

4. Results

4.1 Field Investigations

Field observations and signs of wildlife were noted, such as tracks, burrows, dens, scat, nests, and calls. The wildlife observed during the field investigations of the wetlands and natural uplands along the study corridor included the following listed and non-listed species: Florida black bear, white-tailed deer, feral hog, eastern cottontail (*Sylvilagus floridanus*), nine-banded armadillo (*Dasypus novemcinctus*), raccoon, eastern gray squirrel (*Sciurus carolinensis*), Sherman's fox squirrel, dog (*Canis familiaris*), bald eagle, burrowing owl, sandhill crane, little blue heron, great blue heron (*Ardea herodias*), great egret (*Ardea alba*), red-shouldered hawk, wild turkey, Florida scrub jay, blue jay (*Cyanocitta cristata*), northern flicker (*Colaptes auratus*), woodpeckers (*Melanerpes* spp., *Picoides* spp.), rufous-sided towhees (*Pipilo erythrophthalmus*), white ibis, American crow, northern mockingbird (*Mimus polyglottos*), northern cardinal, turkey vulture (*Cathartes aura*), belted kingfisher (*Megaceryle alcyon*), osprey (*Pandion haliaetus*), red-winged blackbird (*Agelaius phoeniceus*), gray catbird (*Dumetella carolinensis*), green treefrog, green anole (*Anolis carolinensis*), brown anole (*Norops sagrei*), six-lined racerunner (*Cnemidophorus sexlineatus*), southern black racer (*Coluber constrictor priapus*), rough green snake (*Ophedryx aestivus aestivus*), coral snake, and alligator.

4.2 Agency Coordination and Information Review

Concurrent with field investigations, review of the researched information on protected species occurrences was conducted. Information from Wekiwa Springs State Park staff, as well as from on-line databases of USFWS and FWC pertaining to protected species in the project area of Lake, Seminole, and Orange Counties, was obtained. Occurrence records information obtained through FNAI is provided in **Appendix A**. Additionally, FNAI data search indicated that the study area was in/near a "significant region of scrub habitat, a natural community in decline that provides important habitat for several rare species within a small area" (FNAI 2005).

4.3 Protected Species

The presence of the Florida black bear, Sherman's fox squirrel, bald eagle, burrowing owl, sandhill crane, Florida scrub jay, white ibis, and gopher tortoise has been directly observed within the study corridor. Other protected species have the potential to also occur within the study corridor, based on historical records, presence of suitable habitat, and known ranges. A project area-specific list of threatened and endangered wildlife and plant species identified as potentially present within the study corridor is provided in **Table 4-1**. The results presented are a compilation of the literature review and the field investigations. The approximate locations of the listed species occurrences within and near the project study area are presented in **Exhibit 4-1**.

the potential to occur within habitats adjacent to, or within, the project corridor (see **Table 4-1**). For example, the sand butterfly pea (*Centrosema arenicola*) was found in 1961 along the west side of the Wekiva River south of SR 46. However, no listed plant species were observed within the project study corridor during these PD&E study field investigations. Protection of listed plant species does not extend to privately owned property (which may become future right-of-way). If any listed plants are found during future phases of this project, coordination with plant conservatory groups will be initiated for safe relocation of the plant specimens.

4.4 Conservation Lands

Important wildlife habitat is found within public and private conservation lands adjacent to the project study area. Existing public conservation lands in the area include the **Lower Wekiva River Preserve State Park**, **GreenPlace** parcels purchased by Orange County Environmental Protection Division, **Rock Springs Run State Reserve**, **Seminole State Forest**, **Wekiwa Springs State Park**, and **Wolf Branch Sink Preserve**.

Conservation land addressed under a specific Multi-Party Settlement Agreement between FDEP, FDOT, OOCEA and the Wekiva River Mitigation Bank, L.L.C. includes the **Wekiva River Mitigation Bank** property (formerly known as “New Garden Coal”). The terms of the Agreement provide for right-of-way for Wekiva Parkway and grant a conservation easement over the mitigation bank property (1,553 acres), which was identified in the *Wekiva Parkway and Protection Act* as one of the properties to be acquired for conservation purposes. The Wekiva River Mitigation Bank property is an important link with the Wekiva-Ocala Greenway. The Wekiva-Ocala Greenway is a conservation corridor envisioned by the Florida Forever program as a continuous 76,700-acre corridor of natural land that will link the Wekiwa Springs State Park, Rock Springs Run State Reserve, Lower Wekiva River Aquatic Preserve, Hontoon Island State Park and the Ocala National Forest. No federal listed species were found during the field investigations on the portion of the mitigation bank that will be used for right-of-way, although the indigo snake is likely to use the site. State listed species observed include sandhill cranes, Sherman’s fox squirrel, and Florida black bear.

Recently acquired (March 2007) for state public land conservation, as identified in the *Wekiva Parkway and Protection Act*, is the **Neighborhood Lakes Property** - minus that portion needed for right-of-way for the Wekiva Parkway, stormwater treatment ponds, and floodplain storage compensation ponds. Negotiations for acquisition of this property by the State and the Expressway Authority, as authorized in the *Wekiva Parkway and Protection Act*, were completed in early 2007. No federal listed species were found during field investigations, although a few federal listed species are likely to use the site. These include the indigo snake and wood stork which may feed there when the conditions are right in wet years. The nearest wood stork

Reserve. This project is not expected to adversely affect the regional population of the gopher tortoise.

*On July 31, 2007, FWC issued Gopher Tortoise Incidental Take Permit No. ORA-280 to the Expressway Authority for contribution toward acquisition of 33.68 acres in Neighborhood Lakes to offset impacts from a portion of the SR 429/SR 414 John Land Apopka Expressway project. A copy of that permit is included in **Appendix C**.

4.3.23 Sand Skink

Sand skink is a federal and state-listed threatened species which is found in open areas of dry sandy loose soils of scrub. FNAI occurrence record of the sand skink is reported for the southern end of the Wekiwa Springs State Park. None were directly observed during the field investigations along the Wekiva Parkway study corridor. The Preferred Alternative will avoid the better quality scrub habitat where the sand skink may exist. The poorest quality scrub habitat would be impacted by the construction of the parkway. During the permitting phase of the project, coverboard surveys will be conducted in the scrub area of the Preferred Alternative to determine the presence/absence of the sand skink.

As stated previously, the former Silvestri property (203 acres of upland habitat and overgrown scrub oak parcels) was acquired as an opportunity purchase for conservation purposes, and would be so designated if an appropriate local or state agency commits to management of it. If the potential conservation parcel is managed properly for improving the scrub community all scrub-dependent species in the area would benefit. Because the better quality scrub habitat will not be impacted, this project may affect, but is not expected to adversely affect, any regional populations of the sand skink.

4.3.24 Short-tailed Snake

The short-tailed snake is a state-listed threatened species which is found in open areas of dry sandy loose soils, scrub, sand pine scrub, and pine flatwoods. No occurrence records are known of the short-tailed snake in the project area and none were observed. Coordination with FWC and FDEP park staff on all state-listed species in the project area will continue throughout the PD&E study, design and permitting stages of the project. Additional benefit to the wildlife inhabiting the remaining scrub in this area would be gained from active management and conservation of the former Silvestri property. By avoiding the better of the remaining scrub habitat this project is not expected to adversely affect any regional populations of the short-tailed snake.

4.3.25 Protected Plants

Several listed plant species occurrences in the general project area have been recorded by the Florida Natural Areas Inventory (FNAI 2005) database and so have

County located along Haas Road between Plymouth Sorrento Road and Mt. Plymouth Road. The property owner was willing to keep it in silviculture and suitable for tortoises for generations, but the site was not an official recipient site that would have been conserved through a permitted relocation project (personal communications with Mr. Morgan 2005). Since then, the pines grew dense to the point where not enough sunlight reached the forest floor. The tortoises migrated east to the open utility easement and all but a few have been extirpated from that area, presumably due to predation by nearby residential pets and injury from off-road recreational vehicles. No burrows were found in the open utility easement that will be crossed by the Preferred Alternative.

Based on these surveys (Morgan in 2004 and CH2M HILL in 2005), it is estimated at this time that approximately 25 to 50 gopher tortoise burrows may occur in the Preferred Alternative. New surveys will be conducted during the permitting phase (in 100 percent of the area covered by the Preferred Alternative) to map and count burrows that may be affected by construction. Survey methods proposed will be reviewed and approved by the FWC prior to conducting the field work.

Under the new Gopher Tortoise Management Plan for protecting gopher tortoise (FWC 2007b), a relocation permit and a low mitigation contribution will be required. The type of permit most likely to be required will be the “Conservation Permit Protected”, which requires that the gopher tortoises are relocated to an FWC authorized area protected by public ownership, conservation easement, or a legally binding instrument (see **Appendix D** for an excerpt from the *Gopher Tortoise Management Plan*, FWC 2007b). It is expected that any burrows in the Preferred Alternative will be relocated to the eastern portion of the preserved Neighborhood Lakes parcel.

The entire 1,619-acre Neighborhood Lakes parcel was acquired by the State, as identified in the *Wekiva Parkway and Protection Act*, and all of it, except for approximately 166 acres needed for the Wekiva Parkway right-of-way, will be designated as conservation land*. This property would otherwise have been developed into a residential community regardless of the approval and construction of the Wekiva Parkway. This purchase for conservation will contribute to the FWC goal of increasing protected potential gopher tortoise habitat by an average of 25,000 acres per year (see **Appendix D** for an excerpt from the *Gopher Tortoise Management Plan*, FWC 2007b). Also, the carrying capacity of this parcel can be improved when properly managed by FDEP (e.g., no cattle grazing).

With proper management of the habitat, and with acquired large parcels that are contiguous to existing conservation lands, adverse affect to the gopher tortoise population can be avoided. By far, the largest concentration of tortoises found during the PD&E study is on the Neighborhood Lakes property; the majority of it will be set aside for conservation and is contiguous to the Rock Springs Run State

46 Realignment. As stated previously, the former Silvestri property was acquired as an opportunity for conservation purposes, and would be so designated if an appropriate local or state agency commits to management of it. This project may affect, but is not expected to adversely affect, any regional populations of the Florida pine snake.

4.3.21 Gopher Frog

The Florida gopher frog, a state-listed species of special concern, is one of the many co-inhabitants of the gopher tortoise burrow. It was not directly observed during the field investigation along the Wekiva Parkway study corridor. FNAI occurrence records from 1994 and 1996 lists the gopher frogs as being found on the Wekiwa Springs State Park and on Rock Springs Run State Reserve entrance road 1/3 of a mile south of SR 46. Suitable habitat for the frog, pine flatwoods with ephemeral marsh occurs in the area, and some habitat may be lost for construction of pond locations. However, gopher tortoise burrows on the Neighborhood Lakes parcels will be avoided by the Preferred Alternative to the greatest extent possible. In conjunction with preservation of approximately 1,440 acres of pine-palmetto-cabbage palm uplands/shallow marsh mosaic on the Neighborhood Lakes parcels, this project is not expected to adversely affect any regional populations of the Florida gopher frog.

4.3.22 Gopher Tortoise

Gopher tortoise listed status was changed by FWC from a species of special concern to a state-listed threatened species, upon final approval of the new management plan in September 2007. Preferred habitats for gopher tortoises are natural uplands such as sandhills, scrub, xeric pine and oak communities with open canopy that allow light to reach the sandy ground. These conditions can also be suitable on disturbed upland areas like roadsides and fence rows. Abundant suitable habitat for gopher tortoise exists in the area. Several tortoise burrows were found by conducting walking-transects through the study area during field investigations.

Presently, numerous active gopher tortoise burrows are located on the Neighborhood Lakes parcels (June 15, 2005 survey) and the Wekiwa Springs State Park. In 2004, Morgan Environmental Consulting conducted a survey for gopher tortoise on the Orange County portion of the Neighborhood Lakes property and mapped approximately 130 burrows (Morgan 2004). Several burrows were found on the Lake County portion of the same property, and a few scattered active tortoise burrows were found on the Seminole State Forest lands and on the Wekiva River Mitigation Bank site. In March 2005, ten active tortoise burrows were observed south of the Lake-Orange county line, approximately one-half mile west of Plymouth Sorrento Road.

According to Mr. Jim Morgan (the same consultant who conducted the survey on Neighborhood Lakes parcels), up until the year 2001 approximately 80 tortoises from the region were incrementally relocated to a planted pine parcel in Orange

Suitable habitat for this species is found throughout the project area, although no individual alligators were observed during field investigations. The alligator's habitat (wetlands, lakes, and the river) will be avoided to the extent possible, and proposed pond locations will not impact the river or most wetland areas. Surveys for alligator nests will be conducted in appropriate habitat during the project permitting phase; and active nests will be avoided during construction. No adverse effects to regional populations of the American alligator are anticipated to occur from this roadway project.

4.3.19 Eastern Indigo Snake

The eastern indigo snake is found only in the southeastern United States and is listed by USFWS and FWC as a threatened species. The eastern indigo snake was not directly observed during the field investigation; however, it is reported to occur on the Wekiwa Springs State Park and on the Seminole State Forest. This species is known to occur in a variety of habitats: mixed rangeland, mesic hammock, sandhill, scrub, upland pine forest, swamps and wet prairies. The indigo is often found in the burrows of gopher tortoises, but in mesic habitats, it may shelter in hollow logs, root channels, or the burrows of rodents and armadillo.

Specific areas along the project study corridor where the indigo may be found, based on previous occurrence records and presence of gopher tortoise, are Lower Wekiwa River Preserve State Park, Wekiwa Springs State Park, Seminole State Forest, Rock Springs Run State Reserve, Wekiwa River Mitigation Bank property, Neighborhood Lakes property, the planted pine area, known as Pine Plantation, west of Mt. Plymouth Road, and the overgrown scrub habitat north of Ondich Road. The threat to an indigo snake from the project would be the increased chance of being struck by a vehicle, and the potential loss of refuge burrows where treatment ponds are constructed. Large areas of public conservation land will continue to exist in the central portion of the project corridor. Wildlife underpasses (bridges) will be designed to serve a variety of large and small wildlife species and will be located to maximize effectiveness as a connection between the conservation lands. To minimize potential impacts to this species or its habitat during construction of the roadway, standard protection measures for the eastern indigo snake (refer to **Appendix D**) will be implemented; thereby, this project may affect, but is not expected to adversely affect, any regional populations of the eastern indigo snake.

4.3.20 Florida Pine Snake

Florida pine snake is a state-listed species of special concern which is found in open areas of dry sandy loose soils, scrub, dry prairie, and pine flatwoods. FNAI occurrence records of the Florida pine snake is reported for the southern end of the Wekiwa Springs State Park. None were directly observed during the field investigations along the Wekiwa Parkway study corridor. The Preferred Alternative will avoid the better quality scrub habitat, where the Florida pine snake may exist. The poorest quality scrub habitat would be impacted by the construction of the SR

Parkway study area inside of the Core Feeding Area (CFA) of two colonies. The CFA is a 12.4-mile (20-kilometer) zone surrounding the colony boundary (USFWS 2006b personal communication). Nesting wood storks mainly feed in wetlands between 5 and 40 miles (8 and 64 kilometers) from the colony, and occasionally fly over 75 miles (120 kilometers) in search of food (USFWS 1990). Non-breeding storks may travel greater distances and would remain in a region only for as long as sufficient food is available.

On-going coordination with USFWS and FWC will continue throughout the project design and permitting phases to ensure that the project has no adverse affect on wood storks. By balancing the acreage of project-impacted wetlands with mitigated wetlands in the same basin and with similar hydroperiods, this project should not adversely affect any regional populations of the wood stork.

4.3.17 Wading Birds

The wading birds little blue heron, snowy egret, tri-colored heron, and white ibis are state-listed species of special concern. While each species is distinct, wading birds are discussed collectively because they occupy similar habitats. Generally found foraging in freshwater and coastal wetland areas, these wading birds can be common in the study area. There are no documented colonies (nesting sites) of any of these protected species within one mile of the project study area (FWC 2006f). On June 15, 2005 several adults and immature white ibis were observed feeding in a marsh and resting in trees at the edge of the marsh on the west-central part of the Neighborhood Lakes property; however, the Preferred Alternative will be approximately 2,000 feet to the east. Because of this project, the remainder of the Neighborhood Lakes property (approximately 1,440 acres) will be set aside as a conservation area.

New ponds will be constructed in upland areas to the greatest extent possible, thus wetland impacts will be minimized. The creation of new ponds will increase available foraging habitat. No nesting colonies will be directly impacted. This project is not expected to adversely affect any of these wading bird species.

4.3.18 American Alligator

American alligator is a state-listed species of special concern; however, its federal listing as threatened is a protection measure for the threatened American crocodile (*Crocodylus acutus*) due to the similarity in appearance between the two species. The crocodile occurs in south Florida. The alligator is widely distributed across Florida and is common to all persistent Florida freshwater wetlands, and is potentially present in large or small waterways. Alligator populations have rebounded dramatically since the 1960s to the point that the FWC will have special harvesting (by permit only) in designated areas in certain years.

kestrel is a resident, non-migratory bird that is not easily distinguished from the migratory American kestrel. In Florida, a kestrel seen in May or June is most likely a resident southeastern American kestrel (FWC 2006e).

It is found in open pine habitats, woodland edges, prairies, and pastures. The kestrel prefers sandhill habitats, but may also occur in flatwoods with patches of short grasses or bare ground. Kestrels are often seen on wires and fences along roadsides. Kestrels nest in holes in old trees, usually pine snags with holes abandoned by woodpeckers; artificial structures (telephone poles, eaves of buildings) also provide nesting areas. A recent population decline is attributed to the loss of nesting snags (longleaf pines) and loss of open foraging habitat (FWC 2006e).

No known nesting sites have been documented along the project corridor. There are observation records of the southeastern American kestrel on the Wekiwa Springs State Park property. Nesting habitat and open prairie foraging habitat exists throughout the project area, and in particular in the Wekiwa Springs State Park and the Neighborhood Lakes area. Impacts to any potential habitat of the southeastern American kestrel will be offset through the land acquisition of the 1,619-acre Neighborhood Lakes property, all of which, except for that needed for the parkway right-of-way (approximately 166 acres), will be set aside in conservation. No known records of southeastern American kestrel nests are available through FNAI for the project study corridor. As this project progresses through final design and permitting phases, on the ground surveys will be conducted to document any active southeastern American kestrel nests in the project area. This project is not expected to adversely affect any regional populations of the southeastern American kestrel.

4.3.15 Snail Kite

Everglade snail kite (*Rostrhamus sociabilis plumbeus*) is a federal and state listed endangered species. The snail kite was not directly observed during field investigations. No nesting records have been documented this far north (FWC 1991). No observations of the snail kite on Wekiwa Springs State Park have been recorded. Suitable nesting habitat for this species consists mainly of remote and inaccessible marshes, and shrubs and trees near waters that support the freshwater apple snail (*Pomacea paludosa*). This type of habitat is not available in the study corridor. This project is not expected to adversely affect any regional populations of the snail kite.

4.3.16 Wood Stork

Wood stork is a federal and state listed endangered species. Wood storks have not been directly observed in the project area during field investigations. An FNAI record of 1992 documents wood storks were observed foraging on a lake edge in the Wekiwa Springs State Park, but are not known to nest on the state park property.

The nearest wood stork nesting colony is approximately 10 miles from the project area as identified on the USFWS website (USFWS 2006a). This puts the Wekiwa

blue jays rufous-sided towhees, northern flicker, woodpeckers, coral snake and large dog tracks. No gopher tortoise burrows were found in this xeric area. Other protected species that potentially could inhabit this low quality scrub area include the eastern indigo snake, sand skink (*Neoseps reynoldsi*), short-tailed snake and Florida pine snake; however, none of these were observed.

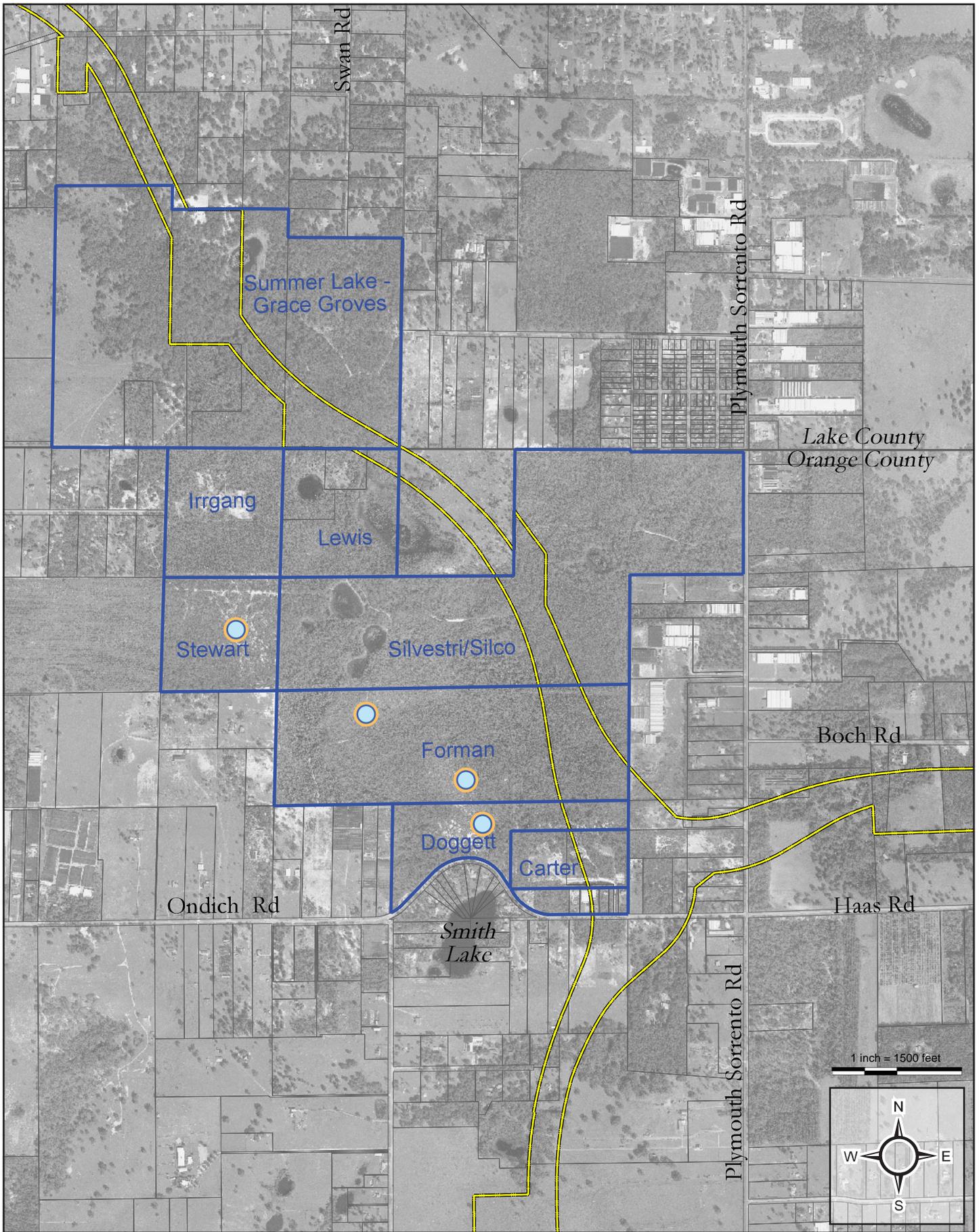
Elsewhere, numerous records of scrub jay nesting have been documented in the general project study area; but these nesting locations are farther away from the proposed roadway alignment. More specifically, they are located in the scrubby flatwoods of the Lower Wekiva River Preserve State Park north of the SR 46, east of the river, and in the Rock Springs Run State Reserve and the Wekiwa Springs State Park south of SR 46. Known locations on state lands are monitored regularly by FDEP staff.

FNAI occurrence records from 1981 indicate that 1 to 2 jays were found 25 years ago in a scrub oak/pine pasture on the Neighborhood Lakes property just west of the study area. No jays were found on the property during this study.

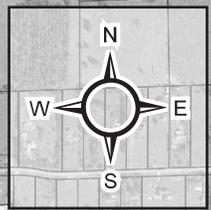
Coordination with the USFWS is on-going and will continue during the next phase of the project. The Preferred Alternative right-of-way, as shown in the previously referenced Exhibit 4-6, will avoid the area where the jays were found. The poorest quality scrub habitat would be impacted by construction of the SR 46 Realignment. In February of 2006, as an opportunity purchase for conservation purposes the Expressway Authority acquired 203 acres (formerly known as the Silvestri property) of the upland habitat and scrub oak parcels identified in Recommendation 3 of the Wekiva River Basin Coordinating Committee *Final Report*. After development and evaluation of several alignment alternatives and assessment of their respective impacts, it was determined that the Preferred Alternative would have to pass through a portion of the subject property. All of the 203-acre acquired property, except for approximately 32 acres needed for right-of-way (roadway and stormwater ponds), may be considered for mitigation of project-related environmental/habitat impacts or designated as conservation land if an appropriate local or state agency commits to management of it. The Preferred Alternative corridor will be surveyed again for scrub jays during the permitting phase. This project may affect, but is not expected to adversely affect, any regional populations of the Florida scrub jay.

4.3.14 Southeastern American Kestrel

The southeastern American kestrel is a state-only listed threatened species. Sometimes commonly called the “sparrow hawk” this small, sleek raptor is actually a falcon in the genus *Falco* and not the genus *Accipiter* of the sparrow hawks. The southeastern American kestrel is a subspecies of the American kestrel (*Falco sparverius*) (FWC 2006e). The southeastern subspecies, *F.s. paulus*, is one of two American kestrel subspecies still found in Florida. The southeastern American



1 inch = 1500 feet



LEGEND

-  Preferred Alternative Right-of-Way
-  Scrub Jay Observed

Exhibit 4-6
Scrub Habitat on Parcels North of Ondich Road

calls from a tape recording containing the bird's territorial scolding call and the female "hiccup" call (USFWS 2005; see **Appendix D** for Scrub Jay Survey Guidelines). These walking transects and play-back sessions were conducted in the early to mid morning daylight hours on several consecutive days in March and June of 2005 and 2006 when the weather was calm and clear.

Three Florida scrub jays were directly observed during the specific surveys conducted in a scrub area in northwest Orange County; more specifically, north of Ondich Road and west of Plymouth Sorrento Road. It is believed that all scrub jay sightings were of these same 3 birds. The approximate locations of the sightings are shown in **Exhibit 4-6**.

- Doggett parcel (north side of Ondich Road) – 1 scrub jay nest and 3 jays (possibly 2 others) observed on March 16, 2006. Sand live oak; 5-8 ft. tall, 0-20% canopy closure; 25% open sand.
- Forman parcel (north of Ondich Road, north of Doggett parcel) – 3 jays observed on NW Forman, and 1 jay observed near Forman/Doggett line on March 15, 2006. Sand live oak, sand pine, saw palmetto; 5-12 ft. tall, 10% canopy closure, 25% open sand.
- Stewart parcel (north of Ondich Road, west of former Silvestri parcel) – 2 jays observed on June 10, 2005. (No jays found in March 2006 surveys.) Sand live oak, sand pine, myrtle oak; 15-25 ft. tall, 10% canopy closure; 30% open sand.

Overall, the Sand Pine habitat or "scrub areas" along Ondich Road near the project is in a state of decline as to its suitability to support scrub jays in the future. The area is rapidly being overgrown from years of fire suppression and regeneration of a dense sand pine canopy. Management activities, such as mechanical thinning of the canopy and controlled burns, would be needed to improve the habitat. Parcels along Ondich Road and to the northwest have a slightly more open canopy in some places (about 20 percent closure) with patches of exposed white sand. In some places the oaks are approximately 5 to 12 feet tall; this is where scrub jays were found. In other places the sand pine is roughly 30-40 feet tall, oaks are about 20-35 feet tall, and canopy closure is approximately 30 to 75 percent. In the more open-canopy areas, the ground surface is marked with ATV tracks.

Common vegetative species include a partially open canopy of Chapman oak, myrtle oak, sand live oak, longleaf pine, and sand pine. Understory and shrub species include saw palmetto, silk bay (*Persea borbonia var. humilis*), Florida rosemary, rusty lyonia, and winged sumac. Groundcover includes prickly pear, shiny blueberry, narrowleaf silkgrass, and ball moss.

In addition to 3 scrub jays being observed in this area north of Ondich Road, other wildlife were observed in the general area. These include: Florida black bear (scat and prints) on the Carter property north of Ondich Road in March 2006; a rough green snake on the Silvestri property in June 2005; and numerous cardinals,

surveys from 2005 indicate that the Wekiva River limpkin population is a stable one (FDEP 2006). Limpkins nest in forested swamp floodplain. The Wekiva River Aquatic Preserve encompasses approximately 19,000 acres of submerged land, some of which is suitable for limpkin nesting. In addition, public lands covering over 80,000 acres are adjacent to the Wekiva River Aquatic Preserve. No known nesting area will be impacted by the project. The closest known nesting area is approximately 3 miles to the south of the project on Rock Springs Run State Reserve. Field surveys in the project area will be conducted again prior to permitting to confirm that no limpkins are nesting in the impact area. Any direct impacts to forested swamps will be minimal, as a long bridge over the river floodplain is proposed. Therefore, no significant habitat of the limpkin will be lost. This project is not anticipated to adversely affect the limpkin.

4.3.11 Peregrine Falcon

The peregrine falcon (*Falco peregrinus*) is a state-only listed endangered species. No suitable nesting habitat for the falcon exists along the project corridor. The peregrine falcon is not known to nest in Florida. There are observation records of the falcon on the Wekiwa Springs State Park property. Foraging habitat of open prairie exists, and will remain, in the expansive public conservation lands in the area as well as the newly acquired Neighborhood Lakes area. This project is not expected to adversely affect the peregrine falcon foraging potential.

4.3.12 Red-cockaded Woodpecker

Red-cockaded woodpecker is a federal listed endangered species, and a state-listed species of special concern. The red-cockaded woodpecker (RCW) was not directly observed during specific surveys conducted in the marginally-suitable pine lands in the study area. No known RCW nesting sites exist in the study corridor. No documented nesting colony has been recorded in the FNAI database for this area, or the Wekiwa Springs State Park records, or the Seminole State Forest.

Coordination with USFWS, FWC, DOF Seminole State Forest, and FDEP park staff on RCW occurrence and habitat, as well as on all listed species in the project area, will continue throughout the study, design and permitting stages of the project. This project is not expected to adversely affect any regional populations of the red-cockaded woodpecker.

4.3.13 Florida Scrub Jay

Florida scrub jay, endemic only to Florida (Berger 2004), is a federal and state listed threatened species. CH2M HILL ecologists performed walking transects throughout the entire upland scrub areas in the project study corridor to assess the condition of the habitat for supporting a family of scrub jays. Specific surveys were conducted in good, marginal, and poor quality habitats with scrub/xeric oaks. Surveys consisted of systematic walking transects and stopping periodically to broadcast the scrub jay

Lakes parcels three (3) sandhill cranes, presumed to be foraging, flew away from the site as we approached. No nests were found on the Neighborhood Lakes parcels, but old nests were observed in a nearby marsh to the east on the adjacent Rock Springs Run State Reserve. The wetlands on the Neighborhood Lakes parcels are considered to be too ephemeral to serve as good sandhill crane nesting habitat. Sandhill cranes forage in pastures, open prairies, and lawns; and they nest in deeper marshes. A few other locations of suitable nesting habitat for sandhill crane occur in the area. Suitable foraging habitat occurs along much of the project corridor. No known records of crane nests are available through FNAI for the project study corridor.

The Lake County West Preferred Alternative will impact the southern edge of the marsh, located east of US 441 and north of SR 46, but will avoid the nest where the Florida sandhill cranes were observed in 2005. Two stormwater ponds will be constructed in uplands adjacent to the marsh where the nest was observed. Considering the rapid growth in residential development at this location of US 441 and SR 46, these ponds will offer some buffering effect for future sandhill crane nesting activity. Opportunities to reduce impacts to 641 marshes may be possible during final design of stormwater treatment ponds. Also ponds excavated in uplands could be designed to provide nesting habitat if islands are incorporated into the pond design. This nest location and other large marshes that could be potential nest locations will remain, thus minimizing potential adverse affects to the regional sandhill crane population. As this project progresses through final design and permitting phases, on the ground surveys will be conducted to document any active sandhill crane nests in the project area. Coordination with the FWC will continue throughout the permitting phase.

4.3.9 Least Tern

Least tern (*Sterna antillarum*) is a state-listed threatened species. Least tern was not directly observed during field investigations. Least terns nest primarily along the coast on beaches. Small colonies of terns can occur inland on flat, gravel-covered large rooftops near canals or lakes if nearby waters supply small forage fish (FWC 1991). There are records of least tern being observed on the Wekiwa Springs State Park property. There is a low probability of occurrence along this inland roadway corridor and few, if any, flat roof tops will be displaced by the project. This project is not expected to have an adverse affect on the least tern or potential nesting habitat.

4.3.10 Limpkin

Limpkin is a state-listed species of special concern. The limpkin was not directly observed during field investigations. No occurrence FNAI records are known in the project area; however, there are records of limpkin on the Wekiwa Springs State Park property. Suitable habitat exists in the Wekiva River floodplain. FDEP staff

approximately 500 feet to the west of the right-of-way. At present, the FWC has no guidelines for management of burrowing owls other than in urban/suburban areas.

In urban areas, the FWC recommends a 150-foot radius circle buffer be staked and roped-off around the burrow to protect it during construction (FWC 2006d). Protection criteria for rural situations, or where numerous burrows will be impacted, are discussed with FWC on a case-by-case basis.

Mitigation measures to reduce impacts to the burrowing owls began with the assessment of the viable alternatives, and before the selection of the Preferred Alternative. The location of a stormwater pond was realigned specially to avoid a direct impact to one of the owl nests. Although direct impact to the nests or the owls will be avoided, part of their habitat will be impacted; and secondary impacts to the birds will occur through an increase in the potential for collision with vehicles. Additional mitigation measures may include erecting "T"-perches near the burrows to help protect the nest from inadvertent damage, and near starter burrows to attract more owls to the area.

A permit to remove the nests (during the non-nesting season) is not anticipated to be needed. Coordination with the FWC is on-going and will continue during the next phase of the project. A significant mitigation measure that will benefit the owls is the purchase, conservation and management of approximately 1,440 acres of the Neighborhood Lakes parcel, which would otherwise have been developed into a residential community regardless of the construction of the Wekiva Parkway. Conservation of this large parcel adjacent to other state-owned lands will ensure a long term suitable habitat for the burrowing owls. With adequate mitigation for unavoidable impacts, the project is not expected to adversely affect the continued existence of the burrowing owl.

4.3.7 Crested Caracara

Crested caracara (*Caracara cheriway*) is a federal and state listed threatened species. The caracara was not directly observed during field investigations. The project is outside the species' known range of central and south Florida, and no nesting records have been documented in the project area. A few areas of preferred habitat type, open pasture or lowlands near cabbage palms, occur in the general area. This project is not expected to adversely affect any regional populations of the crested caracara.

4.3.8 Florida Sandhill Crane

Florida sandhill crane is not listed by the USFWS, but is listed by FWC as a threatened species. Two (2) Florida sandhill cranes were observed in early April 2005 sitting on a nest in a marsh north of SR 46 between US 441 and Hacienda Hill. Four (4) sandhill cranes were observed foraging in the pastures of Wekiva River Mitigation Bank property in May 2005. Also in June 2005, on the Neighborhood

permitting stages of the project. This project is not expected to adversely affect the bald eagle.

4.3.5 Osprey

Osprey is not a listed species, but is protected under the Federal Migratory Bird Treaty Act. Federal law requires that a permit be obtained prior to impacting a nest if it contains eggs or pre-fledgling young birds. Otherwise, a state-only permit is needed to remove an inactive nest, but the applicant must replace the nesting structure with a similar, suitable nesting structure (pole and platform) (FWC 2004). One FNAI occurrence record of osprey nesting in 1988 on Sylvan Lake is available for Seminole County. The proposed parkway will not impact the nest as the roadway on new alignment would be constructed about 2,000 feet to the east of the lake. As this project progresses through final design and permitting phases, on the ground surveys will be conducted to document any active osprey nests in the project area.

4.3.6 Burrowing Owl

Burrowing owl is a state-listed species of special concern. Burrowing owls are also protected by federal law under the Federal Migratory Bird Treaty Act, which requires that a permit be obtained prior to impacting a nest if it contains eggs or pre-fledgling young birds. The state agency, FWC, requires in areas where only one or two nests occur that the nests remain undisturbed if at all possible and that impacting a nest (if permitted) should only be done if the applicant has exhausted all other alternatives (FWC 2006d). In areas here many nests occur, the permitting of impacts are handled on a case by case basis.

FNAI occurrence records from 1989 show 15 burrows in pastures between Plymouth Sorrento Road and CR 435 (FNAI 2005), and 3 burrows in pastures northeast of SR 441 and SR 46 near Mount Dora, and 1 burrow in an abandoned grove near Kelly Park. A 1995 occurrence record lists several burrowing owls in the cattle pasture of the Neighborhood Lakes parcels.

During field investigations, only one area was found to have nesting burrowing owls in the study corridor - the Neighborhood Lakes property in Lake County. The 2 nests observed on June 15, 2005 are located approximately 0.25 mile and 0.5 mile south of SR 46 and west of the Rock Springs Run State Reserve. In total, 7 owls were observed using 2 nests. One pair of adult owls had 2 newly fledged young. The other nest had 2 adults and 1 young. All were still guarding their burrows. The habitat of these owls is cattle range land with cabbage palm and prickly pear cactus scattered throughout, and several active gopher tortoise burrows.

These 2 burrowing owl nests will not be directly impacted by the Preferred Alternative. Both nests are outside the Preferred Alternative right-of-way. One nest is approximately 300 feet to the east of the right-of-way and the other nest is

adequate mitigation for unavoidable impacts, the project may affect, but is not expected to adversely affect, the continued existence of the Florida mouse.

4.3.4 Bald Eagle

The bald eagle was a federal and state listed threatened species. Its federal status has been changed to “delisted” as of the USFWS’s final ruling on July 9, 2007. However, the bald eagle is still protected under the Bald and Golden Eagle Protection Act, the Lacey Act, and the Migratory Bird Treaty Act. The bald eagle (as well as all wild, non-game birds) is protected by federal law under the Federal Migratory Bird Treaty Act, which requires that a permit be obtained prior to impacting a nest if it contains eggs or pre-fledgling young birds.

The state (FWC) ruling to delist the bald eagle from the state’s imperiled species list was made final on April 9, 2008. That action also included adoption of the FWC Bald Eagle Management Plan (BEMP) which had been finalized on September 12, 2007 following a public comment period.

The BEMP (FWC 2007a) stipulates that no permit will be needed if construction occurs “beyond 660 feet of an active or alternate bald eagle nest, *or* for any activity occurring within 660 feet of an active or alternate bald eagle nest when the FWC Habitat Guidelines are followed” such as, but not limited to, “construction activities and site work within 330 feet of an active or alternate bald eagle nest must be conducted during the non-nesting season (16 May–30 September)”; and the plan requires planting of landscaping buffers outside the nesting season to decrease visibility.

When delisting a species the federal law requires the States to effectively monitor the species for 5 years. The FWC BEMP calls for annual monitoring for 24 years (FWC 2007a), pending funding availability.

The bald eagle is a wide ranging species and it has been observed in a diverse range of habitat types, ranging from pine flatwoods to hardwood forests. This species prefers nesting in forested riparian habitats and other forested communities that occur in association with coastal, lake and river shores where food is readily available.

At present, no active bald eagle nests are recorded to be within 1.0 mile of the Preferred Alternative, although several nests occur in the broader region 2 to 3 miles from the study corridor (FWC 2006c). As this project progresses through final design and permitting phases, on the ground and possibly aerial surveys will be required to document any new eagle nests that may have been built since the last FWC survey data was available. Fines and imprisonment laws for disturbing an eagle nest are detailed in **Appendix D**. Coordination with USFWS, FWC, and FDEP Park Staff on all listed species in the project area will continue throughout the study, design and

center of the Neighborhood Lakes property. This will serve as a large and small animal underpass, as well as provide access for state park management staff.

All of these bridge spans will function as wildlife crossings and will greatly improve the wildlife habitat continuity and movement corridors in the surrounding area, post-construction of the Wekiva Parkway. This will reduce the potential for genetic isolation of a species caused by habitat fragmentation. The Wekiva Parkway (SR 429)/SR 46 Realignment project will have a positive (enhanced) effect on the regional population of the Florida black bear.

4.3.2 Sherman's Fox Squirrel

Sherman's fox squirrel is a state-listed species of special concern. The fox squirrel's primary habitat includes areas that are characterized as fire-maintained longleaf pine-turkey oak sandhill and flatwoods communities. FNAI occurrence records from 1986-1992 of the Sherman's fox squirrel in the project area include the Wekiva River Basin State Parks land both north and south of the SR 46. Longleaf pine-turkey oak sandhill and flatwoods communities occur in abundance on the Wekiwa Springs State Park. **(Note: Wekiwa Springs State Park which is referred to often in this report is adjacent to, but is not within, the project study corridor).** A fox squirrel was observed in the vicinity of the Preferred Alternative on the Wekiva River Mitigation Bank site during the PD&E study field investigations in June 2005.

Wildlife bridges primarily designed to serve black bears will also serve a variety of large and small wildlife species that utilize the public conservation lands north and south of SR 46. The project may affect, but is not expected to adversely affect, any regional populations of the Sherman's fox squirrel.

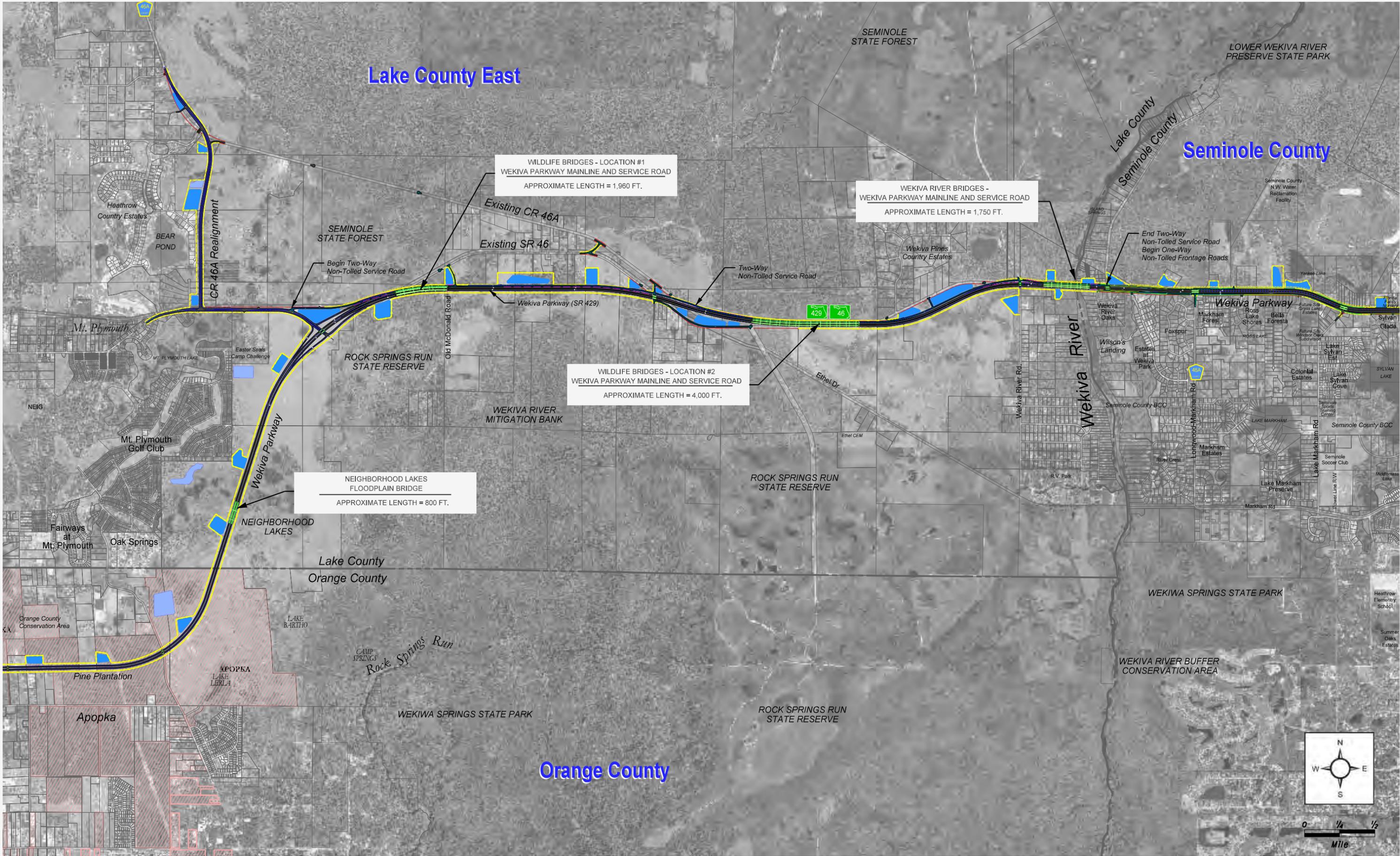
4.3.3 Florida Mouse

The Florida mouse is a state-listed species of special concern. FNAI occurrence records from 1994 lists a female Florida mouse caught in a trap on the Wekiwa Springs State Park, and a 1993 record of a female Florida mouse found on the Lower Wekiva River Preserve State Park ½-mile north of SR 46 and east of the river (FNAI 2005). Typical habitat of the Florida mouse includes sandy, dry uplands, such as scrub areas, sandhills, and dry flatwoods (FNAI 2001). The Florida mouse is found in gopher tortoise burrows, as well as typical mouse-size burrows. Similar to gopher tortoise, the Florida mouse requires fire-maintained habitats where grasses and short herbaceous plants are allowed to grow (FNAI 2001). In preparation of permit applications, follow up field surveys will be needed to confirm the presence of Florida mouse in appropriate uplands that may be displaced by the roadway. Preliminary investigation results of this PD&E study indicate that some gopher tortoise burrows will be impacted for any alignment through the Neighborhood Lakes parcels. However, most of the burrows will remain within the conserved portion (approximately 1,440 acres) of the parcels, which, without this project, would have been developed leaving a much smaller area in conservation. With

Lake County East

Seminole County

Orange County



WILDLIFE BRIDGES - LOCATION #1
WEKIVA PARKWAY MAINLINE AND SERVICE ROAD
APPROXIMATE LENGTH = 1,960 FT.

WEKIVA RIVER BRIDGES -
WEKIVA PARKWAY MAINLINE AND SERVICE ROAD
APPROXIMATE LENGTH = 1,750 FT.

WILDLIFE BRIDGES - LOCATION #2
WEKIVA PARKWAY MAINLINE AND SERVICE ROAD
APPROXIMATE LENGTH = 4,000 FT.

NEIGHBORHOOD LAKES
FLOODPLAIN BRIDGE
APPROXIMATE LENGTH = 800 FT.

LEGEND

	Stormwater Ponds		Municipal Boundaries		Proposed Alternative R/W
	Floodplain Compensation Ponds		Bridges		Existing R/W

Exhibit 4-5
Locations and Approximate Lengths
of Proposed Wildlife Structures



At least 12 species, including bears, were recorded using the 1994 culvert and at least 55 bears used it in the 2 years following installation (Roof and Wooding 1996; USDA 2005). Roof and Wooding (1996) studied bear movements near the wildlife underpass on SR 46 south of Ocala National Forest and estimated a density of 0.28 bears per square mile. A camera with motion sensor was installed in the culvert. During a 3-year period, from late 1996 to late 1999, the Florida Park Service reported over 400 wild animals, representing 5 species that crossed through the culvert (Defenders of Wildlife circa 2001). Ninety-eight percent (98%) of the wildlife species reported to use the culvert during those 3 years included deer (38%), bobcat (*Lynx rufus*) (29%), coyote (*Canis latrans*) (19%), and bear (12%).



Exhibit 4-4. Wildlife Underpass on SR 46. This 26-foot wide opening between Rock Springs Run State Reserve and Seminole State Forest was completed in 1994. Source: US Department of Transportation - Federal Highway Administration.

As a part of the Preferred Alternative, FDOT proposes to replace the existing (western 52-foot wide opening and eastern 26-foot wide opening) wildlife underpasses with longer wildlife bridges of approximately 1,957 feet (western bridge) and 4,000 feet (eastern bridge). Both Wekiva Parkway and the parallel service road will be bridged through the wildlife corridors. The proposed wildlife bridges are shown on Sheets W-22/W-23 and W-27/W-28/W-29 of **Appendix B**. The existing 561-foot bridge over the Wekiva River will be replaced with longer, higher bridges of approximately 1,750 feet in length. These longer bridges (as depicted in **Exhibit 4-5**) will open up the wildlife corridor between the Rock Springs Run State Reserve and the Seminole State Forest, and will enhance habitat connectivity. Many more species of wildlife will be able to safely move between the two public conservation areas.

If the Wekiva Parkway were to be constructed at-grade through the Neighborhood Lakes property, it would be a significant hazard/barrier to bears and other wildlife that attempt to move west from Rock Springs Run State Reserve. However, as a part of the Preferred Alternative, a bridge of approximately 800 feet in length (see the previously referenced Exhibit 4-5) will be constructed over the marsh habitat in the

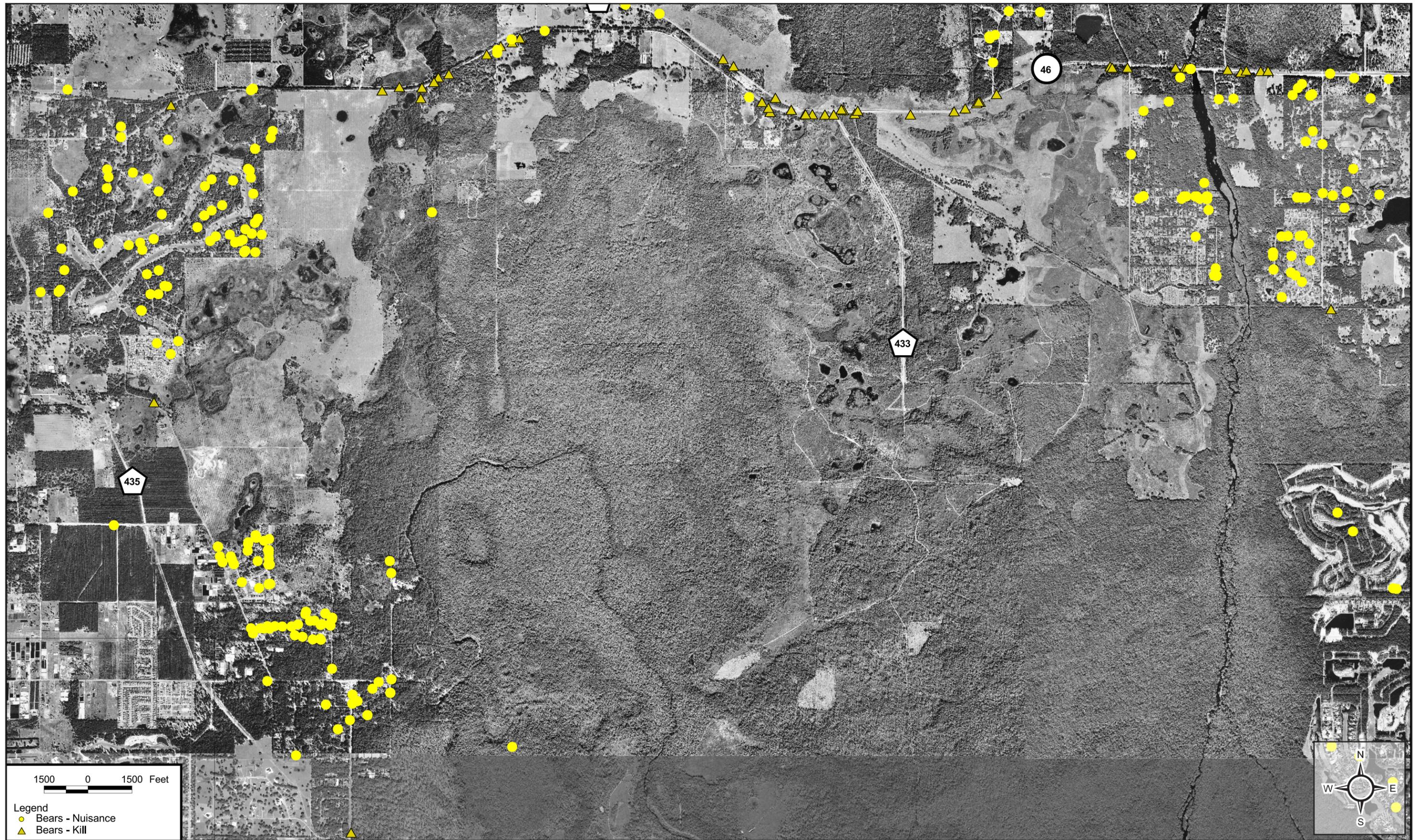


Exhibit 4-3
Black Bear Road Kill on SR 46

location is just south of the Preferred Alternative. Fresh scat and paw prints were found in May 2006 on the Seminole County Northwest Water Reclamation Facility property, which is north of SR 46, outside of the Preferred Alternative.

4.3.1.2 Roadkill Reports

Vehicle collisions are one of the main causes of mortality for adult black bears, along with old age, starvation, and poaching (FWC 2006b). When traveling far in search of a new home range, hazards increase because of unfamiliar territory, new roads, and unknown food sources. About 46 percent of males will die before adulthood (FWC 2006b). More than 50 bears are killed on Florida roads each year (USDOT 2000).

The data search of the FWC records on road kills and nuisance reports for the black bear shows that in the past 20 years, over 50 black bear were killed on SR 46 between Mt. Plymouth Road (CR 435) and the Wekiva River bridge area. Roadkills are depicted on **Exhibit 4-3**. A few other black bear roadkills have been recorded on other roads in the area, but most have been on SR 46 between the state park and the state forest.

4.3.1.3 Nuisance Reports

Nuisance reports of black bear indicate movement of bears into areas where they will encounter humans. There have been over 100 nuisance reports of bears in residential yards, such as in the Mt. Plymouth Golf Club community (which is west of Rock Springs Run State Reserve) and in the residential neighborhoods east of Rock Springs Run State Reserve. These nuisance reports records (FWC 2002) indicate that bears presumably traveled through the state reserve and across the undeveloped Neighborhood Lakes parcels and into the residential area where they are reported as a nuisance (see **Exhibit 4-3**).

The lack of nuisance reports in a specific area does not necessarily indicate a lack of bears in the area, but may be instead a lack of concern (or alarm) from individual people, as would be the case for the Rock Springs Run State Reserve, Neighborhood Lakes, Wekiwa Springs State Park, and Seminole State Forest lands.

4.3.1.4 Underpasses and Bridges

Currently there are two structures under SR 46 that serve as large animal underpasses. The first underpass structure, built in 1994, is a rectangular concrete bottomless culvert that provides a 26-foot wide opening for wildlife to pass under the roadway (see **Exhibit 4-4**). It is located east of the SR 46/CR 46A intersection. The second, an AASHTO beam bridge built in 2004, is twice as wide and provides a 52-foot wide opening for wildlife. This bridge is located west of Old McDonald Road. The current roadway width, which is the distance that wildlife has to travel through the underpass, is approximately 46 feet. The locations of the two existing wildlife underpasses are shown on Sheets W-23 and W-28 of **Appendix B**. Chain link fence and vegetation are used to funnel wildlife to the crossings.

4.3.1 Florida Black Bear

The Florida black bear, a State-only listed species, is listed as threatened. The known range of the Florida black bear has been documented to a great extent. The central portion of the project corridor crosses the southern edge of the Ocala primary and secondary population range for the bear. A revised range map using data through 2004 has been finalized by FWC and is based on a 3-year statewide study performed by the Bear Management Section of FWC (2006a) (see **Exhibit 4-2**). Primary ranges are areas where bears are consistently documented. Secondary ranges are areas where bears have been documented, but sporadically.

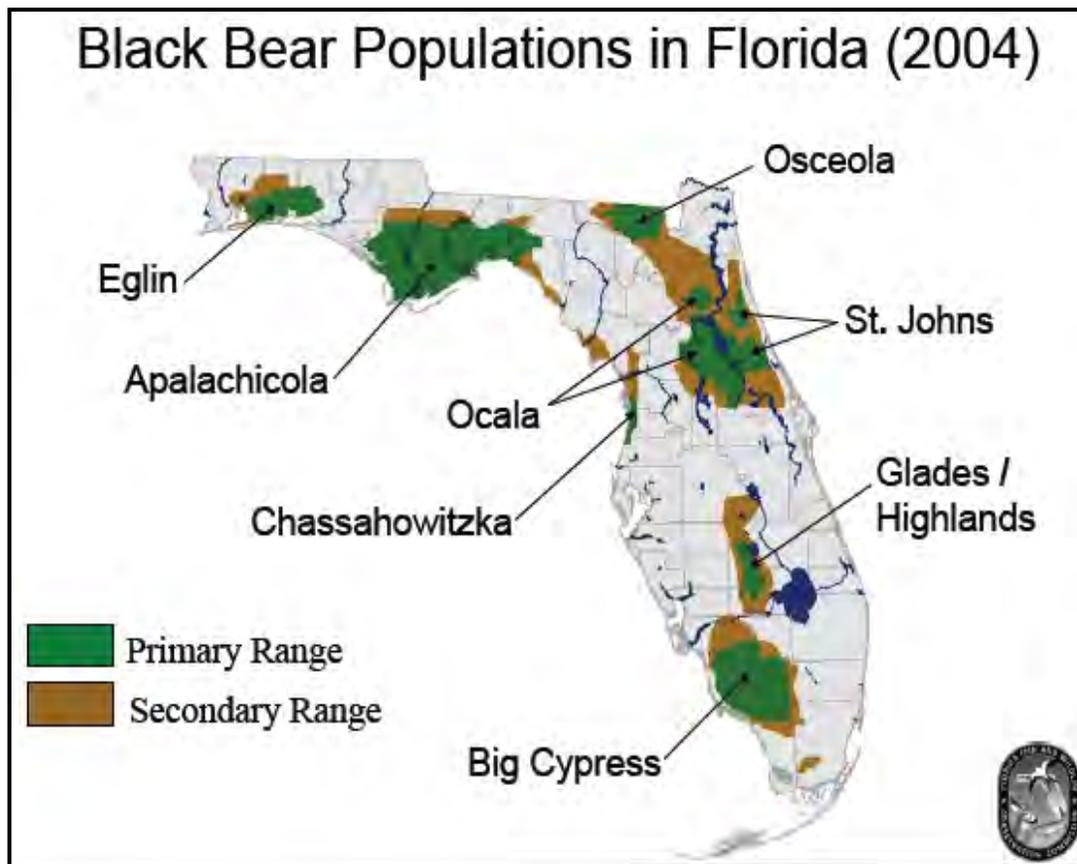


Exhibit 4-2 *Black Bear Populations in Florida (2004)* Source: Florida Fish and Wildlife Conservation Commission, 2006.

4.3.1.1 Field Observations

No individual bears were observed directly by CH2M HILL during the field investigations, however, evidence of bears in the area was found. Florida black bear scat and paw prints were found in March 2006 on the Carter property north of Ondich Road in Orange County, very near the Preferred Alternative location (see **Exhibit 4-1**). Strands of hair from a black bear were caught on a barbed wire fence on the Wekiva River Mitigation Bank parcel in east Lake County in May 2005. The bear must have squeezed through the fence while traveling north or south. This

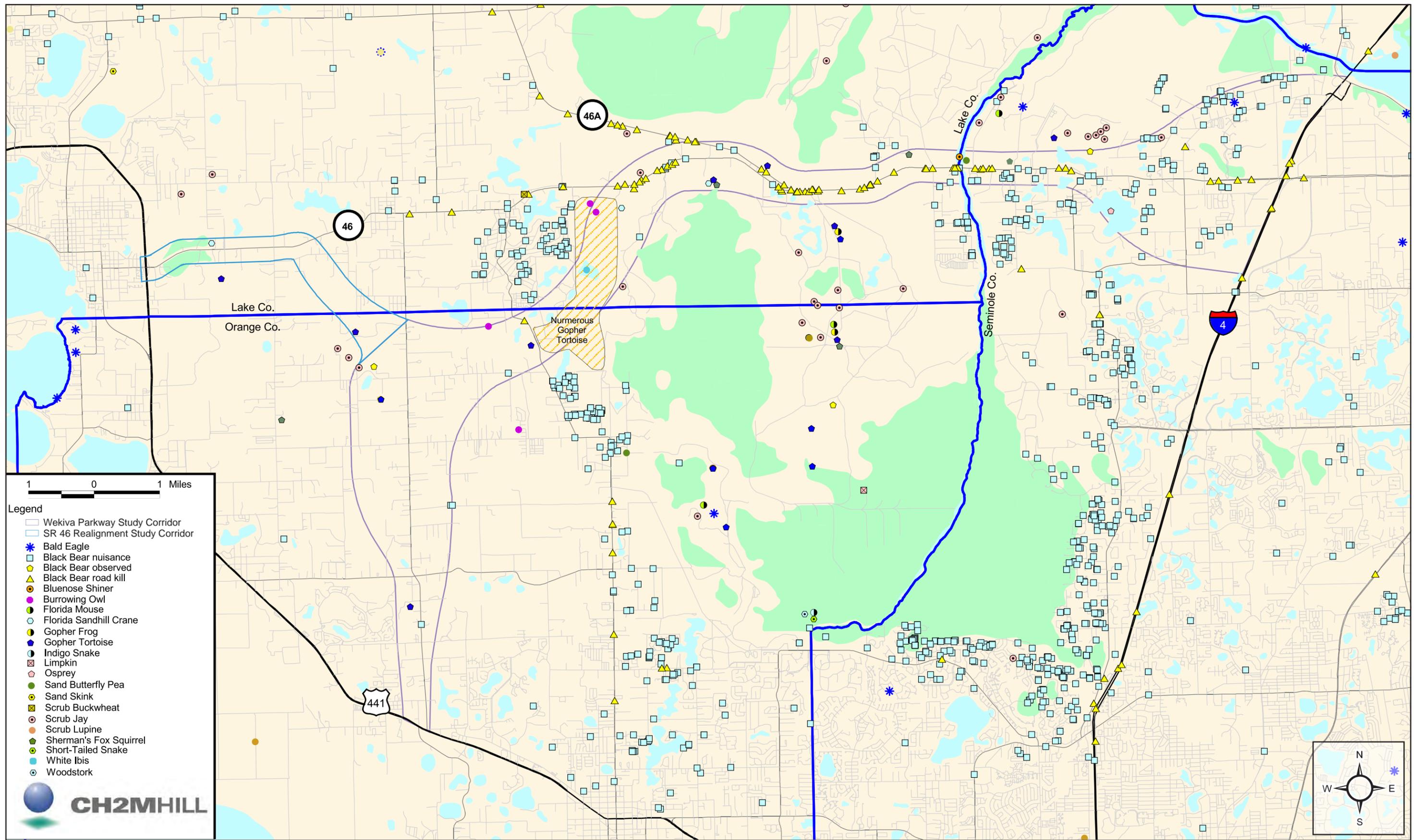


Exhibit 4-1
Locations of Listed Wildlife and Plant Species
Observed and /or Documented in the Project Study Area

TABLE 4-1 (CONTINUED)

Scientific Name	Common Name	Status		Habitat Preference	Record of occurrence in:
		USFWS	DOACS		
<i>Lupinus westianus</i> var. <i>aridorum</i>	Scrub Lupine	E	E	Open areas in sand pine and rosemary scrub	Orange Co. 1970 record in Plymouth, outside (south) of the project area
<i>Nolina brittoniana</i>	Britton's Beargrass	E	E	Scrub, sandhill, scrubby flatwoods, xeric hammock	Lake Co., Orange Co.
<i>Ophioglossum palmata</i>	Hand Fern		E	Old leaf bases of cabbage palm in wet hammocks	Orange Co.
<i>Paronychia chartacea</i> ssp. <i>chartacea</i>	Paper-like Nailwort	T	E	Open areas in sandhill around lakes	Lake Co., Orange Co.
<i>Polygala lewtonii</i>	Lewton's Polygala	E	E	Oak scrub, sandhill, zones between high pine and turkey oak	Lake Co.
<i>Polygonella myriophylla</i>	Small's Jointweed	E	E	Open areas in white sand scrub	Lake Co., Orange Co.
<i>Prunus geniculata</i>	Scrub Plum	E	E	Sandhill and oak scrub	Lake Co.
<i>Warea amplexifolia</i>	Clasping Warea	E	E	Sandhill with longleaf pine and wiregrass	Lake Co.

Notes:

USFWS = US Fish and Wildlife Service

FWC = Florida Fish and Wildlife Conservation Commission

DOACS = Florida Department of Agriculture and Consumer Services, Chapter 5B-40, F.A.C.

Source: Habitat preference (plants) - Florida Natural areas Inventory, 2001

Source: Occurrence records - Florida Natural areas Inventory, 2005

E = Endangered, T = Threatened, T(S/A) = Threatened due to similarity of appearance, SSC = Species of Special Concern

WSSP/RSRSP = Wekiwa Springs State Park/ Rock Springs Run State Reserve

protected under the Bald and Golden Eagle Protection Act, the Lacey Act, and the Migratory Bird Treaty Act.

* protected under the Federal Migratory Bird Treaty Act of 1918.

TABLE 4-1 (CONTINUED)

Scientific Name	Common Name	Status		Habitat Preference	Observation or Occurrence Record
		USFWS	FWC		
<i>Gopherus polyphemus</i>	Gopher Tortoise		T	Longleaf pine-xeric oak, sand pine scrub, hammocks, dry prairie, pine flatwoods and disturbed habitats	<ul style="list-style-type: none"> • 2005-2006 - Many active burrows on Neighborhood Lakes Property; • 2005 May - Observed 5 burrows on southern edge of Seminole Forest, • 2005 March - Observed 10 active burrows south of Lake/Orange county line ½ mile west of Plymouth -Sorrento Road; • 2005 March - Observed a few on power line easement that crosses Haas Rd.
<i>Neoseps reynoldsi</i>	Sand Skink	T	T	Open areas of dry sandy loose soils, scrub	<ul style="list-style-type: none"> • Reported to occur on WSSP/RSRSR
<i>Stilosoma extenuatum</i>	Short-tailed Snake		T	Open areas of dry sandy loose soils, scrub, sand pine scrub, pine flatwoods	<ul style="list-style-type: none"> • Reported to occur on WSSP/RSRSR
Fish					
<i>Pteronotropis welaka</i>	Bluenose Shiner		SSC	River	<ul style="list-style-type: none"> • 1956 FNAI record of 24 specimens collected in Wekiva River at bridge.
Plants		USFWS	DOACS		Record of occurrence in:
<i>Bonamia grandiflora</i>	Florida Bonamia	T	E	Open areas in white sand scrub	Lake Co., Orange Co.
<i>Centrosema arenicola</i>	Sand butterfly pea		E	Sandhill, scrubby flatwoods, dry upland woods	1961 FNAI record at Wekiva River Bridge along road side (Seminole Co.).
<i>Chionanthus pygmaeus</i>	Fringetree, Pygmy	E	E	Scrub, sandhill, xeric hammock	Lake Co., Seminole Co.
<i>Clitoria fragrans</i>	Wings, Pigeon	T	E	Turkey oak with wiregrass, scrubby high pine	Lake Co., Orange Co.
<i>Deeringothamnus pulchellus</i>	Beautiful Pawpaw	E	E	Slash pine or longleaf pine flatwoods with wiregrass & dwarf live oak	Lake Co., Orange Co.
<i>Eriogonum longifolium</i> var. <i>gnaphalifolium</i>	Scrub Buckwheat	T	E	Sandhill, oak-hickory yellow sand scrub, high pine, turkey oak	Lake Co., Orange Co.

TABLE 4-1 (CONTINUED)

Scientific Name	Common Name	Status		Habitat Preference	Observation or Occurrence Record
		USFWS	FWC		
<i>Rostrhamus sociabilis plumbeus</i>	Everglade Snail Kite	E	E	Mature forested sloughs, forested rivers	<ul style="list-style-type: none"> Project is north of known range of snail kite.
<i>Mycteria americana</i>	Wood Stork	E	E	Freshwater and brackish wetlands; in roadside ditches and canals.	<ul style="list-style-type: none"> Nearest nesting colony is approximately 10 miles from the project study area.
Wading Birds					
<i>Egretta caerulea</i>	Little Blue Heron		SSC	Freshwater, brackish & saltwater wetlands; in larger drainage canals	<ul style="list-style-type: none"> Common in Florida wetlands
<i>Egretta thula</i>	Snowy Egret		SSC	Freshwater and coastal wetlands; in larger drainage canals	<ul style="list-style-type: none"> Common in Florida wetlands
<i>Egretta tricolor</i>	Tricolored Heron (Louisiana)		SSC	Freshwater & estuarine wetland; in larger drainage canals	<ul style="list-style-type: none"> Common in Florida wetlands
<i>Eudocimus albus</i>	White Ibis		SSC	Marshy sloughs, mud flats, lagoons and forested wetland, wet pastures	<ul style="list-style-type: none"> 2005 June - Observed several ibis feeding in marsh on Neighborhood Lakes Property; FNAI records of a group foraging in State Park.
Amphibians & Reptiles					
<i>Alligator mississippiensis</i>	American Alligator	T(S/A)	SSC	Rivers, wetlands and open water bodies; in larger drainage canals	<ul style="list-style-type: none"> Common in Florida wetlands
<i>Drymarchon corais couperi</i>	Eastern Indigo Snake	T	T	Longleaf pine-xeric oak, sand pine scrub, hammocks, dry prairie, pine flatwoods and mesic habitats	<ul style="list-style-type: none"> Reported to occur on Seminole State Forest Reported to occur on WSSP/RSRSR
<i>Pituophis melanoleucus mugitus</i>	Florida Pine Snake		SSC	Open areas of dry sandy loose soils, scrub, dry prairie, pine flatwoods	<ul style="list-style-type: none"> Reported to occur on WSSP/RSRSR
<i>Rana capito</i>	Gopher Frog		SSC	Gopher tortoise burrow, marsh	<ul style="list-style-type: none"> Reported to occur on WSSP/RSRSR

TABLE 4-1 (CONTINUED)

Scientific Name	Common Name	Status		Habitat Preference	Observation or Occurrence Record
		USFWS	FWC		
<i>Grus canadensis pratensis</i>	Florida Sandhill Crane		T	Forage in open country, dry prairie and pasture land; nest in freshwater marshes.	<ul style="list-style-type: none"> • 2005 April - Nest in marsh north of SR 46, west of "Hacienda Hill" in Lake County. • 2005 June - Nest in marsh on Rock Springs Run State Reserve; • 2005 May - Observed 4 cranes foraging on Mitigation Bank, • 2005 June - Observed 3 cranes foraging on Neighborhood Lakes Property;
<i>Sterna antillarum</i>	Least Tern		T	Flat roof tops near coastal areas; shorelines	<ul style="list-style-type: none"> • Reported to occur on WRSP/RSRSR
<i>Aramus guarana</i>	Limpkin		SSC	Cypress swamps, forested sloughs	<ul style="list-style-type: none"> • Reported to occur on WRSP/RSRSR
<i>Pandion haliaetus</i>	Osprey	*	*	Large flat-top trees, and snags along lakes, rivers, and coastal areas	<ul style="list-style-type: none"> • 1988 FNAI record of 2 nests at Sylvan Lake;
<i>Falco peregrinus</i>	Peregrine Falcon		E	Bridges, in open country	<ul style="list-style-type: none"> • Reported to occur on WRSP/RSRSR
<i>Picoides borealis</i>	Red-cockaded Woodpecker	E	SSC	Pine flatwoods	<ul style="list-style-type: none"> • No occurrence reports of RCW in the area
<i>Aphelocoma coerulescens</i>	Scrub Jay	T	T	Oak scrub; low growing oaks with patches of bare sand	<ul style="list-style-type: none"> • 2006 March - Observed 3 jays and 1 nest in sand live oak in scrub parcel (Doggett property) north side of Ondich Road; • 2006 March - Observed 1 jay (might be same jay) north of Doggett property on Forman property; • 2006 March - Observed 3 jays in scrub parcel (west side of Forman property); • 2005 June - Observed 2 jays in scrub parcel (Stewart property). • 1981 FNAI record of 4 adults, 2 juv. off of Ondich Rd.
<i>Falco sparverius paulus</i>	SE American Kestrel		T	Forage in open country, dry prairie and pasture land	<ul style="list-style-type: none"> • Reported to occur on WRSP/RSRSR

TABLE 4-1

Listed Wildlife and Plant Species Potentially Occurring within, or adjacent to, the Project Study Area
Wekiva Parkway(SR 429)/SR 46 Realignment PD&E Study in Lake, Orange, Seminole Counties

Scientific Name	Common Name	Status		Habitat Preference	Observation or Occurrence Record
		USFWS	FWC		
Mammals					
<i>Ursus americanus floridanus</i>	Florida Black Bear		T	A variety of upland and mesic habitats	<ul style="list-style-type: none"> Abundant in the Wekiva River floodplain and adjacent conservation areas; 2006 March - Tracks and scat observed north of Ondich Road; 2005 May - Hair found on barbed-wire fence on the Mitigation Bank.
<i>Sciurus niger shermani</i>	Sherman's fox squirrel		SSC	Oak forests, pine flatwoods	<ul style="list-style-type: none"> 2005 May - Observed on Mitigation Bank, 1983 FNAI record: north of SR 46 and east of Wekiva River on WRSP land; 1986-1992 FNAI records: numerous sightings on WS State Park land;
<i>Podomys floridanus</i>	Florida Mouse		SSC	Oak forests, pine flatwoods, gopher tortoise burrows	<ul style="list-style-type: none"> Reported to occur on WRSP/RSRSR
Birds					
<i>Haliaeetus leucocephalus</i>	Bald Eagle	#	#	Large open water, mature pine	<ul style="list-style-type: none"> No active nests within ½ mile of study area; none within one mile. 2007 Jan - Adult eagle observed flying overhead near Ondich Rd
<i>Athene cunicularia floridana</i>	Burrowing Owl	*	SSC	Dry pastures, open prairies	<ul style="list-style-type: none"> 2005 June - Observed 2 active nests on Neighborhood Lakes Property (7 owls total) 1989 FNAI record of 15 burrows north of Haas Rd, east of Lake Lucie – none found in 2005/2006.
<i>Caracara cheriway</i>	Crested Caracara	T	T	Open country, dry prairie and pasture land, cabbage palm/oak hammock	<ul style="list-style-type: none"> No occurrence reports of Caracara in the area

nesting colony is approximately 10 miles from the project area. No scrub jay habitat occurs on these parcels. The site is not extremely rare habitat for the general area, but its value as wildlife habitat is increased due to it being contiguous to the expansive state conservation lands and a mitigation bank to the east. Suitable habitat is available for gopher tortoises, burrowing owls, and possibly eastern indigo snake. Foraging habitat is available for sandhill cranes and cows. Also, when there is enough rain to fill the marshes, foraging wading birds (wood stork, little blue heron, snowy egret, tri-color heron, and white ibis) are likely to use the site.

A parcel purchased for possible conservation as identified in Recommendation 3 of the Wekiva River Basin Coordinating Committee *Final Report* is the **Silvestri property**. The former Silvestri parcels were acquired in February of 2006 by the Expressway Authority, as an opportunity purchase for conservation, well before the Preferred Alternative was selected. All of the 203-acre acquired property, except for approximately 32 acres needed for right-of-way (roadway and stormwater ponds), may be considered for mitigation of project-related environmental/habitat impacts or designated as conservation land, if an appropriate local or state agency commits to management of it. This property contains 203 acres of nearly impenetrable sand pine. The less dominant xeric oak community is being over shadowed and out-competed by the 50 to 60 feet tall dense sand pine canopy (90 to 100% closure). Very few open sandy patches remain. Oak species, when present, vary in height from roughly 5 to 30 feet.

The Pine Plantation property consists of approximately 628 acres located in north Orange County. On September 30, 2008, the Governor and the Cabinet approved an agreement to purchase 385 acres of Pine Plantation in partnership with the Expressway Authority and FDOT. The land acquired will serve as a buffer to protect surface water and groundwater resources within the Wekiva Study Area, including recharge within the Wekiva River spring-shed, and will protect it from future development. The remainder of Pine Plantation consists of one parcel through which the Wekiva Parkway will traverse.

Private parcels in the project study area that could have potentially important wildlife habitat, if managed properly, include the Doggett and Forman properties located north of Ondich Road in Orange County, and the Nesler property and the Strite Trust parcel located north of Haas Road in Orange County.