources are defined as buildings, sites, districts, structures, and objects related to history, architecture, archaeology, or culture. Significant cultural resources are those that are listed in or are considered eligible for listing in the NRHP. Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), requires federal agencies to take into account any action that may adversely affect any structure or object that is, or can be included, in the NRHP. The regulations codified in 36 CFR 800 provide a basis to determine if a site is eligible and define how properties or sites are to be dealt with by federal agencies or other involved parties. These regulations include historic properties or sites of historic importance, as well as archaeological sites.

3.10.1  Affected Environment

3.10.1.1  Background

Based on historic map review and information provided by USDA-ARS, the STARS began in 1932, when Colonel and Mrs. Raymond Robins donated the portions of the Chinsegut Hill estate to USDA, designating specific portions for migratory bird and wildlife refuge, forest reserve, and an agricultural experiment station (USDA 2011).

Several buildings on the properties were built between 1932 and 1987. As discussed, in 1930s, RD1 was used as a CCC camp. The Chinsegut Hill Manor House (8HR469), which is not a part of the proposed land transfer, but adjacent to the RD2, is listed in the NRHP, and Hernando County leases the property from the state, subleasing it to the non-profit Friends
of Chinsegut Hill, Inc. The Manor House is among the largest and best-preserved antebellum plantation houses in Florida (FAS 2006).

### 3.10.1.2 Status of Cultural Resource Inventories and Section 106 Consultations

Table 3-18 provides a summary of the cultural resources sites located within or adjacent to the property that the Florida Division of Historical Resources (FLDHR) provided upon the request for a record search (FLDHR 2014). Figure 3-8 shows those cultural resources sites. One site is located within BJ1 and has not been evaluated for eligibility for the NRHP. One NRHP-listed historic property, Chinsegut Hill Manor House, and two unevaluated sites, Chinsegut Hill and Chinsegut Hill Cemetery, are located adjacent to the RD2 property.

**Table 3-18 Cultural Resources Identified Adjacent to or within the Properties**

<table>
<thead>
<tr>
<th>Site #</th>
<th>Type</th>
<th>Status</th>
<th>Location within or Adjacent to Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>HE00661</td>
<td>Baker Hill Cemetery</td>
<td>Unevaluated</td>
<td>Within property (BJ1)</td>
</tr>
<tr>
<td>8HR469</td>
<td>Chinsegut Hill Manor House</td>
<td>Historic Structure</td>
<td>Listed NRHP (November 2003)</td>
</tr>
<tr>
<td>HE00269</td>
<td>Chinsegut Hill</td>
<td>Archeological Resource</td>
<td>Unevaluated</td>
</tr>
<tr>
<td>HE0673</td>
<td>Chinsegut Hill Cemetery</td>
<td>Cemetery</td>
<td>Unevaluated</td>
</tr>
</tbody>
</table>

Prior surveys and mitigation activities relative to other actions on portions of the land in 2005 have resulted in the following consultations, which are described below.

On February 10, 2005, USDA-ARS communicated with FLDHR advising of its intended demolition of two structures (Building #2 and Building #14) at RD2. In May 2006, an architectural and historical survey was conducted by Florida Archeological Services (FAS) to determine the significance of the two structures (FAS 2006). The survey recommended that Building #2, a residence, warranted no further action and demolition of this structure would have No Adverse Effect; Building #14 was considered eligible for listing in the NRHP. USDA-ARS estimates that it demolished the building in 2009 (Pers. Comm., Baete 2015). Building #14-barn was deemed architecturally and historically significant and considered eligible for listing in the NRHP. USDA-ARS demolished the structure in 2011 (Pers. Comm., Baete 2015).

For the proposed land transfer, to satisfy USDA-ARS’ obligations under Sections 106 and 110 of the NHPA, the agency is conducting a historic and cultural resources study of the properties proposed for transfer. USDA-ARS has been communicating with FLDHR on the
proposed action alternative and has also transmitted initial consultation letters to FLDHR, the Seminole Nation of Oklahoma, and Seminole Tribe of Florida to inform them of the proposed action (see Appendix B). The Advisory Council on Historic Preservation will also be contacted to determine if it wishes to participate. The Area of Potential Effect has been defined as the entire property to be transferred.

At the time of publication of the Draft EA, USDA-ARS had received responses from FLDHR and the Seminole Tribe of Florida Tribal Historic Preservation Office (STOF-THPO), acknowledging the consultation letters and requesting a copy of the forthcoming cultural resource assessment survey for the properties. The cultural resource assessment survey would allow the FLDHR and STOF-THPO to continue the review process and would assist them in determining if further measures are necessary to avoid, minimize, or mitigate adverse effects on significant archaeological and historic properties.

3.10.2 Environmental Consequences

3.10.2.1 Proposed Action Alternative

Upon completion of the cultural resources assessment survey, based on the results and Area of Potential Effect identified, USDA-ARS will consult with the FLDHR and THPOs who respond to USDA-ARS’ request to identify interested parties. If, through the consultations, adverse effects are determined, USDA-ARS will negotiate a Memorandum of Agreement or Programmatic Agreement between the parties to mitigate the adverse effects or coordinate with the USDA Office of General Counsel to incorporate deed restrictions within the conveyance deed.

3.10.2.2 No Action Alternative

Similar to the proposed action alternative, upon completion of the cultural resources assessment survey, effects determination and identification of mitigation measures will be conducted through the Section 106 process.
Figure 3-8 Cultural Resources Sites
3.11 LAND USE

3.11.1 Affected Environment

This section describes existing land use conditions on and surrounding the USDA-ARS properties. It considers natural land uses and land uses that reflect human modification. Natural land use classifications include wildlife areas, forests, and other open or undeveloped areas. Human land uses include residential, commercial, industrial, utilities, agricultural, recreational, and other developed uses. Management plans, policies, ordinances, and regulations determine the types of uses that are allowable, or protect specially designated or environmentally sensitive uses. The following sections discuss the regional geographic setting and location, site land use, surrounding land use, state coastal management programs, and current and future development.

3.11.1.1 Regional Geographic Setting and Adjacent Land Uses

The proposed transfer site comprises approximately 3,800 acres of land in four separate properties, including facilities, on the USDA-ARS properties located in Brooksville, Florida, in the central portion of Hernando County, Florida. Brooksville, the county seat of Hernando County, is a 5-square-mile community approximately 50 miles north of Tampa. Brooksville is bordered by the Croom Wildlife Management Area to the east; the City of Spring Hill to the west; Lake Lindsey to the west; and the City of Masaryktown, via U.S. Route 41, to the south.

3.11.1.2 Site Land Use

The USDA-ARS property comprises four separate properties that served as agricultural research land, with a distinct purpose for each of the four properties. The RD1 site is approximately 140 acres that was predominantly used for livestock grazing. RD2 is approximately 788.5 acres comprising a number of different buildings including office/administration, laboratories, and materials supporting agricultural research. The BJ1 and BJ2 properties are approximately 731 acres and 2,186 acres, respectively, with BJ1 containing a number of structures supporting cattle management operations, and BJ2 including a number of maintenance, material storage, and residence units all supporting agricultural research. Each site is either zoned as agricultural or conservation land. Table 3-19 lists the existing easements on the four properties.
### Table 3-19 Existing Property Easements

<table>
<thead>
<tr>
<th>Property</th>
<th>Easement Type/Purpose</th>
<th>Permit</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>RD2</td>
<td>Construction of State Road No. 5</td>
<td>State of Florida, State Road Department</td>
<td>1925</td>
</tr>
<tr>
<td>RD2</td>
<td>Construction of State Road No. 5</td>
<td>State of Florida, State Road Department</td>
<td>1935</td>
</tr>
<tr>
<td>RD2</td>
<td>Transmission line construction and maintenance</td>
<td>Florida Power Corporation</td>
<td>1961</td>
</tr>
<tr>
<td>RD2</td>
<td>Transmission line construction and maintenance</td>
<td>Florida Power Corporation</td>
<td>1962</td>
</tr>
<tr>
<td>RD2</td>
<td>Construction and maintenance of buried cables and wires</td>
<td>Southern Bell Telephone and Telegraph Company</td>
<td>1977</td>
</tr>
<tr>
<td>RD2</td>
<td>Transmission line construction and maintenance</td>
<td>Withlacoochee River Electric Cooperative, Inc.</td>
<td>1986</td>
</tr>
<tr>
<td>RD2</td>
<td>Use of access road to access grantee’s private property</td>
<td>Tommie Dawson</td>
<td>1986</td>
</tr>
<tr>
<td>RD2</td>
<td>Transmission line repair</td>
<td>Withlacoochee River Electric Cooperative, Inc.</td>
<td>1986</td>
</tr>
<tr>
<td>RD2</td>
<td>Construction and maintenance of a public road connecting Hwy 41 to Old Government Rd</td>
<td>Hernando County Florida</td>
<td>1987</td>
</tr>
<tr>
<td>BJ1</td>
<td>Transmission line construction and maintenance</td>
<td>Withlacoochee River Electric Company</td>
<td>1948</td>
</tr>
<tr>
<td>BJ1</td>
<td>Construction, operation, and maintenance of a state road</td>
<td>State of Florida, State Road Department</td>
<td>1950</td>
</tr>
<tr>
<td>BJ2</td>
<td>Transmission line construction and maintenance</td>
<td>Withlacoochee River Electric Company</td>
<td>1950</td>
</tr>
<tr>
<td>BJ2</td>
<td>Construction, operation, and maintenance of a state road</td>
<td>State of Florida, State Road Department</td>
<td>1950</td>
</tr>
<tr>
<td>BJ2</td>
<td>Transmission line construction and maintenance</td>
<td>Withlacoochee River Electric Cooperative, Inc.</td>
<td>1951</td>
</tr>
<tr>
<td>BJ2</td>
<td>Telephone lines construction and maintenance</td>
<td>Southern Bell Telephone and Telegraph Company</td>
<td>1952</td>
</tr>
<tr>
<td>BJ2</td>
<td>Construction, operation, and maintenance of a &quot;farm to market&quot; road</td>
<td>State of Florida, State Road Department</td>
<td>1953</td>
</tr>
</tbody>
</table>
Table 3-20 lists the current and recent USDA-ARS-issued revocable permits on the properties, in addition to the utilities permits listed in Table 3-17.

**Table 3-20 USDA-Issued Revocable Permits**

<table>
<thead>
<tr>
<th>Property</th>
<th>Purpose</th>
<th>Permittee/Permit #</th>
<th>Most Current Period of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>RD2</td>
<td>Maintenance of a radio station and tower</td>
<td>U.S. Customs and Border Protection/57-6619-9-017</td>
<td>10/01/2014 – 9/30/2015</td>
</tr>
<tr>
<td>BJ2</td>
<td>Wetland monitoring</td>
<td>EcoHydrologix LLC/57-6619-12-007</td>
<td>1/14/2014 – 6/1/2015</td>
</tr>
<tr>
<td>All</td>
<td>NEPA requirements and property surveys</td>
<td>FAMU/57-6619-14-069</td>
<td>7/14/2014 – 9/30/2015</td>
</tr>
</tbody>
</table>

### 3.11.1.3 Adjacent Land Use

The area surrounding the USDA-ARS properties is predominantly zoned as agriculture and conservation by Hernando County with the exception of RD1 and RD2. The RD1 property is bordered by agricultural residential zoning to the west and north; planned unit development, single- and multi-family residential zoning to the east; and low-density, single-family residential and agricultural residential zoning to the south. RD2 is surrounded by agricultural zoned land with the exception of a portion of the northern boundary, which is zoned as single-family residential (Hernando County Development Department 2014).

In conjunction with the zoning, the USDA-ARS properties are predominantly bound by agricultural land uses with some residences, including mobile home units.

Additionally, there are recreational areas such as the hiking/biking trails on the Croom Wildlife Management Area near BJ2, the Withlacoochee State Trail, and the Florida National Scenic Trail, which runs adjacent to BJ1 on Deer Run Road.

### 3.11.1.4 Coastal Zone Management

As a federal undertaking, the act of disposing of excess federal property is subject to the federal Coastal Zone Management Act of 1972, which states that federal agency activities
must be consistent with a state’s federally approved Coastal Management Program (CMP). Coastal zone management is administered by eight state agencies and five water management districts, and the CMP is known as the Florida CMP. The federal regulations that implement the consistency provision of the Coastal Zone Management Act are found at 15 CFR Part 930. These regulations establish the procedures to be followed to ensure that a federal agency’s activities are consistent with the enforceable policies of the Florida CMP. Types of activities that are covered by these regulations are:

- Activities directly undertaken by, or on behalf of, federal agencies;
- Activities requiring authorizations or other forms of approval from federal agencies;
- Activities involving financial assistance from federal agencies; and
- Outer continental shelf activities.

Federal consistency provisions apply to activities both in the state’s coastal area and outside of the coastal area when the activities would affect coastal resources or coastal land and water uses (see 15 CFR 930.11(b) and 15 CFR 930.11(g)). The state of Florida’s coastal zone comprises the entire state, but is set up into two tiers. Local governments eligible to receive coastal management funds are limited to those Gulf and Atlantic coastal cities and counties that include or are contiguous to state water bodies where marine species of vegetation constitute the dominant plant community. Florida’s seaward boundary in the Gulf of Mexico is 9 nautical miles and 3 nautical miles in the Atlantic.

The USDA-ARS sites, while not located in Areas of Special Management, are located in a coastal county and, as such, the transfer of these properties would be subject to an FDEP consistency review (FDEP 2014b).

**Future Land Use**

The Hernando County Comprehensive Plan lists future land uses surrounding the USDA-ARS properties for rural or conservation future use with the exception of the RD1 property in which the southern and eastern borders are designated for future residential use (Hernando County Planning Department 2012) (see Figure 3-9).

### 3.11.2 Environmental Consequences

#### 3.11.2.1 Proposed Action Alternative

Overall, impacts on land use from the transfer of the USDA-ARS land and facilities to FAMU would not be significant because the future land uses would be similar to past activities at the properties. Additionally, in accordance with the March 1, 2014, MOU executed between the U.S. Government and the FAMU Board of Trustees, upon transfer to FAMU, the land would be used for agricultural and natural resources research for a period of no less than 25 years; as such, changes to land use and zoning are not anticipated. Therefore, no impacts
on adjacent land uses are anticipated. Based on the similarities between existing land uses and proposed potential future land uses, impacts on coastal zones are not anticipated.

All revocable permits on the four properties would terminate upon transfer of the properties from USDA-ARS to FAMU. FAMU will negotiate in good faith with all current permit holders for the continuation of their permitted uses on all the Brooksville sites. Therefore, no impacts are anticipated on the four USDA-ARS properties.

3.11.2.1  No Action Alternative

Under the no action alternative, USDA-ARS would not transfer land to FAMU, and no land use changes or impacts would occur, resulting in no impacts on land use.

3.12  SOCIOECONOMIC RESOURCES

3.12.1  Affected Environment

This section considers the potential economic and social impacts of the proposed action alternative and describes the population and economic characteristics of Hernando and Sumter counties. This section also includes a review of environmental justice concerns, which analyzes the potential for the project to have a disproportionate impact on minority and low income populations.

The proposed properties to be transferred are located in a semi-rural area of Hernando County and near Sumter County, which is located approximately 1,000 feet from the northeastern-most property. Given Sumter County’s proximity, it is possible that some socioeconomic impacts could occur to this county; therefore, it is included in this analysis. The closest communities to the properties are Brooksville (about 2.5 miles away), Istachatta (about 1 mile away), and Nobleton (about 1 mile away). The four properties each have private residential properties adjacent to them.

3.12.1.1  Population Characteristics

Hernando County is approximately 473 square miles, with a population density of 366 people per square mile (U.S. Census Bureau 2010a). Hernando County’s total population has grown by 2.3 percent between 2000 and 2012, with a net increase of 41,982 residents over this period (U.S. Census Bureau 2012a, U.S. Census Bureau 2000). The county currently has an estimated total population of 172,784 and is projected to grow at an annual rate of 1.4 percent to 214,696 by 2025 (U.S. Census Bureau 2012a, State of Florida 2013).
Figure 3-9 Future Land Use
Sumter County is approximately 547 square miles, with a population density of 171 people per square mile (U.S. Census Bureau 2010a). Sumter County’s total population has grown by 4.7 percent between 2000 and 2012, with a net increase of 40,895 residents (U.S. Census Bureau 2012a). The county currently has an estimated total population of 94,240, and is projected to grow at an annual rate of 3.6 percent to 160,883 by 2025 (U.S. Census Bureau 2012a, State of Florida 2013). Between 2000 and 2012, both counties experienced population growth greater than the state of Florida (1.4 percent) during this same period.

Table 3-21 displays the population distribution by racial group for Hernando and Sumter counties, as well as the state of Florida.

### Table 3-21 Population Distribution by Racial Group

<table>
<thead>
<tr>
<th>Racial Group</th>
<th>Hernando County (Percentage)</th>
<th>Sumter County (Percentage)</th>
<th>State of Florida (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>90.2</td>
<td>87.5</td>
<td>76.5</td>
</tr>
<tr>
<td>African American</td>
<td>5.3</td>
<td>9.8</td>
<td>15.9</td>
</tr>
<tr>
<td>Native American/Hawaiian</td>
<td>0.4</td>
<td>0.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Asian</td>
<td>1.1</td>
<td>0.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Two or more races</td>
<td>1.5</td>
<td>0.8</td>
<td>2.1</td>
</tr>
<tr>
<td>Other race</td>
<td>1.5</td>
<td>0.9</td>
<td>2.6</td>
</tr>
<tr>
<td>Hispanic*</td>
<td>10.4</td>
<td>6.0</td>
<td>22.5</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau 2012a  
*Note: Race refers to census respondents’ self-identification of racial background. Hispanic origin refers to ethnicity and language, not race, and may include persons whose heritage is Puerto Rican, Cuban, Mexican, and Central or South American. Therefore, Hispanic is reported separately from the percentage of races in the table above.

#### 3.12.1.2 Economic Characteristics

In 2012, Hernando County had a total labor force of 61,983 persons and an unemployment rate of 11.1 percent (U.S. Department of Labor 2012). The median household income was $41,098 in 2012 (U.S. Census Bureau 2012b). The unemployment rate in the county was 2.3 percent higher than in the state of Florida, while the county’s median income was $6,211 lower than that of the state. The five largest industries in Hernando County, by total employment, in 2012 were (U.S. Census Bureau 2012b):

- Educational services, health care, and social assistance (25.3 percent of workforce)
- Retail trade (16.4 percent of workforce)
- Professional, scientific, and management (8.6 percent of workforce)
- Construction (8.3 percent of workforce)
• Arts, entertainment, recreation, accommodation, and food services (8.2 percent of workforce)

In 2012, Sumter County had a total labor force of 36,751 persons and an unemployment rate of 7.6 percent (U.S. Department of Labor 2012). The median household income was $46,981 in 2012 (U.S. Census Bureau 2012b). The unemployment rate in the county was 1.2 percent lower than in the state of Florida, while the county’s median income was $328 lower than that of the state. The five largest industries in Sumter County, by total employment, in 2012 were (U.S. Census Bureau 2012b):

• Educational services, health care, and social assistance (21.8 percent of workforce)
• Retail trade (14.6 percent of workforce)
• Arts, entertainment, recreation, accommodation, and food services (12.8 percent of workforce)
• Construction (8 percent of workforce)
• Professional, scientific, and management (7.5 percent of workforce)

3.12.1.3 Environmental Justice and Protection of Children

Environmental Justice

On February 11, 1994, President Clinton issued Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. Executive Order 12898 directs agencies to address environmental and human health conditions in minority and low-income communities so as to avoid the disproportionate placement of any adverse effects from federal policies and actions on these populations.

As defined by the *Environmental Justice Guidance Under NEPA* (CEQ 1997), “minority populations” include persons who identify themselves as Asian or Pacific Islander, Native American or Alaskan Native, Black (not of Hispanic origin), or Hispanic. Race refers to census respondents’ self-identification of racial background. Hispanic origin refers to ethnicity and language, not race, and may include persons whose heritage is Puerto Rican, Cuban, Mexican, and Central or South American.

A minority population exists in a census tract where the percentage of minorities in the census tract either exceeds 50 percent or is at least 10 percent greater than the minority population within the reference area (county or state).

Low-income populations are identified using the Census Bureau’s statistical poverty threshold, which is based on income and family size. The Census Bureau defines a “poverty area” as a census tract with 20 percent or more of its residents below the poverty threshold and an “extreme poverty area” as one with 40 percent or more below the poverty level. A
census tract is a small geographic subdivision of a county and typically contains between 1,200 and 8,000 persons (U.S. Census Bureau 2010b).

There are six census tracts within one mile of the properties that would be transferred under the proposed action alternative. Five of these tracts are in Hernando County, and the sixth tract is in Sumter County. Three of the census tracts in Hernando County (Census Tracts 405.02, 406.01, and 404) have 20 percent or more of their populations living below the poverty level. In addition, Census Tract 404 also has a minority population that is 20 percent higher than the minority population in Hernando County. Census Tract 9106.02, in Sumter County, has at least 20 percent of its population living below the poverty level (Table 3-22).

Table 3-22 Average Annual Minority Population, Poverty Level, and Median Household Income, 2008-2012

<table>
<thead>
<tr>
<th>Census Tract</th>
<th>Total Population</th>
<th>Median household income (dollars)</th>
<th>Poverty Level</th>
<th>Minority Population*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida</td>
<td>18,885,152</td>
<td>$47,309</td>
<td>16%</td>
<td>42%</td>
</tr>
<tr>
<td>Hernando County, Florida</td>
<td>172,784</td>
<td>$41,098</td>
<td>15%</td>
<td>18%</td>
</tr>
<tr>
<td>Census Tract 406.02, Hernando County, Florida</td>
<td>2,592</td>
<td>$37,304</td>
<td>8%</td>
<td>4%</td>
</tr>
<tr>
<td>Census Tract 405.02, Hernando County, Florida</td>
<td>3,063</td>
<td>$34,289</td>
<td>30%</td>
<td>26%</td>
</tr>
<tr>
<td>Census Tract 404, Hernando County, Florida</td>
<td>3,844</td>
<td>$28,693</td>
<td>21%</td>
<td>38%</td>
</tr>
<tr>
<td>Census Tract 402.01, Hernando County, Florida</td>
<td>2,718</td>
<td>$44,293</td>
<td>16%</td>
<td>8%</td>
</tr>
<tr>
<td>Census Tract 406.01, Hernando County, Florida</td>
<td>2,460</td>
<td>$40,941</td>
<td>27%</td>
<td>26%</td>
</tr>
<tr>
<td>Sumter County, Florida</td>
<td>94,240</td>
<td>$46,981</td>
<td>12%</td>
<td>17%</td>
</tr>
<tr>
<td>Census Tract 9106.02, Sumter County, Florida</td>
<td>3,547</td>
<td>$33,555</td>
<td>27%</td>
<td>21%</td>
</tr>
</tbody>
</table>

*Note: this is the total population minus the non-Hispanic white alone population.
Source: U.S. Census Bureau 2012a, 2012b

Protection of Children

Executive Order 13045, Protection of Children from Environmental Health and Safety Risk, requires federal agencies, to the extent permitted by law and mission, to identify and assess environmental health and safety risks that might disproportionately affect children. This Executive Order, dated April 21, 1997, further requires federal agencies to ensure that their policies, programs, activities, and standards address these disproportionate risks. Executive Order 13045 defines environmental health and safety risks as “risks to health or
to safety that are attributable to products or substances that the child is likely to come in contact with or ingest (such as the air we breathe, the food we eat, the water we drink and use for recreation, the soil we live on and the products we use or are exposed to).”

Children reside in neighborhoods and schools within proximity to some of the properties that would be transferred and may walk along the sidewalks of the roadways that could be used by traffic travelling to and from these properties. Children also attend daycare facilities around the properties. In particular, one daycare facility, the “Eden Christian School and Day Care,” is located within one-tenth of a mile from RD2. Potential impacts on children specific to the action alternative are identified in the following impacts analysis.

### 3.12.2 Environmental Consequences

Determination of the significance of impacts on socioeconomic conditions is based on the overall impacts on population, economic activity, and other socioeconomic attributes in the vicinity of a project site and the surrounding region. For example, potentially beneficial impacts on socioeconomic conditions could result from an action that increases short-term or long-range employment, while potentially adverse impacts could result from an action that decreases employment or displaces a large number of people. Determination of the level of potential impacts on environmental justice and protection of children is based on the overall impact on current conditions within the vicinity of the properties to be transferred. Actions that may disproportionately negatively impact minority or low-income populations within an area or expose children to increased health and safety risks would be considered detrimental. The following sections discuss potential environmental consequences of the evaluated alternatives.

#### 3.12.2.1 Proposed Action Alternative

Fifteen new, full-time employees would be employed at the properties under the proposed action alternative. Approximately half of these employees would be expected to relocate from outside Hernando and Sumter counties to work at these properties. These persons would likely spend a majority of their income on housing, retail, restaurant, and groceries within Hernando and Sumter counties, resulting in long-term beneficial impacts on local income, sales, and employment. As a result of this spending, local sales tax receipts would also increase fiscal revenues to local governments. However, these impacts would be negligible because this increase in employment would represent a less than one percent increase in total employment in the two counties.

Some of these new employees would likely relocate with their families. These families would include children that would likely attend schools in the local area. However, because the total population increase would be minor, the impact on local government services, such as schools, police, fire, and medical services, would be negligible. Overall, there would
be long-term negligible impacts on local sales, income, employment, and government services.

Between 180 and 350 visitors are expected to visit the properties annually as a result of 4-H youth development and community resource development activities and educational visits under the proposed action alternative. These visitors would likely purchase local goods and services within Hernando and Sumter counties at retail stores and restaurants during their visits to the area, resulting in long-term beneficial impacts on local sales, employment, income, and sales tax receipts to the counties.

In addition, FAMU, under its RFFAs, intends to spend funds on repairs and infrastructure improvements in the short-term. It is possible that some goods and labor would be procured locally to support these activities, which would result in a short-term beneficial impact on local income, sales, and employment.

There would be a negligible impact on local and regional traffic under the proposed action alternative. Furthermore, because minor increases in the demand for water and electricity are anticipated, there are expected to be minor impacts on onsite utility infrastructure. Because these impacts are anticipated to remain localized to the properties that would be transferred, no utility impacts on outside properties are anticipated. Finally, impacts on surrounding communities from increased vehicle emissions would be negligible. Therefore, no impacts on populations of children or low income or minority communities are anticipated as a result of impacts on traffic, utilities, or air quality. No other identified resource areas would have impacts that would affect populations of children or low income or minority communities.

The proposed action alternative would result in short-term and long-term beneficial and negligible impacts on local income, sales, employment, and sales tax receipts. Because no adverse impacts are anticipated to occur under this alternative, no populations of children or minority or impoverished communities would be adversely affected; therefore, no environmental justice impacts or impacts on populations of children are anticipated as a result of this alternative.

### 3.12.2.2 No Action Alternative

Under the no action alternative, no socioeconomic changes or impacts would occur, resulting in no effects on socioeconomic resources or children or minority or low-income communities. No impacts on children or environmental justice impacts are anticipated under this alternative.
3.13 HUMAN HEALTH AND SAFETY

This section describes the human health and safety concerns at the four properties, including hazardous materials and hazardous wastes.

3.13.1 Affected Environment

USDA-ARS conducted Phase I ESA (report dated January 23, 2013) on the four properties. The main objective of the Phase I ESA was to identify the presence or likely presence, use, or release of hazardous substances or petroleum products, defined as a recognized environmental condition (REC). Based on the results of the Phase I ESA, USDA-ARS conducted a Phase II ESA (report dated September 5, 2013) on RD2 and BJ2, and soil, groundwater, and water samples were collected to provide quantitative data and information about the identified RECs. USDA-ARS then prepared a Site Assessment Report (SAR) for the additional investigation at RD2.

Additionally, as discussed previously, UF/IFAS performed numerous agricultural-related projects and tasks on the USDA-ARS properties and worked primarily with university-owned cattle. In July 1985, an MOU was signed by UF/IFAS and the former Florida Department of Environmental Regulation (FDER), which now is part of FDEP, that provided for the assessment of the potential for environmental contamination at agricultural research facilities operated by UF/IFAS across the state, including USDA-ARS STARS and the cattle dipping vat(s) located on the properties. In 1987, UF/IFAS prepared a Site Investigation Report in response to a Consent Order filed against UF/IFAS. The Consent Order stated that the results of the Preliminary Assessments indicated that additional activities by UF/IFAS at its facilities were required to further assess environmental contamination problems, to remedy environmental contamination problems to ensure that handling, disposal, and storage of wastes are in compliance with applicable FDER regulations.

3.13.1.1 Robins’ Donation 1

The Final Phase I ESA stated that no RECs or areas of potential environmental concern were identified at RD1 (USDA 2013a). Based on this finding, USDA did not assess the RD1 further.

3.13.1.2 Robins’ Donation 2

The RD2 property was primarily used to support agricultural research, cattle grazing, and storage of farming equipment, grain, fertilizer, and hay, and a variety of buildings and structures are located on RD2 (Figure 3-10). The Phase I ESA identified several RECs and issues of concern that warranted further investigation. During the Phase II ESA, further investigations were conducted at a leaded gasoline UST, a former cattle dipping vat, a
former swine dipping vat, fuel dispenser pipelines, an oil disposal area, a cattle washing sump, a pesticide storage room vat, and a septic tank drain field. In addition, groundwater quality, the presence of asbestos-containing material (ACM), lead and lead-based paints (LBP), and disposed waste materials were also investigated.

The analytical results for samples collected during the Phase II ESA are briefly summarized below.

**Gasoline UST** – Benzene, total xylenes, total recoverable petroleum hydrocarbon (TRPH), arsenic, and barium were detected in soil at concentrations greater than the Florida Soil Cleanup Target Levels (SCTLs) for residential soil but less than the direct exposure SCTLs for commercial/industrial soil. Benzene, toluene, ethylbenzene, xylenes (BTEX), naphthalene [a Polycyclic aromatic hydrocarbons (PAH)], TRPH, and chromium concentrations in soil were greater than the Florida leachability based on groundwater criteria SCTLs (leachability SCTLs). Groundwater samples were collected from two monitoring wells during the Phase II ESA, and three monitoring wells during the subsequent site assessment in the area of the former tank and analyzed for the same constituents. However, only TRPH was detected in groundwater, in one sample, and at a concentration less than the Florida Groundwater Cleanup Target Level. Additional groundwater sampling and analysis was also performed at the former UST and the pesticide mixing/rinsing area and documented in the SAR, which concluded that impacts on soil were fully delineated, arsenic and barium concentrations in soil were naturally occurring, and there were no impacts on groundwater (USDA 2014b).

USDA-ARS is conducting a detailed cost analysis to address the petroleum contamination present at the former gasoline UST site, and it is anticipated that USDA-ARS would select an option that best meets the legal, regulatory, and budgetary limits of the agency (USDA 2014b).

**Cattle and Swine Dipping Vats** – At the cattle dipping vat, arsenic was detected in 15 soil samples at concentrations greater than the Florida direct exposure SCTL for residential soil and in six samples at concentrations greater than the direct exposure SCTL for commercial/industrial soil. At the swine dipping vat, arsenic was detected in 11 soil samples at concentrations greater than the Florida direct exposure SCTL for residential soil and in 10 samples at concentrations greater than the direct exposure SCTL for commercial/industrial soil. The arsenic concentrations greater than the SCTL for commercial/industrial soil were also greater than the site-specific arsenic background concentration. Because Florida does not have a look-up leachability SCTL for arsenic in soil, and no groundwater samples were collected, groundwater quality underlying each of the dipping vats could not be assessed. UF/IFAS was cited as the Responsible Party for both the cattle dip vats and issued a “Consent Order” by FDEP for corrective actions. USDA-ARS
concurs that UF/IFAS is still the potentially responsible party (PRP), and FDEP still holds that position based on a recent discussion with FDEP (Griffin 2015).

**Oil Disposal Area (Oil Dump)** – Benzo[a]pyrene, arsenic, and barium were detected in soil at concentrations greater than the Florida direct exposure SCTLs for residential soil but less than direct exposure SCTLs for commercial/industrial soil. Barium concentrations were greater than the Florida leachability SCTL. Because Florida does not have look-up leachability SCTLs for arsenic or lead in soil, and no groundwater samples were collected, potential impacts on groundwater quality could not be assessed. USDA has been delegated authority for non-petroleum response actions performed on its lands under the authority vested in the President of the United States by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. §§ 9601, et seq. This authority was delegated to the Secretary of the Department of Agriculture by Executive Order 12580, 52 Fed. Reg. 2926 (January 23, 1987), 3 CFR, 1987 Compilation, p. 193. USDA-ARS intends to rely on this delegation in determining the proper course of action for issues related to all releases and/or impacts, other than those associated with the former gasoline UST site (USDA 2014b).

**Pesticide Storage Room Vat** – Arsenic was detected in soil at concentrations greater than the Florida direct exposure SCTL for residential soil but less than the direct exposure SCTL for commercial/industrial soil; however, the arsenic concentrations were considered to be naturally occurring. The dieldrin concentration in one soil sample was greater than the Florida leachability SCTL; however, dieldrin was not detected in groundwater.

**Fuel Dispenser Lines** - Soil sampling associated with abandoned fuel dispenser lines indicated that BTE and Methyl Tert-Butyl Ether, PAH, lead, and TRPH were present in the soil samples but that the concentrations did not indicate potential contamination of groundwater due to leaching (USDA 2013b). Groundwater samples from near a chemical mixing area showed levels of constituents of concern that were below state criteria (USDA 2013a).

**Septic Tank Drain Field** - Analytical results for soil samples collected in the septic tank drain field showed that concentrations were below the Florida SCTLs for residential direct exposure. Discussions with an FDEP representative indicated that additional investigation was not required in this portion of RD2.

**Cattle Washing Sump** - Analytical results for soil samples collected at the cattle sump showed that concentrations were below the Florida SCTL and GCTL for nitrates and below the GCTL for sulfates for residential direct exposure. Based on these findings, additional investigation was not recommended in this portion of RD2.
The findings of the Phase II ESA showed no LBP at RD2. Based on sampling performed during the Phase II ESA, ACM (chrysotile) is present in the floor tile in three bedrooms at the residence at RD2. The local electric company, WREC, indicated that all PCB-containing transformers on BJ2 have been replaced.

### 3.13.1.3 Bankhead Jones 1

A livestock handling area, an open-sided chemical mixing area, a stock tank/cattle watering hole, and several livestock watering troughs are located on BJ1. Wells supplied water to cattle watering tanks. A former leaking UST was removed, and FDEP issued a Site Rehabilitation Completion Order in September 2008 indicating that the area was properly remediated and closed and that no further action was necessary. The Phase I ESA did not identify RECs or areas of potential environmental concern on the property or on any adjacent/nearby property that warranted additional action or investigation. Because hazardous materials or hazardous wastes were not used or stored on the property, the Phase I ESA concluded that impacts on the shallow groundwater aquifer are unlikely. Accordingly, a Phase II ESA was not conducted.

### 3.13.1.4 Bankhead Jones 2

The BJ2 property was primarily used by USDA-ARS to support agricultural research; for cattle grazing, equipment maintenance, and storage of farming equipment, grain, fertilizer, and hay; and as a residence. Structures present on BJ2 include a maintenance shop/storage building, hay barns, livestock handling areas, a covered open-sided chemical mixing area, and a residence. A septic tank collects wastewater from the residence.

Two 500-gallon aboveground storage tanks (ASTs) containing diesel fuel and a trailer-mounted AST used to transport diesel fuel are located adjacent to the maintenance shop.

The Phase I ESA included information that approximately 500 gallons of an herbicide mixture were accidently spilled on the BJ2 property. Details, including dates or location of the spill or the cause, were not available. However, based on verbal discussions, USDA-ARS personnel estimate that the spill occurred in the 1980s and that it was an herbicide mixture used for pasture management that leaked from a tank along a path (Pers. Comm., Griffin 2015b). Additionally, USDA-ARS personnel indicate that it was a short-life herbicide and, therefore, no longer considered a concern (Pers. Comm., Griffin 2015b).

Two, 55-gallon drums – one containing motor oil and one containing hydraulic tractor fluid – were stored inside a room at the west end of the maintenance shop. A storage cabinet holding small quantities of materials (some flammable) and shelves with partially used containers of materials were also present in the maintenance shop.
Figure 3-10 Existing Structures at RD2
The Phase II ESA did not identify any LBP at BJ2. Based on sampling performed during the Phase II ESA, ACM (chrysotile) is present in the drywall texture at the residence at BJ2. WREC indicated that all PCB-containing transformers on BJ2 had been replaced.

3.13.2 Environmental Consequences

3.13.2.1 Proposed Action Alternative

**Robins’ Donation 1 and Bankhead Jones 1**

The Phase I ESA indicated that RECs or areas of potential environmental concern were not identified on the RD1 and BJ1 properties or on any adjacent/nearby properties that warranted additional action or investigation, and impacts on the shallow groundwater aquifer are unlikely because hazardous materials or hazardous wastes were not used or stored on these properties. Therefore, with the practice of same or better environmental diligence, human health and safety environmental consequences under the proposed action alternative would be negligible.

**Robins’ Donation 2**

As discussed in Section 3.13.1.2, UF/IFAS was cited as the Responsible Party for both the cattle dip vats and issued a “Consent Order” by FDEP for corrective actions. USDA-ARS concurs that UF/IFAS is still the PRP, and FDEP still holds that position based on a recent discussion with FDEP (Griffin 2015).

USDA-ARS is conducting a detailed cost analysis to address the petroleum contamination present at the former gasoline UST site, and it is anticipated that the agency would select an option that best meets the legal, regulatory, and budgetary limits of the agency (USDA 2014b).

ACM was detected in the floor tiles in the residence on the RD2 property; however, there was no indication if the ACM was currently in friable condition. If the residence is occupied for any use under the proposed action alternative, deterioration or renovation could release ACM to indoor and ambient air resulting in the potential for minor to moderate impacts. If either residence is demolished under the proposed action alternative, ACM could be released to ambient air. However, renovation or demolition would require use of protective control measures to minimize or eliminate ACM releases.

**Bankhead Jones 2**

ACM was detected in the wall texture in the residence on the BJ2 property; however, there was no indication if the ACM in either building is currently in friable condition. If the residence is occupied for any use under the proposed action alternative, deterioration or renovation could release ACM to indoor and ambient air resulting in the potential for minor
to moderate impacts. If either residence is demolished under the proposed action alternative, ACM could be released to ambient air. However, renovation or demolition would require use of protective control measures to minimize or eliminate ACM releases.

All Four Properties

In addition, previous sections of this Draft EA indicate that the proposed action alternative would have negligible impacts on water resources and local and regional traffic, would have negligible impacts from noise and would not result in impacts on air quality.

Overall, the proposed action alternative would be negligible impacts regarding human health and safety environmental consequences. The potential for short-term impacts (e.g., ACM release during renovation or construction) could be easily controlled and managed following the FDEP requirements.

3.13.2.2 No Action Alternative

The Phase I ESA indicated that RECs or areas of environmental concern were not identified on the RD1 and BJ2 properties or on any adjacent/nearby properties that warranted additional action or investigation, and impacts on the shallow groundwater aquifer are unlikely because hazardous materials were not used or stored on these properties. Therefore, human health and safety environmental consequences under the no action alternative would be negligible.

ACM was detected in floor tiles in the residence on the RD2 property and in the wall texture in the residence on the BJ2 property; however, there was no indication if the ACM in either building is currently in friable condition. Deterioration of the buildings over time under the no action alternative could release ACM to ambient air. However, in this eventuality, dilution and dispersion of ACM in ambient in air should be sufficient that the potential threat to public health and safety would be minor.

In addition, previous sections of this Draft EA indicate that there would be minimal or no impacts on water resources, air quality, noise, and local and regional traffic under the no action alternative.

Overall, the no action alternative would be negligible regarding human health and safety environmental consequences.

3.14 CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

3.14.1 Affected Environment

The 2014 Climate Change Report issued by the Intergovernmental Panel on Climate Change (IPCC) concluded that anthropogenic greenhouse gas emissions are “extremely likely” to be
the primary driver of the observed climate change since the mid-twentieth century. Global emissions of greenhouse gases including carbon dioxide, methane, and nitrous oxide have increased steadily since the industrial revolution with approximately half of all anthropogenic carbon dioxide emissions since 1750 having occurred in the last 40 years. It is predicted that continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive, and irreversible impacts for people and ecosystems. Anthropogenic greenhouse gas emissions are mainly driven by population size, economic activity, lifestyle, energy use, land-use patterns, technology, and climate policy. Impacts of climate change on the natural environment include altered hydrological regimes and changes in quantity and quality of water resources due to changes in precipitation and melting snow and ice, and shifting geographic ranges of many species resulting in changes in ecological interactions. Effects of climate change likely to impact human activities include decreases in crop yields due to surface warming, changes in precipitation and flooding, increased frequency of extreme weather and climate events, and sea level rise, which may directly lead to the displacement of many coastal inhabitants worldwide (IPCC 2014).

3.14.2 Environmental Consequences

3.14.2.1 Proposed Action Alternative

Under the proposed action alternative, the use of farm equipment and vehicles would directly contribute to greenhouse gas emissions, thus influencing climate change. Also, the use of electricity to maintain facilities and conduct research activities would indirectly contribute to greenhouse gas emissions. However, because the proposed activities do not differ significantly from previous land use on the property, there would be no change in greenhouse gas emissions and global climate change. In conclusion, short- and long-term impacts on climate change and greenhouse gas emissions as a result of the implementation of the proposed action alternative would be adverse but negligible.

3.14.2.2 No Action Alternative

Under the no action alternative, the USDA-ARS land and facilities would not be transferred to FAMU. It is assumed that, under the no action alternative, USDA-ARS would have no appropriated resources to operate and/or maintain the properties. As a result, no impacts on climate change or greenhouse gas emissions would occur.
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4.0 CUMULATIVE IMPACTS, AGENCY COORDINATION, AND SUMMARY OF IMPACTS

4.1 CUMULATIVE IMPACTS

The CEQ regulations for implementing NEPA require the assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are those impacts resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts for each resource directly or indirectly affected by one or both of the alternatives are addressed in this section. Time interval and physical distance between all of the actions considered are important in determining the potential for cumulative impacts. For the purposes of this Draft EA, the area covered by the Hernando County Comprehensive Plan (Hernando County Planning Department 2013) was considered for the cumulative impacts analysis.

Past Actions

Past actions that may contribute to cumulative impacts in one or more of the analyzed resource topic areas include: previous clearing of land for agricultural development and construction of onsite buildings and facilities as well as adjacent buildings, roadways, utility lines, and other infrastructure. Past actions also include agricultural research activities previously conducted by USDA-ARS.

Present Actions

Present actions that may contribute to cumulative impacts in one or more of the analyzed resource topic areas include: traffic on nearby roadways; activities conducted by a local fire station located just north of BJ1; and any activities associated with adjacent private properties, population growth, and drought-related water use restrictions periodically imposed by local and regional authorities.

External Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions external to the USDA-ARS property and FAMU’s Plan of Work include continuation of all present actions, including use of the nearby fire station and airport. Future actions may also include planned future land use activities as outlined in the Hernando County Comprehensive Plan (Hernando County Planning Department 2013). County plans for future development adjacent to the four properties comprising the USDA-ARS properties include designation of conservation lands adjacent to RD2, BJ1, and BJ2. A Hernando County school facility is planned adjacent to the northeast corner of RD2.
Properties directly south and east of RD1 have been designated for potential residential development (see Figure 3-9 Future Land Use).

4.1.1 Proposed Action Alternative

4.1.1.1 Topography, Geology, and Soils

Topography, geology, and soil impacts are site-specific and not affected by cumulative development in an area, except where soil erosion may contribute to degradation of water quality. With soil erosion and sediment control measures, the proposed action alternative would likely result in negligible to minor adverse soils impacts from the implementation of the proposed activities and would not incrementally cause a significant impact, regardless of other actions.

4.1.1.2 Water Resources

Although the livestock and agricultural research could result in adverse impacts on water resources, the proposed research projects would implement BMPs to minimize or prevent the adverse impacts. Any increase in demand for groundwater would be minor resulting in no impact on groundwater resources, which, therefore, should not affect the potential for sinkholes. Research related to watersheds, wetlands, water quality, irrigation, and conservation would result in beneficial impacts on water resources over the long-term. Therefore, in the context of the planned developments external to the four properties, the proposed action alternative is not anticipated to incrementally cause significant adverse impacts on water resources in the area.

4.1.1.3 Biological Resources

FAMU would minimize and avoid impacts on biological resources, and conversion of forested areas to other cover types such as pasture or cropland is not proposed. Additionally, FAMU’s management of the properties under the proposed action alternative would be beneficial to the suppression of exotic weeds and other invasive species. Therefore, in the context of the planned developments external to the four properties, the proposed action alternative is not anticipated to incrementally cause significant adverse impacts on biological resources in the area.

4.1.1.4 Air Quality

Because the proposed activities would be similar to the prior use of the properties and there would be minimal increase in staff and visitor traffic, the proposed action alternative would not result in significant impacts on air quality and would not alter the existing attainment status for Hernando County. Therefore, in the context of the planned
developments external to the four properties, the proposed action alternative would not be expected to incrementally cause adverse impacts on air quality in the area.

4.1.1.5 Noise

Proposed future activities at the sites would be similar to prior USDA-ARS use, in alignment with surrounding land uses, and continue to follow all applicable Hernando County noise regulations. Additionally, FAMU would look to site the activities on the properties so that noise disturbance would be minimized to the residential areas that are adjacent to the properties, resulting in no overall significant impacts on noise. Therefore, in the context of the planned developments external to the four properties, the proposed action alternative is not anticipated to incrementally cause adverse impacts on noise in the area.

4.1.1.6 Utility Infrastructure

Minor increases in demand for water and electricity are expected under the proposed action alternative, and those increases would have minor impacts on the onsite utility infrastructure. Minor increases in demand for water could be fulfilled by existing water sources so long as all water withdrawals remain within the permitted withdrawal rates. If greater water supply or a change in water use is needed in the future, a new water use permit would be required. Any change in demand for power would be coordinated with WREC to ensure adequate supplies are available. FAMU will negotiate in good faith with all current permit holders for the continuation of their permitted uses on all the USDA-ARS and therefore, no impacts are anticipated. Therefore, in the context of the planned developments external to the four properties, the proposed action alternative is not anticipated to incrementally cause adverse impacts on utilities.

4.1.1.7 Transportation

Because the proposed activities would be similar to the prior use of the properties and there would be minimal increase in staff and visitor traffic, the proposed action alternative would result in a negligible impact on local and regional traffic in the short- and long-term. Therefore, in the context of the planned developments external to the four properties, the proposed action alternative would not incrementally cause adverse impacts on transportation.

4.1.1.8 Cultural Resources

Upon completion of the cultural resources assessment survey, effects determination and identification of mitigation measures will be conducted through the Section 106 process.
4.1.1.9 Land Use

Under the proposed action alternative, future land uses would be similar to past activities at the sites. Additionally, in accordance with the March 1, 2014, MOU executed between the U.S. Government and the FAMU Board of Trustees, upon transfer to FAMU, the land would be used for the purposes of agricultural and natural resources research for a period of no less than 25 years, and, as such, changes to land use and zoning are not anticipated. Therefore, this alternative would not cause an adverse impact or cumulative adverse impacts on land use.

4.1.1.10 Socioeconomics

The proposed action alternative would create negligible employment opportunities on the sites. There is minimal potential for the proposed action alternative, in conjunction with other reasonably foreseeable developments in the immediate project areas (i.e., residential developments), to have beneficial cumulative impacts on socioeconomics. Additionally, there is a potential for beneficial cumulative impacts from the programs targeting minorities, children, and veterans.

4.1.1.11 Human Health and Safety

The potential for short-term impacts (e.g., ACM release during renovation or construction) would be easily controlled and managed. Impacts are negligible and, at worst, minor to moderate, currently, and would improve or remain the same in the foreseeable future if the same or better environmental diligence is practiced. Therefore, there are no impacts that might incrementally add to others to cause significant impacts on human health and safety.

4.1.1.12 Climate Change and Greenhouse Gas Emissions

The proposed action alternative is not expected to increase greenhouse gas emissions, which contribute to climate change, beyond historical levels. The proposed action alternative would result in minimal impacts on climate change and greenhouse gas emissions due to the operation of vehicles and farm equipment. No cumulative impacts are anticipated.

4.1.2 No Action Alternative

Under the no action alternative, no adverse impacts, adverse or beneficial, are anticipated for most of resources with the exception of the following: wetlands - long-term beneficial; vegetation - short term adverse; wildlife - long-term beneficial; and utilities - long-term, significant adverse impact; and human health and safety – negligible adverse. Of the resources with impacts under the no action alternative, the impacts on vegetation due to invasive species has the potential for indirectly affecting neighboring property owners by
the expansion of invasive and exotic plants, which would be a seed source for adjacent property.

4.2 AGENCY COORDINATION

Informal consultations with USFWS occurred in April 2012 and November 2014 and concluded with a determination of “no effect” of the proposed land transfer on four federally listed species (Florida scrub-jay, eastern indigo snake, Brooksville bellflower, and Cooley’s water-willow) known to occur or likely to occur on the four properties, assuming that no significant changes in land use from previous agricultural research activities would occur.

On January 13, 2015, USDA-ARS sent letters to FLDHR, Seminole Tribe of Florida, and Seminole Nation of Oklahoma informing them of the proposed land transfer and inviting consultation under Section 106 of the NHPA (see Appendix B). USDA-ARS received initial responses from FLDHR and Seminole Tribe of Florida and the responses are also included in Appendix B.

4.3 SUMMARY OF IMPACTS

Table 4-1 summarizes the impacts of the proposed action and no action alternatives by resource topic.

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<thead>
<tr>
<th>Resource</th>
<th>Proposed Action Alternative</th>
<th>No Action Alternative</th>
</tr>
</thead>
<tbody>
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<td><strong>Geology, Topography, and Soils</strong></td>
<td>RD1: Long-term negligible to minor adverse; long-term beneficial</td>
<td>RD1: No impacts</td>
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<tr>
<td></td>
<td>RD2: Same as above</td>
<td>RD2: No impacts</td>
</tr>
<tr>
<td></td>
<td>BJ1: Same as above</td>
<td>BJ1: No impacts</td>
</tr>
<tr>
<td></td>
<td>BJ2: Same as above</td>
<td>BJ2: No impacts</td>
</tr>
<tr>
<td><strong>Water Resources</strong></td>
<td>RD1: Short- and long-term negligible adverse; long-term beneficial</td>
<td>RD1: No impacts</td>
</tr>
<tr>
<td></td>
<td>RD2: Same as above</td>
<td>RD2: No impacts</td>
</tr>
<tr>
<td></td>
<td>BJ1: Same as above</td>
<td>BJ1: No impacts</td>
</tr>
<tr>
<td></td>
<td>BJ2: Same as above</td>
<td>BJ2: No impacts</td>
</tr>
<tr>
<td><strong>Wetlands</strong></td>
<td>RD1: Long-term negligible adverse; long-term beneficial</td>
<td>RD1: Long-term beneficial</td>
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<td>Resource</td>
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<td>No Action Alternative</td>
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<td>Vegetation</td>
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<td>RD1: Short-term adverse</td>
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<td>Upon completion of the cultural resources assessment survey, effects determination and identification of mitigation measures will be conducted through the Section 106 process</td>
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### 4.4 SUMMARY OF COMMITMENTS AND OBLIGATIONS

Table 4-2 summarizes commitments required on behalf of USDA-ARS and FAMU under the proposed action alternative. The table also includes obligations of a third party such as the UF/IFAS.

**Table 4-2 Summary of Commitments**

<table>
<thead>
<tr>
<th>Commitment</th>
<th>Responsible Party</th>
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<tbody>
<tr>
<td>Adhere to a 2014 MOU executed between the U.S. Government and the FAMU Board of Trustees requiring agricultural and natural resources research land uses on the sites for 25 years</td>
<td>FAMU</td>
</tr>
<tr>
<td>- Follow all applicable Hernando County noise regulations</td>
<td>FAMU</td>
</tr>
<tr>
<td>- Site activities on the different sites to minimize noise disturbance to residential areas adjacent to the land transfer sites</td>
<td>FAMU</td>
</tr>
<tr>
<td>Ensure that all activities comply with conditions outlined in species recovery plans and habitat conservation plans, where appropriate, and work with federal and state agencies to ensure that special-status species receive appropriate protection and management</td>
<td>FAMU</td>
</tr>
<tr>
<td>Apply for all necessary permits and abide with all recommendations and guidelines from the issuing agencies</td>
<td>FAMU</td>
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</table>
FAMU will negotiate in good faith with all current permit holders for the continuation of their permitted uses on all four USDA-ARS properties.

If, through the consultations, adverse effects on historic properties are determined, USDA-ARS will negotiate a Memorandum of Agreement or Programmatic Agreement between the parties to mitigate the adverse effects or coordinate with the USDA Office of General Counsel to incorporate deed restrictions within the conveyance deed.

Oil Disposal Area (Oil Dump) - USDA-ARS intends to rely on delegated authority for non-petroleum response actions performed on its lands under the authority in determining the proper course of action for the oil disposal area.

UF/IFAS was cited as the Responsible Party for both the cattle dip vats and issued a “Consent Order” by FDEP for corrective actions. USDA-ARS concurs that UF/IFAS is still the PRP, and FDEP still holds that position based on a recent discussion with FDEP.

FAMU would avoid conducting any project activities within the known range of the Brooksville Bellflower on the property, as identified by FWC in the 2015 revocable permit, and would continue to work in cooperation with FWC and USFWS, as appropriate, to ensure adequate conservation of this species.

### 4.5 BEST MANAGEMENT PRACTICES

In addition to the commitments in Table 4-2, FAMU would employ the following BMPs; follow recommended agricultural practices; and work in consultation with its colleagues and collaborators, including USDA-ARS, to minimize the environmental impacts of the RFFAs under the proposed action alternative. No mitigation measures are proposed.

- BMPs for proper water quality control to manage runoff due to livestock and crop production.
  - Any livestock and crop production enterprises undertaken in the area would be in accordance with BMPs for the respective enterprises so as not to adversely impact the land and the environment.
Stocking densities and grazing and management practices for livestock would be in accordance with recommended practices and carefully monitored to ensure no overgrazing of the area. The pastures would be carefully monitored to ensure that no soil erosion and runoff takes place. Livestock densities would not exceed those previously maintained on the property.

Sensitive riparian areas that are prone to soil erosion would be planted with appropriate vegetation. The area maybe kept under permanent vegetation, if necessary.

All crop production enterprises in the area would follow BMPs associated with good agricultural husbandry practices that would not negatively impact on the environment.

All land preparation and cultivation activities would follow recommended husbandry practices and would be done on flat and gently sloping land only so as to avoid any runoff problems associated with soil erosion.

In areas that are prone to erosion and runoff, we would avoid cultivating those areas.

Where necessary, FAMU would establish buffer areas and guard/protection strips to minimize potential erosion and runoff in the affected areas.

- BMPs for potential nutrient runoff as a result of proposed activities.
  - FAMU would be vigilant to ensure that animal manure does not have an adverse impact on the environment.
  - The use of synthetic fertilizers to enhance plant growth would be carefully monitored and kept to a minimum. The fertilizers would be applied in small quantities to minimize runoff and ground-water contamination.
  - Lysimeters would be placed strategically to monitor ground and surface water nutrient movement to the lake.
  - FAMU would monitor the soil nutrient status of cultivated areas periodically to determine any changes in the soil nutrient profile and use this information in formulating fertilizer usage in the area.
  - FAMU has ongoing research in North Florida to monitor soil erosion and ground and surface runoff; similar studies would be conducted around Lake Lindsey to monitor the impact of the RFFAs.
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Northstar
Andrew Frost, P.E.
Louis Berger

<table>
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<tr>
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<th>Education</th>
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<tbody>
<tr>
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<td>9 years</td>
<td>Air Quality</td>
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<tr>
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<td>6 years</td>
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<tr>
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<td>M.S. Biology Sciences</td>
<td>19 years</td>
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<td>Tristyne Youngbluth, P.E.</td>
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7.0 ACRONYMS

AADT – Annual Average Daily Travel
ACM – Asbestos-Containing Materials
AQI – Air Quality Index
ARS – Agricultural Research Service
AST – Aboveground Storage Tanks
BJ1 – Bankhead Jones 1
BJ2 – Bankhead Jones 2
BMP – Best Management Practice
BTEX – Benzene, Toluene, Ethylbenzene, Xylenes
CAFS – College of Agriculture and Food Sciences
CFR – Code of Federal Regulations
cfu – Colony Forming Unit
CMP – Coastal Management Program
CO – Carbon Monoxide
CR – County Road
dB – Decibel
dBA – A-Weighted Decibels
DO – Dissolved Oxygen
EA – Environmental Assessment
EIS – Environmental Impact Statement
ESA – Environmental Site Assessment
F.A.C. – Florida Administrative Code
FAMU – Florida Agricultural and Mechanical University
O₃ – Ozone
PAH – Polycyclic Aromatic Hydrocarbons
PCB – Polychlorinated Biphenyls
Pb – Lead
PM – Particulate Matter
ppb – Parts per Billion
PRP – Potentially Responsible Party
RD1 – Robins’ Donation 1
RD2 – Robins’ Donation 2
RECs – Recognized Environmental Conditions
RFFA – Reasonably Foreseeable Future Action
SAR – Site Assessment Report
SCTL – Soil Cleanup Target Levels
SO₂ – Sulfur Dioxide
STARS – Subtropical Agricultural Research Station
STOF-THPO – Seminole Tribe of Florida Tribal Historic Preservation Office
SWFWMD – Southwest Florida Water Management District
TRPH – Total Recoverable Petroleum Hydrocarbon
UF/IFAS – University of Florida’s Institute of Food and Agricultural Sciences
USACE – United States Army Corps of Engineers
USDA – United States Department of Agriculture
USEPA – United States Environmental Protection Agency
USFWS – United States Fish and Wildlife Service
USGS – United States Geological Survey
UST – Underground Storage Tanks
WMIS – Water Management Information System

WREC – Withlacoochee River Electric Cooperative, Inc.
In accordance with Section 732 of Public Law (P.L.) 1112-55, the Secretary of Agriculture has signed a Memorandum of Understanding (MOU) with Florida Agricultural and Mechanical University (FAMU) to transfer 3800 acres of land, including facilities, from the US Department of Agriculture (USDA) – Agricultural Research Service located in Brooksville, Florida to Florida A&M University (FAMU). The land shall be used for agricultural and natural resource research for a period of not less than 25 years, to support and enhance agriculture research and technology transfer to farmers and local communities to include small farmers, minority farmers and Native Americans, beginning ranchers and farmers projects, and to support USDA’s and FAMU’s strategic goals and objectives to:

1. Assist rural communities to create prosperity so they are self-sustaining, repopulating, and economically thriving;
2. Ensure our national forests and private working lands are conserved, restored and made more resilient to climate change, while enhancing and preserving our water resources;
3. Help America and the state of Florida promote agricultural production and biotechnology exports and America works to increase food security; and
4. Ensure that all of America’s children have access to safe, nutritious, and balanced meals.

Goals of the College of Agriculture and Food Sciences
FAMU has a strong interest and commitment to continue its legacy of strengthening its teaching, research, extension and development activities at the Brooksville site. In accordance with the MOU, the College of Agriculture and Food Sciences has prepared a Plan of Work for the Brooksville site that will enable the university to:

1. Conduct agricultural and natural resource research that will benefit the nation, state, and local communities;
2. Develop and implement the beginning rancher and farmer programs, and outreach projects;
3. Develop and implement socio-economic projects that will enable the Brooksville site to be economically viable and self-sustaining;
4. Develop youth development and experiential learning and training opportunities for students at all grade levels;
5. Develop and showcase demonstrations designed for various alternative agricultural enterprises from current and future program areas in the college; and
6. Engage faculty from FAMU and other universities to participate in the Brookville project.

The description of the said land/property is listed below:

**Site Description**
The site is in Hernando county, Brooksville area, Florida and is divided into four separate parcels, identified as RD1, RD2, BJ1 and BJ2 (Figure 1 and Figure 1-A).

**Robins’ Donation 1 (RD1):** includes a 140-acre tract of land located north of State Road 485B (Yontz Road), west of Karry Creek Lane and east of Joyce Drive, north of Brooksville. The site is improved by structures utilized for cattle management operations and supports agricultural research. The USDA refers to this property as ‘CCC camp.’

**Robins’ Donation 2 (RD2):** includes a 788.5-acre tract of land located at 22271 Chinsegut Hill Road, northwest of Highway 45/Highway 41 (Broad Street) and west of County road 581 (Snow Memorial Highway), northeast of Brooksville. The site is improved by buildings utilized for office/administration, laboratories, and materials, and supports agricultural research. The USDA refers to this property as the ‘Main Station.’

**Bankhead Jones 1 (BJ1):** includes a 731-acre tract developed tract located east of Highway 45/Highway 41 (Broad Street) between Deer Run Road and County Road 476 (Lake Lindsey Road), northeast of Brooksville. The site is improved by structures utilized for cattle management operations and supports agricultural research. The USDA refers to this property as the ‘Land Use Area.’

**Bankhead Jones 2 (BJ2):** includes a 2,186-acre developed tract of land located by 27590 Lake Lindsey Road which is bordered by Daly Road on the west, by Lucilles Shady Lane/Twin Pond Road on the east, by County Road 476 (Lake Lindsey Road) on the north, and by Trail 2 on the South. This site is improved by buildings utilized for equipment maintenance, material storage and as a residence and also supports agricultural research. The USDA refers to this property as the ‘Turnley Unit.’

**Format and Basis of Plan of Work**
The US Department of Agriculture has conducted two Environmental Site Assessment (ESA) Studies (Phases I and II) for the area. The information contained in the ESA studies has been used to develop the Plan of Work. The Plan follows the same format developed by the University of Georgia for its J. Phil Campbell, Sr. Research and Education Center, Watkinsville, Georgia.

In preparing the Plan of Work, the following factors were considered:

- **Maintaining the FAMU Land-Grant Identity.** Florida A&M University will ensure that its research, teaching and outreach activities at the Brooksville site contributes and strengthen its Land-Grant Mission.

- **Maximum use of existing resources.** The Brooksville site was used by the USDA/ARS as a beef cattle research station and as such all the land assets were put into pasture to support the research that was going on in the area. The proposed research projects will, therefore, utilize this resource base to its maximum by focusing on animal grazing, pasture operation while incorporating various agronomic and horticultural cropping systems to expand the agricultural
base of our farming clientele. Existing pastures will be maintained and improved where necessary to support livestock research and projects. Other agricultural enterprises will be added as farmer needs and financial resources are identified.

**Use of existing building and other infrastructures.** The existing buildings – office, storage facilities, accommodation, and silos will be cleaned and put to their original use. Infrastructures such as roads and fences will be maintained to support livestock operation and other enterprises on site.

- **Protecting the natural resource base.** Maintaining and protecting the natural resource base of the area will be a top priority consideration. The lake area, watershed, wetland and other sensitive areas will be maintained, protected, and enhanced where necessary.

- **Minimum environmental impact.** The proposed research and outreach projects will not have any adverse environmental impact on lands around the area. Best Management Practices will be practiced by all parties involved at the Brooksville site.

- **Sustainability.** It is essential that the research projects be sustainable. FAMU has recently initiated a Sustainability Institute that will provide leadership in ensuring that any enterprise initiated by the University (1) enhances the academic and research mission of FAMU; (2) improves efficiencies and environmental stewardships of all University operations; and (3) provides outreach and engages the University and broader communities.

- **Resource limitations.** Limited funds (capital and operating) will be available from the College and University. This will dictate the management style, research and extension activities at the Brooksville area.

**Review Committee**
Members of the faculty who reviewed the Plan of Work were selected for their qualifications, knowledge and expertise in their respective discipline (Annex 1).

**Research Plan**
The research projects that are being planned are:

- **Grazing Systems Research and Demonstration.** The College of Agriculture and Food Sciences (CAFS) will work with Florida black farmers and agriculturalists, veterans, Native Americans, and other interested parties to conduct the grazing systems research. The faculty in the Animal Science, Agronomy and Plant Science Programs and Cooperative Extension Program will take the lead in planning and work with the University of Florida when implementing the project which will be part of the beginning rancher and farmer program. The goal of the grazing system research is to evaluate production, environmental remediation strategies, and economic viability and profitability for livestock production that could benefit other ranchers and farmers in the area, and will include but not limited to:
  - Livestock systems management – grazing rate and stocking density
  - Multiple species grazing
  - Summer and winter forage systems under different forages and systems
  - Cost of production and live-weight gained under different management systems
  - Best management and veterinary practices for livestock production

As resources become available, it will be possible to add other livestock enterprises to this program.
The proposed project will utilize between 500 - 1000 acres of land and will be located in Robins’ Donation 1 (RD1) and Bankhead Jones 2 (BJ2) areas. The actual area to be used for this project will be determined after a survey of the site has been completed and studied.

- **Hay production Research and Demonstration.** This project will evaluate different management systems and strategies for hay production to optimize profits that will include evaluating the following practices:
  - Harvesting frequency for sustainable production
  - Grass height of pasture for optimum regeneration
  - Fertilization rate
  - Evaluation of different grass species for pasture
  - Productivity per acre
  - Weed management protocols and control of pasture pests and diseases
  - Pasture genetics
  - Nutrient quality of hay under different management practices
  - Rotation of hay production and grazing sites as best management practice

This research is considered important to collect the necessary technical and economic data that will help new and beginning farmers and ranchers in the central and south Florida areas. The faculty in the Animal Science, Agronomy and Plant Science, and Agribusiness Programs will be involved in planning and work with the University of Florida when implementing the project.

The proposed project will utilize land located in the Bankhead Jones 1 (BJ1) area. The actual area and site will be determined after a survey of the area is completed and studied by the appropriate faculty group(s).

- **Livestock Production and Management Research.** The College will work with small farmers, including under-represented minority farmers, veterans, and other interested parties to conduct animal production research, including but not limited to cattle and small ruminants. One of the research projects being considered is silvopastoral systems research for small ruminants. The goal of this research is to explore alternative enterprises as part of the beginning rancher project and to use it as an education and demonstration site to train new and beginning farmers. The faculty from the Animal Science, Agronomy and Plant Science Programs, and the Cooperative Extension Program will take the lead in this project. The research will include but not limited to the following:
  - Forage utilization from plants used for browsing
  - Nutrient requirements
  - Pest and disease management
  - Nutrition, production, growth feeding systems
  - Breeding, genetics and reproduction
  - Carcass evaluation and analysis
  - Economic and technical data

The proposed project will utilize pasture in Bankhead Jones 1 (BJ1) area. The actual area will be identified after the land has been surveyed and evaluated by the appropriate faculty group(s).

- **Grapes, Small Fruits and Medicinal Plants Research.** The College will expand and relocate some of its viticulture and small fruit research to the Brooksville area to support the economic
growth and development of the Florida grape and wine industry, and the small fruit industry. Research and evaluation in medicinal plants will also be included in research plan. The faculty in the Center for Viticulture and Small Fruit Research and other faculty members in the university with the appropriate expertise and training will take the lead in planning and implementing the research that will evaluate important production parameters to support industry needs, including, but not limited to:

- Germplasm collection and evaluation
- Evaluation of hybrids from breeding programs
- Cultivar evaluation of grapes, selected small fruits, and medicinal plants
- Production systems evaluation
- Post-harvest physiology for Florida grapes and selected small fruits
- Irrigation and water needs for Florida grapes and selected small fruits
- Pest and disease management

The proposed project will utilize the land in the Robins’ Donation 2 (RD2) area. The actual site will be determined after a survey of the area is completed and evaluated by a faculty group.

- **Vegetable and IPM Research, Training and Entrepreneurship.** These research and extension activities address CAFS’ commitment to meet the needs of Florida’s small farm producers, socially disadvantaged farmers, and those in underserved communities by providing outreach on improving crop production practices, food safety and security. The goal of these research and extension activities is to explore alternative enterprises as part of the beginning rancher project, and to use it as an education and demonstration site to train new and beginning farmers. This project may have participation from farmers and farmer cooperatives as partners. To be viable and self-sustaining, the project will seek a corporate partner that will be involved in the production, packaging and marketing of the products and value-added products, complementary to the research that will be done. The faculty in the Cooperative Extension Program, Plant and Soil Sciences, Entomology, the Center for Biological Control and Center for Water and Air Quality will take the lead in planning and implementing this program. Some potential areas of research will include but not limited to:
  - Evaluation of different vegetables for commercial production and alternative marketing strategies
  - Compare conventional and IPM strategies on production, product quality, consumer perception and profitability
  - Evaluation of marketing strategies and economic returns for vegetable production, and
  - Value-added product development as an alternative marketing strategy

The site for this project will be in the Robins’ Donation 2 area.

- **Bioprocessing and Product Development Research and Entrepreneurship.** The College will seek corporate, state and federal grant support (example, USDA 1890 Facilities Grant) to establish and operate a state-of-the art bioprocessing and business incubator center at the site. This facility will conduct wide ranging research and training in processing and value-added product development from grapes and other fruits and vegetables that will become available after the third year. To be viable and self-sustaining, the facility will seek a corporate partner that will be involved in the production, packaging and marketing of the products and value-added products, complementary to the research and training that will be done. Areas of research will include:
• **Enological evaluation** of existing commercial varieties and FAMU’s advanced grape selections
• **Evaluation of other fruits, vegetables and medicinal plants** for production of value-added products
• **Nutraceutical and pharmacological evaluation** of grapes and other plant products
• **Health related benefits** from value-added products

The faculty in the Center for Viticulture and Small Fruit Research will take the lead in planning and implementing this project. The site for the bioprocessing and product development facility will be in the Robins’ Donation 2 (RD2) area where the vineyards, small fruits and vegetable areas will be located.

• **Watershed and Wetland Research.** Lake Lindsey in the Robins’ Donation 2 area and the wetland area in Robins’ Donation 1 (RD1) present opportunities for various research projects that could be conducted by the faculty and students from the Center for Air and Water Quality, the School of the Environment, the Center for Biocontrol, and other research institutions dealing with environmental issues. The faculty in the Center for Air and Water Quality will take the lead in this area of research. Potential research areas will include, but not limited to:
  • Understanding the impact of wetland on ameliorating the effects of soil erosion and nutrient pollution on surface and ground water in and around Lake Lindsey
  • Soil and water quality management under pasture
  • Agricultural, environmental, urban and wildlife interactions and potential impact
  • Ecological and spatial analysis and mapping of terrestrial and watershed areas

• **Terrestrial and Biological Station.** The College proposes to establish a terrestrial biological station at the Brooksville site. A suitable site will be selected for the station which will be used for a wide range of research, educational, and training purposes. More specifically, the station will provide opportunities for researchers to conduct interdisciplinary studies in terrestrial biological, ecological, systems and their interactions with environmental factors and human dimensions. The station will include a range of ecosystems, including agricultural, pasture, wooded, wetland and aquatic systems. Potential research and training areas include:
  • Integrative systems research between the ecosystems
  • Resource and conservation research
  • Soil and water quality management research
  • Carbon sequestration, soil and water quality research
  • Conservation and wildlife ecology

The faculty in the Biological and Agricultural Systems Engineering (BASE), the Plant and Soil Science Programs, Department of Biology, and the Center for Air and Water Quality will be involved in planning this project.

• **Collaborative Research.** The College will set aside an area for general biological and agricultural research for collaborative research. This site will be available for faculty and staff from other universities, especially the other 1890 institutions who would like to conduct research in the area. The faculty in the college will also be encouraged to submit proposals that will incorporate multidisciplinary research with internal and external collaborators from other universities, private industries, non-profit corporations and foundations.
Prospective Future Research
In collaborating with other faculty, additional research projects were identified that the University may implement. These research ideas are still in the early planning process and require additional considerations and regulatory approval prior to implementation. Because these projects do not have defined scopes, their environmental impacts are hard to quantify and likely will not be implemented with the initial transfer of the properties. Once a specific scope is identified for this wish-list of research projects, FAMU will coordinate the implementation of each project with environmental regulatory entities to ensure minimal impacts to the environment. One potential enterprise that FAMU is reviewing as a project in Brooksville is presented below:

- **Aquaculture and Aquaponics Research and Demonstration.** The College will work with various stakeholders and other interested parties to jointly conduct Aquaculture and Aquaponics projects as the opportunity arises. These projects will also be used as demonstration sites for small farmers to learn about aquaculture and aquaponics and to adopt these alternative enterprises for their own farms where feasible. Where necessary, external expertise may be engaged to assist in the project. Potential areas of research may include aquatic species relationships, stocking density, nutrition and diet formulations for optimum growth, and disease management and prevention.

The faculty in the Cooperative Extension Program and BASE program will take the lead in planning and implementing any aquaculture and aquaponic projects and seek participation and collaboration from other college and university program areas.

Research and Extension/Outreach Participants and Collaborators
The proposed research and demonstration projects identified and discussed above will be interdisciplinary and where feasible and practical will include participation from faculty and students from the whole college as well as various other colleges and departments, including those from the University of Florida/Institute of Food and Agricultural Systems (UF/IFAS), Florida Atlantic University (FAU), and other 1890 institutions. The research projects may also involve corporate sponsors and partners who may have interest to participate or to involve themselves. The College will invite and solicit support and collaboration from internal and external partners to facilitate the discovery, development and dissemination of scientific knowledge to consumers and producers.

Research and Technical Expertise
In the event that the necessary technical expertise is not available to conduct and or to complete the necessary research projects, the college will seek external assistance from other faculty members within the university as well as from external sources – other universities, colleges, governmental agencies, foundations, and non-profit organizations. Where necessary and feasible, the college will employ new faculty to strengthen its research, teaching and extension programs and to achieve the goals and objectives of the plan of work.

Internal collaborators and partners
Florida A&M University
Animal Science Program
Agronomy and Plant and Soil Science Program
Agribusiness and Agricultural Economics Program
Biological and Agricultural Systems Engineering Program
Entomology and IPM, and Vegetable Crop Program
Food Science Program
Potential external collaborators and partners

US Department of Agriculture
- Agricultural Research Service
- Animal and Plant Health Inspection Service
- National Institute for Food and Agriculture

University of Florida/IFAS
- Animal Science Department
- Agronomy Department
- Horticulture Department
- Soil and Water Science Department
- School of Forest Resources and Conservation

Florida Atlantic University
- Agribusiness Department

Florida International University

Langston University
- Cooperative Extension Program
- Animal Science Program

Prairie View A&M University
- Cooperative Extension Program

Fort Valley State University
- Cooperative Extension Program

Other 1890 Land-Grant Universities

Florida Department of Agriculture

Florida Department of Environmental Protection

Private Corporations and Foundations

FAMU Alumni Association

Florida Veterans Association
International Collaborators and Partners

International institutional collaborators and partners who are working with Florida A&M University will be invited to join in planning and implementing various mutually beneficially research and outreach projects. These institutions include universities and colleges from the Caribbean nations, Haiti, Kenya, Nigeria, Ghana, South Africa, Brazil, France, Italy, Germany and Austria.

Extension and Outreach

Florida A&M University does not have an extension and outreach office in the Brooksville area and the Cooperative Extension Leadership in the College will collaborate with its counterpart in the University of Florida to determine what outreach projects could be implemented. Some of the projects that are being considered include:

- **Youth Development.** The college will seek corporate, state, and federal grant support (example, USDA 1890 Facilities Grant) to establish and operate a 4-H Youth Development Center at the site. The center will serve one of two designated 1890 Youth Development Learning Center/4-H Camps serving minority and underrepresented youth. Youth participating will have the opportunity to expand their knowledge base, increase their life skills and develop leadership abilities to become responsible contributing citizens. Additionally, adult volunteer leaders are critical to success of 4-H programs, as trained leaders provide support and training to members in clubs. This center will also serve as training site for recruitment, training and managing of volunteers. The FAMU Cooperative Extension Leadership will collaborate with UF/IFAS Cooperative Extension agents and reach out to area elementary, middle, and high schools to encourage them to organize student clubs and organizations where they will be introduced to the sciences of agriculture and other STEAM disciplines. We will also reach out to the Future Farmers of America and the 4-H club members to participate in the youth development programs. Land and resources will be provided to participating students and clubs for crop and animal enterprises. These activities will be considered a part of the Beginning Farmer Program to promote agriculture as a career and profession. They will be supervised by the county extension agents and the club advisers.

  The College will identify an area of land in the Bankhead Jones 2 (BJ2) area for this project.

- **Community Resource Development.** This effort provides assistance with initiating and implementing strategic development opportunities designed to promote community and economic growth through interaction with local clientele. Some efforts include planning and delivery of research based educational programs and coordination with community interests, economic development organizations, and associations to facilitate community wealth building and enhance community resourcefulness. A proposed project includes Community Gardening. The college through the Cooperative Extension Program operates a permanent community garden near the university campus. The project is very popular among the local residents who plant vegetables and various food crops throughout the year in the garden. The FAMU Cooperative Extension Leadership will collaborate with UF/IFAS Cooperative Extension agents to reach out to the local community, including non-profit organizations, to participate in the community gardening. The community gardening project is expected to help local communities in the area to grow their own food and learn that home and community gardening is viable and healthy alternative to get their vegetables. Participants in the project will receive in-kind support from the program. The project will be supervised by the county extension agents in the area with assistance and consultation from CAFS’ faculty and staff.
Appropriate guidelines and rules will be established to determine eligibility and ensure that a harmonious working environment prevails in the area among the participants. This project will be located in the Bankhead Jones 2 (BJ2) area with the other gardening projects.

- **Educational trips.** Where appropriate and feasible, the College will encourage the faculty to arrange for field trips to the site to see the livestock operations and other on-going projects. This can be done during the semester as well as for summer camps for students to have a better understanding and appreciation of beef cattle production, goat production, grape growing, fruit and vegetable production, and other agricultural enterprises.

**Teaching and Graduate Student Research**

The College with the support of the teaching, research and extension faculty will submit proposals for graduate student research to be undertaken at the site. Where practical and appropriate, collaborative research in beef cattle, meat goat, pasture, vegetable and small fruit crops, soil, and watershed management with faculty from UF/IFAS and other universities will be encouraged.

At a later date, if resources are available, dormitories and other buildings will be constructed for faculty and students to stay at the site to conduct research, workshops and training sessions for stakeholders, and summer camps for students.

**Proposed Plan of Work Calendar**

<table>
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<tr>
<th>8/2014</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
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<tr>
<td>Approval and adoption of Plan of Work</td>
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<tr>
<td>NEPA study</td>
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<tr>
<td>Survey and identification of areas</td>
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<td>Repairs and improvement to infrastructures</td>
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<tr>
<td>Grazing systems research &amp; demonstration</td>
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<td>Hay production research &amp; demonstration</td>
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<td>Livestock &amp; management research</td>
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<td>Grapes, small fruits and medicinal plants research</td>
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<td>Vegetable and IPM research, training &amp; ent.</td>
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<tr>
<td>Bioprocessing and product dev. Research &amp; ent.</td>
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<td>Watershed and wetland research</td>
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<tr>
<td>Terrestrial and biological station research</td>
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<td>Collaborative research</td>
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<td>Youth development (k-20 programs)</td>
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<tr>
<td>Community resource development</td>
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</table>

**Administration and Management**

The administration and management of the Brooksville site will be undertaken by a group of personnel stationed at the site with oversight from the Dean the Leadership Team in the College of Agriculture and Food Sciences. Where necessary and appropriate, adhoc committees will be formed to undertake
specific functions and responsibilities and assist the college administration in the implementation of the Plan of Work.

The present offices and buildings at the Brooksville site will be used by the administration after the necessary renovation and repairs are done. At a later date, if resources are available, additional buildings may be constructed if necessary to meet the needs of the faculty and the administration as the Plan of Work is being implemented.

Advisory Board
An advisory board will be formed to advise the college and university administration for the successful implementation of the Plan of Work.
FIGURE 1
LOCATIONS OF USDA PROPERTIES
NEAR BROOKSVILLE, FLORIDA
FIGURE 1-A
LOCATION OF USDA PROPERTIES
NEAR BROOKSVILLE, FLORIDA
Annex 1

Florida A&M University
College of Agriculture and Food Sciences
Brooksville Project, Florida
Plan of Work

Members of Review Committee

Dr. Robert Taylor (Dean)  Soil Science
Dr. Michael Thomas   Agriculture Economics/Agribusiness
Dr. Ray Mobley  Veterinary Medicine
Dr. Lambert Kanga  Entomology
Dr. Cass Gardner  Agronomy
Dr. Lee Anderson  Animal Science
Dr. Charles Magee  Biological and Agricultural Systems Engineering
Dr. Bobby Phillips  Horticulturist/Plant Breeder
Dr. Violeta Colova  Viticulturist
Mrs. Vonda Richardson  Extension Education/Agribusiness Management/Marketing
Mrs. Harriet Paul  International Programs
Dr. Stephen Leong  Agricultural Economics
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January 13, 2015

Leonard Harjo
Principal Chief
P.O. Box 1498
Wewoka, Oklahoma 74884

Dear Mr. Harjo,

The Department of Agriculture (USDA), Agricultural Research Service (ARS) Subtropical Agricultural Research Station located in Brooksville, Hernando County, Florida, is in the process of transferring land and buildings at its Subtropical Agricultural Research Station to the Florida A&M University (FAMU or the University) for agricultural research.

Enclosed is a description and map of the four parcels involved in the land transfer, identified as Robins Donation 1 (RD1), Robins Donation 2 (RD2), Bankhead Jones 1 (BJ1), and Bankhead Jones 2 (BJ2). See Figure 1 in Enclosure 1.

As part of an Environmental Assessment for the land transfer, a records search for known cultural resources was conducted at the Florida Division of Historic Resources. The following cultural resources are known to be adjacent to or within the property. See Figure 2 for location of sites in Enclosure 1.

<table>
<thead>
<tr>
<th>Site #</th>
<th>Type</th>
<th>Status</th>
<th>Distance from Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>8HR469</td>
<td>Historic Structure</td>
<td>Listed NRHP (November 2003)</td>
<td>Adjacent to the property (RD2)</td>
</tr>
<tr>
<td>Chinsegut Hill Manor House</td>
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<tr>
<td>HE00269</td>
<td>Archeological Resource</td>
<td>Unevaluated</td>
<td>Adjacent to property (RD2)</td>
</tr>
<tr>
<td>Chinsegut Hill</td>
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<td></td>
<td></td>
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<tr>
<td>HE0673</td>
<td>Cemetery</td>
<td>Unevaluated</td>
<td>Adjacent to property (RD2)</td>
</tr>
<tr>
<td>Chinsegut Hill Cemetery</td>
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<td></td>
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<tr>
<td>HE00548</td>
<td>Bridge</td>
<td>Unevaluated</td>
<td>South of property (RD2)</td>
</tr>
<tr>
<td>Meredith Footbridge</td>
<td></td>
<td></td>
<td>Outside of project boundaries</td>
</tr>
<tr>
<td>HE00661</td>
<td>Cemetery</td>
<td>Unevaluated</td>
<td>Within property (BJ1)</td>
</tr>
<tr>
<td>Baker Cemetery</td>
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</tbody>
</table>
The University will continue to use the land for agricultural and natural research for the next twenty-five years under a Memorandum of Understanding signed by both the Secretary of Agriculture and FAMU. Existing buildings and infrastructure will be maintained to support livestock operations and other enterprises. The proposed research projects will use the resource base to its maximum by focusing on animal grazing and pasture operations.

The following table presents the previous and proposed uses of the properties and Enclosure 2 provides brief descriptions of the properties and the adjacent areas.

<table>
<thead>
<tr>
<th>Parcel Name/Area</th>
<th>Previous Use</th>
<th>Proposed Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robins' Donation 1 (RD1)/140 acres</td>
<td>Civilian Conservation Corps camp – 1930s Pasture land used for livestock grazing since 1942</td>
<td>Watershed and wetland research</td>
</tr>
<tr>
<td>Robins' Donation 2 (RD2)/788.5 acres</td>
<td>USDA agricultural research land since 1932</td>
<td>Grapes, small fruits and medicinal plants research Vegetable and Integrated Pest Management research, training and entrepreneurship Bioprocessing and product development research and entrepreneurship Watershed and wetland research</td>
</tr>
<tr>
<td>Bankhead Jones 1 (BJ1)/731 acres</td>
<td>USDA agricultural research land since 1937 Livestock research since 1960</td>
<td>Hay production research and demonstration Livestock production and management research</td>
</tr>
<tr>
<td>Bankhead Jones 2 (BJ2)/2,186 acres</td>
<td>USDA agricultural research land since 1937 Residential use since 1988</td>
<td>Grazing systems research and demonstration Youth development Community resource development</td>
</tr>
</tbody>
</table>

Under Executive Orders 13175, 13007, the National Environmental Policy Act (42 U.S.C. 4321) and the National Historic Preservation Act (NHPA) (Public Law 89-665; 16 U.S.C. 470, as amended) and as stipulated in 36 CFR 800.2(c)(2), the American Indian Religious Freedom Act of 1979 (Public Law 95-341, 42 U.S.C. 1996), the Native American Graves Protection and Repatriation Act of 1989 (Public Law 101-601, 25 U.S.C. 3001,) and the Archaeological Resources Protection Act of 1979 (Public Law 96-95, 16 U.S.C. 470aa-470mm), the USDA, as a federal agency, must consider the potential impacts of the proposed transfer on natural and cultural resources, including resources of concern to Native American tribes.
Under Section 106 of the NHPA, the USDA is responsible for review of the land transfer. As the lead federal agency, the USDA is responsible for government-to-government consultation with Native American tribes. USDA is reaching out to agencies and tribal governments for their input on the project, and at this time, to collecting information, such as cultural site locations, to identify resources that could be affected by the proposed land transfer. Under Section 106 of the NHPA (36 CFR 800), entities other than the government (or their consultants) may collect information regarding cultural resources in the vicinity of the project. However, the USDA is ultimately responsible for making determinations.

USDA respectfully requests your input and comments regarding any possible sites of religious or cultural significance to the Seminole Nation of Oklahoma that could be affected by the proposed land transfer.

If you have any questions or concerns please contact me at Linda.Wurzberger@ars.usda.gov or on 301-504-1228.

We thank you for your time and consideration.

Sincerely,

Dr. Linda B. Wurzberger
Federal Preservation Officer and Branch Chief
Real Property Management Branch
Facilities Division

Enclosures

cc:
J. Aldridge, FLDHR
S. Shrestha, Louis Berger
J. McPherson, EBSC
L. Baete, EBSC
N. Fleri, FD
J. Adams, FD
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January 13, 2015

Mr. Timothy Parsons, PhD, RPA
Florida Division of Historic Resources
Compliance and Review Section
RA Gray Building
500 South Bronough Street
Tallahassee, Florida 32399-0250

Dear Mr. Parsons:

The Department of Agriculture (USDA), Agricultural Research Service (ARS) located in Brooksville, Hernando County, Florida, is in the process of transferring land, buildings, and structures at its Subtropical Agricultural Research Station to the Florida A&M University (FAMU or the University) for agricultural research under special legislative authority conveyed to the Secretary of Agriculture. This transfer is to be completed by September 30, 2015.

Enclosed is a description and map of the four parcels involved in the land transfer, identified as Robins Donation 1 (RD1), Robins Donation 2 (RD2), Bankhead Jones 1 (BJ1), and Bankhead Jones 2 (BJ2). See Figure 1 in Enclosure 1. This letter is to initiate consultation with your agency as required under Section 106 of the National Historic Preservation Act and any applicable state legislation.

A records search was completed by E. Vovsi (11/13/14). No historic properties were identified in parcels RD 1 or BJ2. The following cultural resources are adjacent to or within the property (parcels RD 2 and BJ1). See Figure 2 for location of sites in Enclosure 1.

<table>
<thead>
<tr>
<th>Site #</th>
<th>Type</th>
<th>Status</th>
<th>Distance from Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>8HR469</td>
<td>Historic Structure</td>
<td>Listed NRHP (November 2003)</td>
<td>Adjacent to the property (RD2)</td>
</tr>
<tr>
<td>HE00269</td>
<td>Archeological Resource</td>
<td>Unevaluated</td>
<td>Adjacent to property (RD2)</td>
</tr>
<tr>
<td>HE0673</td>
<td>Cemetery</td>
<td>Unevaluated</td>
<td>Adjacent to property (RD2)</td>
</tr>
<tr>
<td>HE00548</td>
<td>Bridge</td>
<td>Unevaluated</td>
<td>South of property (RD2) Outside of project boundaries</td>
</tr>
<tr>
<td>HE00661</td>
<td>Cemetery</td>
<td>Unevaluated</td>
<td>Within property (BJ1)</td>
</tr>
</tbody>
</table>
Mr. Timothy Parsons, PhD, RPA

The University will continue to use the land for agricultural and natural research for the next twenty-five years in accordance with a Memorandum of Understanding between FAMU and the Secretary of Agriculture. Existing buildings and infrastructure will be maintained to support livestock operations and other enterprises. The proposed research projects will use the resource base to its maximum by focusing on animal grazing and pasture operations. The following table presents the previous and proposed uses of the properties and Enclosure 2 provides brief descriptions of the properties and the adjacent areas.

<table>
<thead>
<tr>
<th>Parcel Name/Area</th>
<th>Previous Use</th>
<th>Proposed Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robins' Donation 1 (RD1)/140 acres</td>
<td>Civilian Conservation Corps camp – 1930s</td>
<td>Watershed and wetland research</td>
</tr>
<tr>
<td></td>
<td>Pasture land used for livestock grazing since 1942</td>
<td></td>
</tr>
<tr>
<td>Robins' Donation 2 (RD2)/788.5 acres</td>
<td>USDA agricultural research land since 1932</td>
<td>Grapes, small fruits and medicinal plants research</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vegetable and Integrated Pest Management research, training and entrepreneurship</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bioprocessing and product development research and entrepreneurship</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Watershed and wetland research</td>
</tr>
<tr>
<td>Bankhead Jones 1 (BJ1)/731 acres</td>
<td>USDA agricultural research land since 1937</td>
<td>Hay production research and demonstration</td>
</tr>
<tr>
<td></td>
<td>Livestock research since 1960</td>
<td>Livestock production and management research</td>
</tr>
<tr>
<td>Bankhead Jones 2 (BJ2)/2,186 acres</td>
<td>USDA agricultural research land since 1937</td>
<td>Grazing systems research and demonstration</td>
</tr>
<tr>
<td></td>
<td>Residential use since 1988</td>
<td>Youth development</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Community resource development</td>
</tr>
</tbody>
</table>

On February 10, 2005, USDA-ARS sent a letter to Florida Division of Historical Resources (FDHR) advising of its intended demolition of two structures (Building #2 and Building #14). In May 2006, an architectural and historical survey was conducted by Florida Archeological Services (FAS) to determine the significance of the two structures (2006). The survey recommended that Building #2, a residence, warranted no further action and demolition of this structure would have No Adverse Effect; Building #14 was considered eligible for listing in the National Register of Historic Places. The USDA-ARS, Facilities Division (FD) is unable to locate any additional formal consultation correspondence since consultation would have been addressed by another level within the organization that has since been eliminated. During the Agency’s 2012 inventory process, FD was advised of the destruction of Building #14; Cattle Barn, consisting of 11,000 square feet.
USDA-ARS has been communicating with Jason Alexander of the FDHR by phone and email. To satisfy our obligations under Sections 106 and 110 of the National Historic Preservation Act, USDA-ARS is currently contracting for a historic and cultural resources study of the land proposed for transfer and will forward the results upon completion along with the Area of Potential Effect. USDA, ARS is also contacting Tribal Historic Preservation Officers at this time to determine any potential tribal interest.

If you have any questions or concerns, please contact me at Linda.Wurzberger@ars.usda.gov or on 301-504-1224.

Sincerely,

Dr. Linda B. Wurzberger
Federal Preservation Officer and Branch Chief
Facilities Division
Real Property Management Branch

Enclosures

cc.
J. Aldridge, FLDHR
S. Leong, FAMU
S. Shrestha, Louis Berger
L. Baete, EBSC
N. Fleri, FD
J. Adams, FD
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January 13, 2015

Willard S. Steel
Tribal Historic Preservation Officer
HC61 Box 21-A
Clewiston, Florida 33440

Dear Mr. Steel:

The Department of Agriculture (USDA) – Agricultural Research Service (ARS) Subtropical Agricultural Research Station located in Brooksville, Hernando County, Florida, is in the process of transferring land and buildings at its Subtropical Agricultural Research Station to the Florida A&M University (FAMU or the University) for agricultural research.

Enclosed is a description and map of the four parcels involved in the land transfer, identified as Robins Donation 1 (RD1), Robins Donation 2 (RD2), Bankhead Jones 1 (BJ1), and Bankhead Jones 2 (BJ2). See Figure 1 in Enclosure 1.

As part of an Environmental Assessment for the land transfer, a records search for known cultural resources was conducted at the Florida Division of Historic Resources. The following cultural resources are known to be adjacent to or within the property. See Figure 2 for location of sites in Enclosure 1.

<table>
<thead>
<tr>
<th>Site #</th>
<th>Type</th>
<th>Status</th>
<th>Distance from Property</th>
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<tbody>
<tr>
<td>8HR469</td>
<td>Historic Structure</td>
<td>Listed NRHP (November 2003)</td>
<td>Adjacent to the property RD2</td>
</tr>
<tr>
<td>HE00269</td>
<td>Chinsegut Hill Manor House</td>
<td>Archeological Resource</td>
<td>Adjacent to property (RD2)</td>
</tr>
<tr>
<td>HE0673</td>
<td>Chinsegut Hill Cemetery</td>
<td>Cemetery</td>
<td>Adjacent to property (RD2)</td>
</tr>
<tr>
<td>HE00548</td>
<td>Bridge</td>
<td>Unevaluated</td>
<td>South of property (RD2) Outside of project boundaries</td>
</tr>
<tr>
<td>HE00661</td>
<td>Baker Cemetery</td>
<td>Unevaluated</td>
<td>Within property (BJ1)</td>
</tr>
</tbody>
</table>
The University would continue to use the land for agricultural and natural research for the next twenty-five years under a Memorandum of Understanding signed between the Secretary of Agriculture and FAMU. Existing buildings and infrastructure will be maintained to support livestock operations and other enterprises. The proposed research projects will use the resource base to its maximum by focusing on animal grazing and pasture operations.

The following table presents the previous and proposed uses of the properties and Enclosure 2 provides brief descriptions of the properties and the adjacent areas.

<table>
<thead>
<tr>
<th>Parcel Name/Area</th>
<th>Previous Use</th>
<th>Proposed Use</th>
</tr>
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<tbody>
<tr>
<td><strong>Robins 3rd Donation 1 (RD1)/140 acres</strong></td>
<td>Civilian Conservation Corps camp - 1930s&lt;br&gt;Pasture land used for livestock grazing since 1942</td>
<td>Watershed and wetland research</td>
</tr>
<tr>
<td><strong>Robins 3rd Donation 2 (RD2)/788.5 acres</strong></td>
<td>USDA agricultural research land since 1932</td>
<td>Grapes, small fruits and medicinal plants research&lt;br&gt;Vegetable and Integrated Pest Management research, training and entrepreneurship&lt;br&gt;Bioprocessing and product development research and entrepreneurship</td>
</tr>
<tr>
<td><strong>Bankhead Jones 1 (BJ1)/731 acres</strong></td>
<td>USDA agricultural research land since 1937&lt;br&gt;Livestock research since 1960</td>
<td>Hay production research and demonstration&lt;br&gt;Livestock production and management research</td>
</tr>
<tr>
<td><strong>Bankhead Jones 2 (BJ2)/2,186 acres</strong></td>
<td>USDA agricultural research land since 1937&lt;br&gt;Residential use since 1988</td>
<td>Grazing systems research and demonstration&lt;br&gt;Youth development&lt;br&gt;Community resource development</td>
</tr>
</tbody>
</table>

Under Executive Orders 13175, 13007, the National Environmental Policy Act (42 U.S.C. 4321) and the National Historic Preservation Act (NHPA) (Public Law 89-665; 16 U.S.C. 470, as amended) and as stipulated in 36 CFR 800.2(c)(2), the American Indian Religious Freedom Act of 1979 (Public Law 95-341, 42 U.S.C. 1996), the Native American Graves Protection and Repatriation Act of 1989 (Public Law 101-601, 25 U.S.C. 3001,) and the Archaeological Resources Protection Act of 1979 (Public Law 96-95, 16 U.S.C. 470aa-470mm), the USDA, as a federal agency, must consider the potential impacts of the proposed transfer on natural and cultural resources, including resources of concern to Native American tribes.
Under Section 106 of the NHPA, the USDA is responsible for review of the land transfer. As the lead federal agency, the USDA is responsible for government-to-government consultation with Native American tribes. USDA is reaching out to agencies and tribal governments for their input on the project, and at this time, to collecting information, such as cultural site locations, to identify resources that could be affected by the proposed land transfer. Under Section 106 of the NHPA (36 CFR 800), entities other than the government (or their consultants) may collect information regarding cultural resources in the vicinity of the project. However, the USDA is ultimately responsible for making determinations.

USDA respectfully requests your input and comments regarding any possible sites of religious or cultural significance to the Seminole Tribe of Florida that could be affected by the proposed land transfer.

If you have any questions or concerns please contact me at Linda.Wurzberger@ars.usda.gov or on 301-504-1228.

We thank you for your time and consideration.

Sincerely,

Dr. Linda B. Wurzberger
Federal Preservation Officer and Branch Chief
Real Property Management Branch
Facilities Division

Enclosures

cc.
J. Aldridge, FLDHR
S. Shrestha, Louis Berger
J. McPherson, EBSC
L. Baete, EBSC
N. Fleri, FD
J. Adams, FD
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Responses from the Agencies
Dr. Linda B. Wurzberger  
USDA-ARS, Administrative and Financial Management  
5601 Sunnyside Avenue  
Beltsville, MD 20705-5100

RE: DHR Project File No.: 2015-0623, Received by DHR: January 13, 2015
Project: USDA ARS Transferring Land, Buildings, and Structures at the Subtropical Agricultural Research Station to the Florida A&M University
County: Hernando

Dear Dr. Wurzberger:

Thank you for initiating consultation with our office under Section 106 of the National Historic Preservation Act. We note that the cultural resource assessment survey for the project area is forthcoming. This survey report must conform to the provisions of Chapter 1A-46, Florida Administrative Code, and will allow our office to continue the review process. In addition, the report will assist this office in determining if further measures are necessary to avoid, minimize, or mitigate adverse effects to significant archaeological and historic properties. We look forward to receiving this document and to working with the USDA-ARS through the Section 106 process.

If you have any questions, please contact Jason Aldridge, Historic Sites Specialist, by email at Jason.Aldridge@dos.myflorida.com, or by telephone at 850.245.6333 or 800.847.7278.

Sincerely

Robert F. Bendus, Director
Division of Historical Resources
& State Historic Preservation Officer
February 18, 2015

Ms. Linda Wurzberger
Federal Preservation Officer and Branch Chief
Real Property Management Branch – Facilities Division
5601 Sunnyside Avenue
Beltsville, MD 20705
Phone: (301) 504-1236
Email: linda.wurzberger@ars.usda.gov

Subject: Agricultural Research Service (ARS) Subtropical Agricultural Research Station, Brooksville, Hernando County, Florida
THPO#: 0028370

Dear Ms. Wurzberger,

The Seminole Tribe of Florida’s Tribal Historic Preservation Office (STOF-THPO) thanks you for contacting the Tribe regarding the proposed Agricultural Research Service (ARS) Subtropical Agricultural Research Station property transfer. After reviewing the documents regarding the above referenced project, we would like to provide the following comments:

- Because the proposed project entails the transfer of property from a federal agency to a non-federal agency, there may be potential impacts to historic properties within the project parcels.

- The project parcels are within an area that is of historical importance to the Tribe and the undertaking may cause impacts to historic properties of concern to the Tribe. As such we would like to ensure that adequate provisions are made to identify and assess any historic properties that may be present.

- After consulting the Florida Master Site File, it appears that there have been a number of cultural resource surveys in the vicinity of the project parcels. However, it does not seem that there has been a comprehensive, systematic cultural resource assessment of all of the project parcels and there may be previously unidentified historic properties within the project boundaries. If the APE has been subjected to a cultural resource assessment survey, please provide the STOF-THPO with a copy.

- There are a number of previously identified historic structures within the project parcels that have not been evaluated regarding their eligibility for listing on the NRHP.

- According to a 1919 historic map, the Seminole town of Eufaula is in the vicinity of the project parcels. The exact location of the town is unknown at this time.
With these questions and concerns in mind, we respectfully request to be notified by USDA of any developments regarding this project.

Respectfully,

Andrew J. Weidman, MA, RPA
STOF-THPO, Compliance Review Section
30290 Josie Billie Hwy, PMB 1004
Clewiston, FL 33440
Office: 863-983-6549 x12216
Email: andrewweidman@semtribe.com
APPENDIX C: TERRESTRIAL AND AQUATIC WILDLIFE SPECIES KNOWN TO OCCUR OR LIKELY TO OCCUR ON THE USDA-ARS PROPERTIES
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APPENDIX C: TERRESTRIAL AND AQUATIC WILDLIFE SPECIES KNOWN TO OCCUR OR LIKELY TO OCCUR ON THE USDA-ARS PROPERTIES

The table below lists non-special-status wildlife species known to occur or likely to occur within one or more of the habitat types present on the USDA-ARS properties. Species present on the property are not limited to those listed below (FNAI 2010).

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Preferred Habitat Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acadian flycatcher</td>
<td><em>Empidonax virescens</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>barred owl</td>
<td><em>Strix varia</em></td>
<td>mixed hardwood-coniferous forest/woodland; cypress</td>
</tr>
<tr>
<td>blue jay</td>
<td><em>Cyanocitta cristata</em></td>
<td>xeric hammock</td>
</tr>
<tr>
<td>bobwhite</td>
<td><em>Colinus virginianus</em></td>
<td>upland pine; sandhill</td>
</tr>
<tr>
<td>cedar waxwing</td>
<td><em>Bombycilla cedrorum</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>chimney swift</td>
<td><em>Chaetura pelagica</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>great blue heron</td>
<td><em>Ardea herodias</em></td>
<td>wetlands; aquatic habitats</td>
</tr>
<tr>
<td>great egret</td>
<td><em>Ardea alba</em></td>
<td>wetlands; aquatic habitats</td>
</tr>
<tr>
<td>great-crested flycatcher</td>
<td><em>Myiarchus crinitus</em></td>
<td>cypress</td>
</tr>
<tr>
<td>great-horned owl</td>
<td><em>Bubo virginianus</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>ground dove</td>
<td><em>Columbina passerina</em></td>
<td>sandhill</td>
</tr>
<tr>
<td>hermit thrush</td>
<td><em>Catharus guttatus</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>northern harrier</td>
<td><em>Circus cyaneus</em></td>
<td>wetlands</td>
</tr>
<tr>
<td>pileated woodpecker</td>
<td><em>Dryocopus pileatus</em></td>
<td>mixed hardwood-coniferous forest/woodland; cypress; mixed wetland hardwood</td>
</tr>
<tr>
<td>red-bellied woodpecker</td>
<td><em>Melanerpes carolinus</em></td>
<td>upland pine</td>
</tr>
<tr>
<td>red-headed woodpecker</td>
<td><em>Melanerpes erythrocephalus</em></td>
<td></td>
</tr>
<tr>
<td>red-tailed hawk</td>
<td><em>Buteo jamaicensis</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>ruby-throated hummingbird</td>
<td><em>Archilochus colubris</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>rusty blackbird</td>
<td><em>Euphagus carolinus</em></td>
<td>cypress</td>
</tr>
<tr>
<td>screech owl</td>
<td><em>Mecoscops asio</em></td>
<td>xeric hammock; mixed wetland hardwood</td>
</tr>
<tr>
<td>snowy egret</td>
<td><em>Egretta thula</em></td>
<td>wetlands; aquatic habitats</td>
</tr>
<tr>
<td>swallow-tailed kite</td>
<td><em>Elanoides forficatus</em></td>
<td>cypress</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Preferred Habitat Type</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------------------------------</td>
<td>------------------------------------------------------------</td>
</tr>
<tr>
<td>turkey</td>
<td><em>Meleagris gallopavo</em></td>
<td>xeric hammock; mixed wetland hardwood</td>
</tr>
<tr>
<td>wood duck</td>
<td><em>Aix sponsa</em></td>
<td>cypress; mixed wetland hardwood; aquatic habitats</td>
</tr>
<tr>
<td>woodcock</td>
<td><em>Scolopax minor</em></td>
<td>mixed hardwood-coniferous forest/woodland</td>
</tr>
<tr>
<td>woodstork</td>
<td><em>Mycteria americana</em></td>
<td>cypress</td>
</tr>
<tr>
<td>yellow-billed cuckoo</td>
<td><em>Coccyzus americanus</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>yellow-crowned night heron</td>
<td><em>Nyctanassa violacea</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>yellow-throated warbler</td>
<td><em>Setophaga dominica</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>Reptiles &amp; Amphibians</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alabama waterdog</td>
<td><em>Necturus beyeri complex</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>banded water snake</td>
<td><em>Nerodia fasciata fasciata</em></td>
<td>wetlands; aquatic habitats</td>
</tr>
<tr>
<td>barking treefrog</td>
<td><em>Hyla gratiosa</em></td>
<td>xeric hammock; sandhill</td>
</tr>
<tr>
<td>bird-voiced treefrog</td>
<td><em>Hyla avivoca</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>black racer</td>
<td><em>Coluber constrictor priapus</em></td>
<td>xeric hammock</td>
</tr>
<tr>
<td>black swamp snake</td>
<td><em>Seminatrix pygaea</em></td>
<td>wetlands; aquatic habitats</td>
</tr>
<tr>
<td>box turtle</td>
<td><em>Terrapene carolina bauri</em></td>
<td>mixed hardwood-coniferous forest/woodland</td>
</tr>
<tr>
<td>broadhead skink</td>
<td><em>Plestiodon laticeps</em></td>
<td>mixed hardwood-coniferous forest/woodland</td>
</tr>
<tr>
<td>bronze frog</td>
<td><em>Lithobates clamitans clamitans</em></td>
<td>mixed hardwood-coniferous forest/woodland</td>
</tr>
<tr>
<td>bullfrog</td>
<td><em>Lithobates catesbeianus</em></td>
<td>mixed wetland hardwood; wetlands; aquatic habitats</td>
</tr>
<tr>
<td>coachwhip snake</td>
<td><em>Coluber flagellum</em></td>
<td>sandhill</td>
</tr>
<tr>
<td>Cope's gray treefrog</td>
<td><em>Hyla chrysoscelis</em></td>
<td>mixed hardwood-coniferous forest/woodland</td>
</tr>
<tr>
<td>coral snake</td>
<td><em>Micrurus fulvius</em></td>
<td>mixed hardwood-coniferous forest/woodland</td>
</tr>
<tr>
<td>cottonmouth</td>
<td><em>Agkistrodon piscivorus</em></td>
<td>cypress; mixed wetland hardwood; aquatic habitats</td>
</tr>
<tr>
<td>crowned snake</td>
<td><em>Tantilla relicta</em></td>
<td>xeric hammock; sandhill</td>
</tr>
<tr>
<td>dwarf salamander</td>
<td><em>Eurycea quadridigitata</em></td>
<td>cypress</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Preferred Habitat Type</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>eastern diamondback rattle</td>
<td><em>Crotalus adamanteus</em></td>
<td>upland pine; sandhill</td>
</tr>
<tr>
<td>eastern fence lizard</td>
<td><em>Sceloporus undulatus</em></td>
<td>upland pine; xeric hammock; sandhill</td>
</tr>
<tr>
<td>eastern glass lizard</td>
<td><em>Ophisaurus ventralis</em></td>
<td>mixed hardwood-coniferous forest/woodland</td>
</tr>
<tr>
<td>eastern king snake</td>
<td><em>Lampropeltis getula</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>eastern mud turtle</td>
<td><em>Kinosternon subrubrum</em></td>
<td>cypress; aquatic habitats</td>
</tr>
<tr>
<td>flatwoods salamander</td>
<td><em>Ambystoma bishop</em></td>
<td>cypress</td>
</tr>
<tr>
<td>gray rat snake</td>
<td><em>Pantherophis spiloides</em></td>
<td>mixed hardwood-coniferous forest/woodland; mixed wetland hardwood</td>
</tr>
<tr>
<td>green anole</td>
<td><em>Anolis carolinensis</em></td>
<td>mixed hardwood-coniferous forest/woodland</td>
</tr>
<tr>
<td>green water snake</td>
<td><em>Nerodia floridana</em></td>
<td>wetlands; aquatic habitats</td>
</tr>
<tr>
<td>ground skink</td>
<td><em>Scincella lateralis</em></td>
<td>mixed hardwood-coniferous forest/woodland</td>
</tr>
<tr>
<td>hognose snake</td>
<td><em>Heterodon platirhinos</em></td>
<td>xeric hammock</td>
</tr>
<tr>
<td>leopard frog</td>
<td><em>Lithobates sphenoecephalus</em></td>
<td>wetlands; aquatic habitats</td>
</tr>
<tr>
<td>little grass frog</td>
<td><em>Pseudacris ocularis</em></td>
<td>cypress</td>
</tr>
<tr>
<td>marbled salamander</td>
<td><em>Ambystoma opacum</em></td>
<td>mixed wetland hardwood</td>
</tr>
<tr>
<td>mole salamander</td>
<td><em>Ambystoma talpoideum</em></td>
<td>cypress; mixed wetland hardwood</td>
</tr>
<tr>
<td>mole skink</td>
<td><em>Plestiodon egregious</em></td>
<td>sandhill</td>
</tr>
<tr>
<td>narrowmouth toad</td>
<td><em>Gastrophryne carolinensis</em></td>
<td>cypress</td>
</tr>
<tr>
<td>oak toad</td>
<td><em>Anaxyrus quercicus</em></td>
<td>cypress</td>
</tr>
<tr>
<td>red-bellied snake</td>
<td><em>Storeria occipitomaculata</em></td>
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</tr>
<tr>
<td>ringneck snake</td>
<td><em>Diadophis punctatus</em></td>
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<tr>
<td>rough green snake</td>
<td><em>Opheodrys aestivus</em></td>
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<tr>
<td>slimy salamander</td>
<td><em>Plethodon grobmani</em></td>
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<tr>
<td>snapping turtle</td>
<td><em>Chelydra serpentina</em></td>
<td>cypress</td>
</tr>
<tr>
<td>southern cricket frog</td>
<td><em>Acris gryllus</em></td>
<td>cypress</td>
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<tr>
<td>southern toad</td>
<td><em>Anaxyrus terrestris</em></td>
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<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Preferred Habitat Type</td>
</tr>
<tr>
<td>-----------------------</td>
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<tr>
<td>spadefoot toad</td>
<td><em>Spea bombifrons</em></td>
<td>xeric hammock; sandhill</td>
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<td>striped mud turtle</td>
<td><em>Kinosternon baurii</em></td>
<td>cypress; aquatic habitats</td>
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<tr>
<td>three-lined salamander</td>
<td><em>Eurycea guttolineata</em></td>
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<td>tiger salamander</td>
<td><em>Ambystoma tigrinum</em></td>
<td>sandhill</td>
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<td>two-toed amphiuma</td>
<td><em>Amphiuma means</em></td>
<td>mixed wetland hardwood; wetlands; aquatic habitats</td>
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<td>worm lizard</td>
<td><em>Rhineura floridana</em></td>
<td>xeric hammock; sandhill</td>
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<td><strong>Mammals</strong></td>
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<tr>
<td>black bear</td>
<td><em>Ursus americanus</em></td>
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<tr>
<td>bobcat</td>
<td><em>Lynx rufus</em></td>
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<td><em>Peromyscus gossypinus</em></td>
<td>mixed hardwood-coniferous forest/woodland; upland pine</td>
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<tr>
<td>cotton rat</td>
<td><em>Sigmodon hispidus</em></td>
<td>upland pine</td>
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<tr>
<td>eastern flying squirrel</td>
<td><em>Glaucomys volans</em></td>
<td>xeric hammock; mixed wetland hardwood</td>
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<td><em>Scalopus aquaticus</em></td>
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<tr>
<td>fox squirrel</td>
<td><em>Sciurus niger</em></td>
<td>upland pine; sandhill</td>
</tr>
<tr>
<td>gray fox</td>
<td><em>Urocyon cinereorar genteus</em></td>
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<td>gray squirrel</td>
<td><em>Sciurus carolinensis</em></td>
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<td><em>Neovison vison</em></td>
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<td>opossum</td>
<td><em>Didelphis virginiana</em></td>
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<td><em>Procyon lotor</em></td>
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<td><em>Lontra canadensis</em></td>
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<td>shrews</td>
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<td>wood rat</td>
<td><em>Neotoma floridana</em></td>
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<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Preferred Habitat Type</td>
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<tr>
<td>Fish</td>
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<td>Pomoxis nigromaculatus</td>
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<td>bluegill</td>
<td>Lepomis macrochirus</td>
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<td>Enneanactus gloriosus</td>
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<td>Amia calva</td>
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<td>Labidesthes sicculus</td>
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<td>Ameiurus nebulosus</td>
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<td>Esox niger</td>
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<td>flier</td>
<td>Centrarchus macropterus</td>
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<td>Florida gar</td>
<td>Lepisosteus platyrhincus</td>
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<td>Fundulus chrysotus</td>
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<td>Micropterus salmoides</td>
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<td>Fundulus lineolatus</td>
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<td>Notropis harperi</td>
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<td>Dorosoma petenense</td>
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<td>warmouth</td>
<td>Lepomis gulosus</td>
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<tr>
<td>yellow bullhead</td>
<td>Ameiurus natalis</td>
<td>lakes, ponds, and streams</td>
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