

# ***Florida Forever Project Evaluation Report***

## ***Quail Creek Ranch Hardee County***



**Acquisition Type:** Less-Than-Fee

**Acres:** 2,698

**Just Value:** \$11,061,419

**Application Date:** October 31, 2022

**Project Sponsors:** Florida Conservation Group

**Prepared By:**

Division of State Lands

Office of Environmental Services



Submitted to the Acquisition and Restoration Council

April 14, 2023

## **Executive Summary**

The proposed Quail Creek Ranch Florida Forever project contains 4 parcels owned by Quail Creek Farms Inc, totaling approximately 2,698 acres in southwestern Hardee County on the Manatee County border, about 7 miles seven miles west of the town of Limestone. The most eastern boundary of the property is formed by County Road 665, and the property is accessible via Farr Road. The Limestone Ranch and Horse Creek Ranch Florida Forever projects are nearby. The landowners have expressed interest in wanting to further conservation efforts while maintaining rights to the property. The project is proposed as a less-than-fee acquisition and has a total tax assessed value of \$11,061,415.

The property is currently used by the landowners for cattle ranching and recreational hunting. It is actively managed through a combination of periodic fires, appropriate grazing, mechanical treatment and exotic species control. According to the Division of Historical Resources (DHR), the project contains no cultural resources listed in the Florida Master Site File or National Register of Historic Places. However, there is some potential for unrecorded sites to exist on Quail Creek Ranch and no professional surveys have been conducted within the project boundaries.

The project falls within the Bureau of Mines and Reclamation Conceptual Minable Area; and is in imminent danger of losing its significant natural attributes due to intensive land use conversion. This project is within an agriculturally important rural county that has among the least amount of conservation lands in the state.

Quail Creek Ranch is uniquely situated along an upland crest between the Myakka River and Peace River watersheds and contains the headwaters of Owen Creek a tributary of the Myakka River. The property consists of mostly of improved pasture but includes notable areas of scrub, scrubby flatwoods and old-growth longleaf pine (*Pinus palustris*). Mesic hammocks with impressive canopies of large live oaks (*Quercus virginiana*) are common. The property also supports a variety of wetland communities including depression marsh and basin swamp; along with the blackwater streams of Owen Creek and Osbourn Branch.

Rare wildlife species documented on the property include gopher tortoise (*Gopherus polyphemus*), Florida sandhill crane (*Antigone canadensis pratensis*) and several additional species of wading birds as well as Shermans fox squirrel (*Scirus niger shermani*). Rare plant species included an abundant growth of nodding pinweed (*Lechea cernua*), a state-threatened plant species. The entire project area is located within Priority 3 of the Florida Ecological Greenways Network (FEGN).

An interagency team conducted a site visit to the project site on February 2, 2023. Information included in this project evaluation report is a result of this site visit.

If approved for addition to the 2024 Florida Forever Priority List, the project should be considered as an amendment to the Myakka Ranchlands Florida Forever project boundary in the Less-than-Fee category. All 2,698 acres proposed for acquisition are considered essential due to the resources documented on the property (see Appendix C).

## **PURPOSE FOR ACQUISITION**

The Quail Creek Ranch project will conserve a portion of Florida's rural landscape in an area of the state with high potential for intensive land use conversion. The project will protect rare natural communities and provide critical habitat connectivity for a variety of wildlife species. The project will contribute to the protection of water resources within the Myakka and Peace River watersheds including the headwaters of Owen Creek an important tributary of the Myakka River.

Acquisition of this project would serve to:

- increase the protection of Florida's biodiversity at the species, natural community, and landscape levels
- provide surface and groundwater protection and protect natural floodplain functions
- protect, restore, and maintain the quality and natural functions of land, water, and wetland systems
- conserve and protect a portion of Florida's rural landscape in order to provide and enhance wildlife corridors for rare and imperiled species

## **LOCATION AND PROXIMITY TO OTHER MANAGED AREAS**

The project proposal comprises a nearly contiguous, irregularly shaped tract of 2,698 acres in southwestern Hardee County along the Manatee County border, about 7 miles east-northeast of Myakka City. The nearest tracts of conservation land are Upper Myakka River Watershed (Southwest Florida Water Management District) and contiguous conservation easements, which approach within 5 miles from the west. Beker-Wingate State Park is roughly 6 miles to the northwest. The recently acquired Horse Creek Ranch Florida Forever project is about 2 miles east of Quail Creek Ranch.

## **RESOURCE DESCRIPTION**

### ***Florida Natural Areas Inventory (FNAI)***

This evaluation is based on information gathered from the proposal, 1999, 2004, and 2010 aerial photography, US Geological Survey (USGS) 7.5' topographic maps, Cooperative Land Cover data (FL FWCC and FNAI, Florida Cooperative Land Cover Map, version 3.4), the FNAI database, and February 2, 2023 field survey conducted by the Acquisition and Restoration Council liaison staff, including FNAI biologists Geoffrey Parks and Geena Hill.

Quail Creek Ranch is a low-relief site with elevations ranging from 79–93 ft. The western portion of the proposal includes altered headwaters of upper Owen Creek, a tributary that drains west to the Myakka River. The eastern portion of the site drains into Osborn Branch, a tributary of Horse Creek in the Peace River drainage. Both rivers flow into Charlotte Harbor.

The Peace River is the main source of freshwater for Charlotte Harbor, and protection of the proposal property could contribute to water quality protection for the Charlotte Harbor Aquatic Preserve. Although the proposal is not contiguous with existing conservation lands, it could become increasingly important for wildlife connectivity, as mining activity in the region limits the opportunity for connections between the Myakka and Peace River basins.

Approximately 30% of the site is made up of natural communities. Mesic hammock is the most abundant, occupying about 8% of the site in irregular elongate patches throughout the property. Mesic hammocks at Quail Creek Ranch have a canopy of live oak (*Quercus virginiana*), often quite large, sometimes with a subcanopy of water oak (*Quercus nigra*). Saw palmetto (*Serenoa repens*) is the main shrub, and there is typically little herbaceous cover although bluestem (*Andropogon sp.*), big carpetgrass (*Axonopus furcatus*), and flatsedge (*Cyperus sp.*) were observed.

Mesic flatwoods is found in two areas of the eastern portion of the property and in a narrow strip on the western boundary. This community was noted during the site visit to have a canopy of widely-spaced, stately old flat-topped longleaf pine. The shrub layer includes heavy growth of saw palmetto, as well as gallberry (*Ilex glabra*) and rusty staggerbush (*Lyonia ferruginea*). One area was noted to have some scrubby flatwoods species present. The groundcover in the mesic flatwoods was not observed during the field visit.

About 4% of the site consists of scrubby flatwoods. On the proposal site, these communities have an open canopy of longleaf pine (*Pinus palustris*)—mostly mature and flat-topped, over a shrub layer consisting mainly of myrtle oak (*Quercus myrtifolia*), sand live oak (*Quercus geminata*), Chapman's oak (*Quercus chapmanii*), and saw palmetto (*Serenoa repens*), with southern bayberry (*Morella cerifera*), gallberry, rusty staggerbush, coastalplain staggerbush (*Lyonia fruticosa*), fetterbush (*Lyonia lucida*), huckleberry (*Gaylussacia sp.*), gallberry, and hog plum (*Ximenia americana*). Oaks occasionally have grown out of the shrub layer to form a very sparse midstory. Herbs are abundant in some areas and include wiregrass (*Aristida stricta*), bluestem (*Andropogon sp.*), wild pennyroyal (*Piloblephis rigida*), slender flattop goldenrod (*Euthamia caroliniana*), coastalplain chaffhead (*Carphephorus corymbosus*), vanillaleaf (*Carphephorus odoratissimus*), St. John's wort (*Hypericum sp.*), pineland scalypink (*Stipulicida setacea*), and bluecurls (*Trichostema sp.*). Cogon grass (*Imperata cylindrica*, FISC-I) was observed in one area. One noteworthy area of scrubby flatwoods in the central part of the property was open and in particularly good condition, with considerable amounts of wiregrass and other herbs, and some attributes of sandhill including turkey oak (*Quercus laevis*).

Isolated depression wetlands throughout the property are classified as depression marshes. These vary in size from less than an acre to 25 acres; they are herb-dominated and typically have concentric zones of vegetation with sand cordgrass (*Spartina bakeri*) and blue maidencane (*Amphicarpum muehlenbergianum*) occupying the outer rim and species such as maidencane (*Panicum hemitomon*) in deeper, more frequently-flooded zones. Other species observed in depression marshes on this property are bluestem (*Andropogon sp.*), Virginia chain fern (*Woodwardia virginica*), viviparous spikerush (*Eleocharis vivipara*), flattened pipewort (*Eriocaulon compressum*), dogfennel (*Eupatorium capillifolium*), slender flattop goldenrod, marshpennywort (*Hydrocotyle sp.*), fourpetal St. John's wort (*Hypericum tetrapetalum*), dotted smartweed (*Persicaria punctata*), turkey tangle fogfruit (*Phyla nodiflora*), goldenrod (*Solidago sp.*), and violet (*Viola sp.*) Shrubs such as southern bayberry (*Morella cerifera*) are occasional in a few marshes observed onsite. Invasive plants that were seen in these wetlands include West Indian marsh grass (*Hymenachne amplexicaulis*, FISC-I) and torpedo grass (*Panicum repens*, FISC-I), and Caesars weed (*Urena lobata*, FISC-I) was noted on the edge of one marsh. A Florida sandhill crane (*Antigone canadensis pratensis*) was seen on a nest in one depression marsh during the site visit.

Basin marshes occur adjacent to hammocks in the northern part of the proposal area. These contain a mix of native and non-native herbaceous species, with a fringe of sand cordgrass, and a grassy interior consisting of maidencane, viviparous spikerush, and bluestems. Grasses from the adjacent hammocks (big carpetgrass, *Axonopus furcatus*) and pastures (Bermuda grass, *Cynodon dactylon*) generally graded into the edges. Peruvian primrosewillow (*Ludwigia peruviana*, FISC-I) was present, though not abundant.

Wet flatwoods on the property occur intermixed with hammock and basin swamp in the western part of the proposal, and in a patch near the eastern boundary. The wet flatwoods viewed during the site visit has a canopy of slash pine (*Pinus elliotii*) with some water oak and abundant gallberry in the shrub layer. There is little herbaceous growth, but extensive pine regeneration. A small amount of Caesar's weed was observed in this community.

Two small areas of xeric hammock make up about 2% of the site, in both cases adjoining and grading into scrubby flatwoods. These hammocks have a closed canopy of Chapman's oak, sand live oak, and myrtle oak. Shrubs in the xeric hammock include rusty staggerbush (*Lyonia ferruginea*) and saw palmetto (*Serenoa repens*). Due to shade and litter deposition from the canopy, herbaceous plants are mostly lacking, although the vine Elliott's milkpea (*Galactia elliotii*) is common.

Two relatively level, wet areas surrounding marshes and swamps were probably historically wet prairie. The areas of wet prairie visited during the site assessment had evidence of hog damage and the vegetation was likely denser and taller than would be typical of more intact wet prairies, but these are still native-dominated herbaceous wetlands and have thus still been mapped as wet prairie. These are dominated by bluestem (*Andropogon sp.*), blue maidencane (*Amphicarpum muehlenbergianum*), sedges (Cyperaceae), and also have numerous other herbs and small shrubs such as St. John's wort (*Hypericum sp.*), spadeleaf (*Centella asiatica*), pinebarren goldenrod (*Solidago fistulosa*), bog white violet (*Viola lanceolata*) soft rush (*Juncus effusus ssp. solutus*), Virginia chain fern (*Woodwardia virginica*). A few shrubs, mainly southern bayberry (*Morella cerifera*) and gallberry (*Ilex glabra*), occur as well. Wetlands of this type are not common at Quail Creek Ranch, but are found surrounding the largest depression marsh near the east end of the property, and in a smaller elongate area extending off the property to the southeast.

A noteworthy community occurring on higher, well-drained soils on the site is scrub. Two distinct variations of this community, collectively making up about 1% of the site, were observed. A patch of sand pine scrub on the eastern edge of the northern part of the site was visited during the site assessment. This area had a moderately open sand pine (*Pinus clausa*) canopy with a midstory of occasional Chapman's oak and sand live oak. The shrub layer was relatively open and consisted of the two oak species mentioned above as well as myrtle oak and Florida rosemary (*Ceratiola ericoides*). Herbaceous species between shrubs included bluestem, wiregrass (*Aristida stricta*), silkgrass (*Pityopsis sp.*), sandyfield beaksedge (*Rhynchospora megalocarpa*), and sand spike moss (*Selaginella arenicola*). Natal grass (*Melinis repens*, FISC I), was also seen in this community.

In addition to the sand pine scrub, two areas of oak scrub were also observed. These have a tall, dense shrub layer of myrtle oak, sand live oak, Chapman's oak and also contain saw palmetto and deerberry (*Vaccinium stamineum*). The forest floor is covered with leaf litter, with no sandy gaps and no herbaceous component. However, several scrub herbs grow abundantly

in the opening made by a road through one of these scrubs; species observed there included threeawn (*Aristida sp.*), frostweed (*Crocانthemum sp.*), silkgrass (*Pityopsis sp.*), and an abundant growth of nodding pinweed (*Lechea cernua*), a state-threatened species. A fourth patch of scrub, a small fringe of a larger scrub off the property to the east, was not seen during the site visit.

Basin swamps on the property have a canopy of red maple (*Acer rubrum*), swamp tupelo (*Nyssa biflora*), with a subcanopy made up of the canopy tree species as well as swamp laurel oak (*Quercus laurifolia*). Shrubs include common buttonbush (*Cephalanthus occidentalis*), southern bayberry (*Morella cerifera*), dahoon (*Ilex cassine*), and highbush blueberry (*Vaccinium corymbosum*). The herb layer varies from sparse to dense, including cinnamon fern (*Osmunda cinnamomea*), lizard's tail (*Saururus cernuus*), sphagnum moss (*Sphagnum sp.*), toothed midsorus fern (*Telmatoblechnum serrulatum*), and Virginia chain fern (*Woodwardia virginica*).

Two small areas believed to be baygall also are present in the proposal. One is embedded in an area of wet flatwoods, and another along the southern boundary. These are expected to be hardwood forested wetlands with peaty soils and a canopy of evergreen bay species, but this could not be verified during the site assessment.

Although there is a wide variety of natural communities in the proposal area, about 70% of the property consists of altered landcover types; the most abundant of these is improved pasture, which makes up just over half of the property. Bahiagrass (*Paspalum notatum*), is the typical forage species, with occasional patches of bluestem (*Andropogon sp.*), and other native species such as yellow-eyed grass (*Xyris sp.*). A few pastures appear to not to have been recently grazed and have tall growth of *Andropogon*, sedges (*Cyperaceae*) and rushes (*Juncaceae*) with some southern bayberry (*Morella cerifera*). These areas were not viewed in detail, but likely provide habitat for a different assemblage of wildlife species than more recently grazed pastures.

In addition to improved pasture, scattered throughout the property are areas that have been partially converted to pasture, but which still contain substantial amounts of native plants. These are best considered semi-improved pasture. In some cases, particularly surrounding the pine plantations in the eastern section of the property, these are dominated by native herbaceous plants such as bluestems, yellow-eyed grasses, sedges, and bottlebrush threeawn and resemble wet or mesic flatwoods without pine canopy. A singing Bachman's sparrow (*Peucaea aestivalis*)—typically a species of healthy flatwoods and sandhills—was noted here. Other areas are more hammock-like, with a nearly closed canopy of live oak or sand live oak with occasional saw palmetto, and often Caesar's weed. Groundcover in oak-dominated semi-improved pasture generally a mix of pasture grasses and native and non-native herbs including big carpetgrass (*Axonopus furcatus*), witchgrass (*Dichanthelium sp.*), and West Indian dropseed (*Sporobolus jacquemontii*, FISC-1).

About 2% of the site is mapped as agriculture; this was not visited during the site visit. It is likely used for sod extraction, and may more resemble pasture than other types of agriculture.

Small stands of young planted slash pine are interspersed with semi-improved pasture in the eastern part of the property and make up about 1% of the proposal area. These areas were not observed closely during the site visit.

Other altered cover types take up less than 1% each of the site. Small developed areas are included in the proposal acreage, and include residences, equipment storage, and livestock barns. Drainage ditches and a network of unpaved roads are present throughout the site. Numerous artificial ponds—mostly for cattle but one near a homesite--also make up a small portion of the proposal; a tricolored heron (*Egretta tricolor*) was seen using a cattle pond during the site visit.

Invasive plants are sporadic on the property. Torpedo grass, West Indian marsh grass, and Peruvian primrosewillow were observed, but these are restricted to relatively isolated natural communities, so their impact is localized. Natalgrass was noted entering the sand pine scrub in one location. Caesarweed and cogongrass were also observed.

Table 1. Natural communities and landcover types within Florida Forever proposal

Community or Landcover	Acres	Percent of Proposal
mesic hammock	227	8
mesic flatwoods	130	5
scrubby flatwoods	109	4
depression marsh	103	4
basin marsh	46	2
wet flatwoods	45	2
xeric hammock	43	2
wet prairie	40	1
scrub	37	1
basin swamp	21	<1
baygall	7	<1
pasture – improved	1401	52
pasture – semi-improved	384	14
agriculture	49	2
pine plantation	33	1
road	15	<1
developed	6	<1
artificial pond	6	<1

**Florida Fish and Wildlife Conservation Commission (FWC)**

This resource assessment of the Quail Creek Ranch Florida Forever project proposal is based on field observations and results of GIS analysis. The property contains the headwaters of Owen Creek, a tributary of the Myakka River in the southwest corner of Hardee County in Southwest Florida. Quail Creek Ranch falls within the Bureau of Mines and Reclamation Conceptual Minable Area; it is a large piece of the last remaining lands at the junction of Hardee, Manatee, and Desoto Counties that are not currently permitted, in application, or are areas of foreseeable future mining (i.e., owned by a mining company).

Wildlife species observed included Florida sandhill cranes (*Grus canadensis*), which were nesting, red-shouldered hawk (*Buteo lineatus*), American kestrel (*Falco sparverius*), Florida mottled duck (*Anas fulvigula*), and other common and migrating passerine songbirds. Multiple wading bird species, including the listed little blue heron (*Egretta caerulea*) and tricolored heron (*Egretta tricolor*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), and white ibis (*Eudocimus albus*) were also viewed. The wetlands have vast shallow vegetative components, which provide foraging habitat for most all wading bird species common to central Florida, likely including wood storks (*Mycteria americana*) as well. Available nesting habitat for wading birds and waterfowl also was noted. American alligators (*Alligator mississippiensis*) were observed along with unidentified turtles, and it was noted that the wetlands and streams should be excellent habitat for the host of expected native herps found in south central Florida. American river otters (*Lontra canadensis*) have been routinely observed on site by the landowner which may be an indication of quality and connected wetland systems.

Numerous active gopher tortoise (*Gopherus polyphemus*) burrows were concentrated within upland areas, giving evidence of a healthy and dense population which would support many of the common burrow commensal species. The landowner reported having seen eastern indigo snakes (*Drymarchon couperi*) and the property does contain habitat that would support them. Landowner conversations and physical signs indicated healthy population of wild turkeys (*Meleagris gallopavo*) and Shermans fox squirrels (*Scirus niger shermani*), which could be indicators of healthy habitats resulting from appropriate management. Feral hogs (*Sus scrofa*) and their sign were observed in overabundance, but it was demonstrated that the site manager is taking steps to reduce the populations and damage.

The FWC GIS analysis of the Cooperative Land Cover v3.6 indicates that Quail Creek Ranch comprises a mixture of many different community types including tree improved pasture (51%), shrub and brushland (11%), and freshwater forested wetlands (10%). Approximately 81% of the property has been identified as priority 1-2 for the Critical Lands and Waters Identification Project-Terrestrial and Waters. The entire property is classified as occasional Florida black bear (*Ursus americana*) range and 93% of the property shows a species richness for 3-8 imperiled species. Additionally, the entire property provides water protection for Buzzard Roost Branch, Osborn Branch, Owen Branch, and Owen Creek streams, which are Class 3F surface waters.

The assessment of the various native and agricultural habitats at the site showed many larger open fields including native prairie, converted pasture, open wetlands, and "old field" conditions where it is reported that burrowing owls (*Athene cunicularia floridana*) live. Within this is a matrix of mature oak scrub, scrubby and pine flatwoods, live oak hammock, mature riparian corridor, and small and larger wetlands throughout. Such a mingled pattern of interspersed habitats may heighten the usability and capacity of these habitats and facilitate species abundance. Furthermore, it is obvious that these habitats are not merely stagnant but have been actively managed by the landowners through a combination of periodic fires, appropriate grazing, and some mechanical treatments including mowing and light roller chopping. Although exotic plant species were noted, the landowner actively initiates control efforts and is dedicated to maintenance.

The Quail Creek Ranch is uniquely situated along the crest of two valuable watersheds within Southwest Florida. The property contains the upper reaches of Owen Creek, which flows into



the Myakka watershed, and Osbourn Branch which flows into the Horse Creek/Peace River watershed. These watersheds and their associated streams are the connection points and travel corridors for many wildlife species ranging from passerine songbirds, migrating hawks, and various herps, to wide ranging mammals such as river otters, foxes (*Urocyon cinereoargenteus*), bobcats (*Lynx rufus*), or even potentially black bears or Florida panthers (*Puma concolor coryi*). The property is a vital connection near the hub of the wheel with multiple spokes of wildlife habitat. Its protection would likely yield great value as a true corridor and link with other large ranches nearby, some which are currently under protection.

## **GOALS, MEASURES AND CRITERIA**

### **GOAL A:**

ENHANCE THE COORDINATION AND COMPLETION OF LAND ACQUISITION PROJECTS

#### **Measure A1:**

*The number of acres acquired through the state's land acquisition programs that contribute to the enhancement of essential natural resources, ecosystem service parcels, and connecting linkage corridors as identified and developed by the best available scientific data.*

If acquired, all 2,698 acres would contribute to the enhancement of essential natural resources, ecosystem service parcels and connecting linkage corridors.

#### **Measure A2:**

*The number of acres protected through the use of alternatives to fee simple acquisition.*

The entirety of the project (2,698 acres) is proposed for less-than-fee acquisition via conservation easement.

#### **Measure A3:**

*The number of shared acquisition projects among Florida Forever funding partners and partners with other funding sources, including local governments and the federal government.*

No funding partners have been identified for this project.

### **GOAL B:**

INCREASE THE PROTECTION OF FLORIDA'S BIODIVERSITY AT THE SPECIES, NATURAL COMMUNITY, AND LANDSCAPE LEVELS

#### **Measure B1:**

*The number of acres acquired of significant Strategic Habitat Conservation Areas.*

The Strategic Habitat Conservation Area (SHCA) Florida Forever Conservation Needs layer identifies important remaining habitat conservation needs for 62 terrestrial vertebrates on private lands. Priority 1 and 2 represent habitat for species considered imperiled or critically imperiled in Florida. The Florida Forever Measures Evaluation (FFME) (Appendix B) reports the site contains approximately 1,468 acres (54% of site) of SHCAs. This is primarily within Priority 5 (39% of site) and Priority 3 (15%), with the remainder in Priority 2 (<1%).

#### **Measure B2:**

*The number of acres acquired of highest priority conservation areas for Florida's rarest species.*

Habitat conservation priorities for 634 of Florida’s rarest species were mapped and divided into six priority classes. The FFME reports the proposed project contains approximately 2,651 acres (98% of site) of rare species habitat. The habitat is divided between Priority 5 (46% of site), Priority 4 (27%) and Priority 6 (23%), with the remainder in Priority 3 (2%).

Table 2 lists the acres of habitat for each species that may be found on the site, based on the FNAI Habitat Conservation Priorities. Please note that habitats for these species overlap, so that the sum total of habitat for all species is more than the total acreage of the priority conservation areas. Acreage for aquatic species includes a terrestrial buffer.

Table 2. Rare species habitat based on FNAI Habitat Conservation Priorities

Scientific Name	Common Name	Global Rank	Acres
Bonamia grandiflora	Florida bonamia	G3	211
Aphelocoma coerulescens	Florida scrub-jay	G1G2	234
Caracara cheriway	crested caracara	G5	1793
Mustela frenata peninsulæ	Florida long-tailed weasel	G5T3?	1459

**Measure B3:**

*The number of acres acquired of significant landscapes, landscape linkages, and conservation corridors, giving priority to completing linkages*

The FFME reports approximately 2,610 acres (97%) of the proposed project contributes to protection of ecological greenways all of which falls within Priority 3 areas. Prioritization is based on such factors as importance for wide-ranging species like Florida panther and Florida black bear, importance for maintaining a connected reserve network, and riparian corridors.

**Measure B4:**

*The number of acres acquired of under-represented native ecosystems.*

The Florida Forever natural community analysis includes only those communities that are under-represented on existing conservation lands. This analysis provides a conservative estimate of the extent of these communities, because it identifies only relatively undisturbed portions of these communities that occur within their historic range. The FFME lists the acreages of under-represented natural communities found on the site. Based on this analysis, the Quail Creek Ranch proposal contains 175 acres of mesic/wet flatwoods (6% of site), and 146 acres of scrubby flatwoods (5% of site).

**Measure B6:**

*The percentage increase in the number of occurrences of imperiled species on publicly managed conservation areas.*

The FFME lists the number of Element Occurrences by Global Rank (G-rank) that are found on the proposal. Note that the number of occurrences does not necessarily match the number of species in the following table because a) some species may have more than one occurrence on the proposal site, or b) some species observed on site do not meet the criteria for addition to the FNAI database at this time. Table 3 contains species falling into any of these observational categories, as well as species gleaned from other sources (e.g., Florida Breeding Bird Atlas) with different degrees of locational precision.

Table 3. Rare plants and animals documented or reported to occur within the proposed project

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status
<b>Rare plants documented on site</b>					
Lechea cernua	nodding pinweed	G3*	S3	N	ST
<b>Rare animals documented on site</b>					
Antigone canadensis pratensis	Florida sandhill crane	G5T2	S2	N	ST
Egretta tricolor	tricolored heron	G5	S4	N	ST
Peucaea aestivalis	Bachman’s sparrow	G3	S3	N	N
Gopherus polyphemus	gopher tortoise	G3	S3	N	ST
<b>Additional rare animals reported on site by applicant</b>					
Drymarchon couperi	eastern indigo snake	G3	S2?	T	FT
Athene cunicularia floridana	Florida burrowing owl	G4T3	S3	N	ST
Buteo brachyurus	short-tailed hawk	G4G5	S1	N	N
Caracara cheriway	crested caracara	G5	S2	T	FT
Egretta caerulea	little blue heron	G5	S4	N	ST

**GOAL C:**

PROTECT, RESTORE AND MAINTAIN THE QUALITY OF NATURAL FUNCTIONS OF LAND, WATER, AND WETLAND SYSTEMS OF THE STATE

**Measure C1:**

*The number of acres of publicly-owned land identified as needing restoration; enhancement, and management, acres undergoing restoration or enhancement; acres with restoration activities completed, and acres managed to maintain such restored or enhanced conditions; the number of acres which represent actual or potential imperiled species habitat; the number of acres which are available pursuant to a management plan to restore, enhance, repopulate, and manage imperiled species habitat; and the number of acres of imperiled species habitat managed, restored, and enhanced, repopulated, or acquired.*

The property is offered for less-than-fee acquisition, intended to be utilized in a manner consistent with existing uses. Many of the natural communities on Quail Creek Ranch are in good ecological condition. Current management, which aims to use prescribed fire in the flatwoods and pastures on a 2-year basis, should help the flatwoods and related semi-improved pastures to continue to provide habitat for imperiled and other native species. It would require extensive long-term commitment to restore native natural communities to over 1,800 acres of pasture and other altered landcover; this is likely to be well outside the scope of restoration commitment that would be reasonable to expect of a typical working cattle ranch.

The landowner is making significant efforts to manage feral hogs on the property. Continued trapping efforts such as those that were observed during the site visit should help to protect the site’s natural values from hog damage.

The invasive plant control needs of the property appear to be relatively minor as relatively low populations were observed during the site visit. Cogon grass should be treated aggressively to halt further increases, as this species can spread rapidly. Likewise, the natalgrass entering scrub/scrubby flatwoods communities could pose a significant threat to these communities if not treated, but control of invasive species in these communities is best done carefully due to

the risks to rare species. Other invasive species are present, but heavy infestations are not common in the proposal area. A baseline assessment to determine the full extent of invasive species is warranted if acquisition of an easement occurs.

**Measure C4:**

*The number of acres acquired that protect natural floodplain functions.*

The FFME reports approximately 437 acres (16%) of the proposed project may contribute to the protection of natural floodplain function. This area is mostly divided between Priority 4 (12% of site) and Priority 5 (3%), with the remainder in Priorities 2 and 3 (each with <1%). Priority 1 areas are the most natural with the lowest intensity land uses.

**Measure C5:**

*The number of acres acquired that protect surface waters of the State.*

The FFME reports approximately 2,687 acres (100%) of the proposed project could provide protection for those surface waters of the State that currently remain in good condition. This area is divided between Priority 3 (56% of site), Priority 5 (39% of site), and Priority 6 (4% of site), with the remainder in Priority 4 (<1% of site). These areas represent acreage that contributes to the protection of state-designated Outstanding Florida Waters, springs, rare fish habitat, or other surface waters.

**Measure C8:**

*The number of acres of functional wetland systems protected.*

The FFME reports approximately 513 acres (19%) of the proposed project would provide protection for functional wetland systems. This area is divided between Priority 4 (12% of site), Priority 5 (4%), and Priority 3 (2%), with the remainder in Priority 2 (<1%). Priority 1 areas are the most natural with the lowest intensity land uses.

**GOAL D:**

ENSURE THAT SUFFICIENT QUANTITIES OF WATER ARE AVAILABLE TO MEET THE CURRENT AND FUTURE NEEDS OF NATURAL SYSTEMS AND THE CITIZENS OF THE STATE

**Measure D1:**

*The number of acres acquired which provide retention and storage of surface water in naturally occurring storage areas, such as lakes and wetlands, consistent with the maintenance of water resources or water supplies and consistent with district water supply plans.*

The Quail Creek Ranch falls within the District’s Heartland Region and is in close proximity to the Horse Creek Florida Forever Project. There are two tributaries on the subject property that lead to the Myakka and Peace Rivers. Approximately 500 acres of the property consists of wetlands which would provide naturally occurring storage areas for surface water. When evaluating lands, the District looks at how each property meets its mission. The District’s mission is comprised of four main Areas of Responsibility (AOR’s); Water Supply, Water Quality, Natural Systems, and Flood Protection. Each area has a goal; Water Supply: Ensure an adequate supply of water to provide for all existing and future reasonable and beneficial uses while protecting and maintaining water resources and related natural systems. Water Quality: Protect and improve water quality to sustain the water resources, environment, economy, and quality of life. Natural Systems: Preserve, protect, and restore natural systems to support their natural hydrologic and ecological functions. Flood Protection: Minimize flood damage to protect people, property, infrastructure, and investment. This property contributes to three, Water Quality 60.3%, Natural Systems 47.1%, and Flood protection 16.2%.

**Measure D2:**

*The quantity of water made available through the water resource development component of a district water supply plan for which a water management district is responsible.*

The project is not a component of a district water supply plan.

**Measure D3:**

*The number of acres acquired of groundwater recharge areas critical to springs, sinks, aquifers, other natural systems, or water supply.*

The FFME reports approximately 2,698 acres (100%) of the proposed project would provide protection for groundwater recharge areas. This area is divided between Priority 4 (55% of site), Priority 5 (24%), Priority 3 (15%), Priority 2 (6%), and Priority 6 (<1%). Prioritization is based on features that contribute to aquifer vulnerability such as swallets, thickness of the intermediate aquifer confining unit and closed topographical depressions, as well as areas within springshed protection zones and in proximity to public water supply wells.

Table 4. Spatial Analysis for Potential Water Quality Benefits of Quail Creek Ranch

Categories	Scoring Criteria	Project Score
DEP High Profile Springs (In 1,2,3 or > spring sheds)	12, 24, 36	0
DEP Select Agricultural Land Use (0-30%, >30-65%, >65%)	4,8,12	8
DEP Florida Aquifer Vulnerability (FAVA)	4,7,10	7
DEP Special Nutrient Impaired WBIDs	9	0

Categories	Scoring Criteria	Project Score
DEP Distance to Major Lakes (100, 500, 1000 meters)	8,7,6	0
DEP Springsheds or within 5 miles	10, 7	0
DEP BMAPs	10	0
DEP Distance to Major Rivers (100, 500, 1000 meters)	6,5,4	6
Total Possible	101	21

*GIS Evaluation score is converted to a 1 to 5 value (low to high),*

FINAL DEAR SCORE = 2 medium/low water quality protection benefits

**GOAL E:**

INCREASE NATURAL RESOURCE-BASED PUBLIC RECREATIONAL AND EDUCATIONAL OPPORTUNITIES

**Measure E1 - Measure E3**

*The number of new resource-based recreation facilities, by type, made available on public land.*

The Quail Creek Ranch project is proposed for less-than-fee acquisition with no public access. However, the landowner is open to supporting Operation Outdoor Freedom events in coordination with the Florida Forest Service (FFS), and perhaps educational opportunities.

**GOAL F:**

PRESERVE SIGNIFICANT ARCHAEOLOGICAL OR HISTORIC SITES

**Measure F1:**

*The increase in the number of and percentage of historic and archaeological properties listed in the Florida Master Site File or National Register of Historic Places which are protected or preserved for public use.*

The Quail Creek Ranch Florida Forever project would not meet Measure F1 as the project contains no cultural resources listed in the Florida Master Site File or National Register of Historic Places.

**Measure F2:**

*The increase in the number and percentage of historic and archaeological properties that are in state ownership.*

The Quail Creek Ranch Florida Forever project would not meet Measure F2 as the project contains no cultural resources recorded or known to exist. Additionally, should cultural resources be identified at Creek Ranch they would remain in private ownership.

**CULTURAL RESOURCES:**

There are no cultural resources recorded or known to exist on this Florida Forever project. To date, this property has not been professionally surveyed for archaeological and/or historical sites. It is therefore possible that undocumented cultural resources exist on the property, but this cannot be determined without formal survey of the entire property.

**FIELD OBSERVATIONS:**

During the Field Review of the Quail Creek Ranch Florida Forever project, staff did not observe any unrecorded cultural resources within the project area. However, based on an April 14, 2023

evaluation of the location and distribution of cultural resources in the surrounding area, there is some potential for unrecorded sites to exist on the Quail Creek Ranch property. Should any artifacts or other cultural resources be discovered on the project in the future, DHR recommends leaving them in place and contacting DHR's Public Lands Archaeology Program for further evaluation.

**GOAL G:****INCREASE THE AMOUNT OF FORESTLAND AVAILABLE FOR SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES****Measure G1:**

*The number of acres acquired that are available for sustainable forest management.*

The FFME reports approximately 2,023 acres (75% of site) could be available for sustainable forest management, divided between Priority 5 (1,741 acres) and Priority 3 (282 acres). Prioritization is based on four criteria set by FFS: whether trees are natural or planted, size of tract, distance to market, and hydrology. Priority 5 areas are considered "potential" pinelands; agricultural areas that could be restored to pineland.

**Measure G4:**

*The percentage and number of acres identified for restoration actually restored by reforestation.*

Approximately 900 acres have restoration potential via replanting, invasive species management, and prescribed fire application. Some pasture areas onsite would support productive timber and allow for a slow reforestation of pastures. The existing planted pine is getting tall enough where cattle could be reintroduced to start a silvopasture operation. The landowner is interested in silvopasture operations, as they currently utilize cattle grazing in the forested areas to keep competing vegetation at bay.

**FLORIDA FOREVER CRITERIA**

The proposed project meets the following Florida Forever criteria (§ 259.105, F.S.)

- The project meets multiple goals
- The project has a significant portion of its land area in imminent danger of development, in imminent danger of losing its significant natural attributes or recreational open space, or in imminent danger of subdivision which would result in multiple ownership and make acquisition of the project costly or less likely to be accomplished.
- The project may be acquired, in whole or in part, using alternatives to fee simple, including but not limited to, tax incentives, mitigation funds, or other revenues, the purchase of development rights, hunting rights, agricultural or silvicultural rights, or mineral rights or obtaining conservation easements or flowage easements.

The Acquisition and Restoration Council shall give increased priority to:

- Projects that can be acquired in less than fee ownership, such as a permanent conservation easement.

## **MANAGEMENT**

If acquired as a perpetual conservation easement, primary management responsibility would remain with the landowner. Periodic monitoring of the site's management would occur to confirm continued compliance with the conditions of the easement. Monitoring would be coordinated by the Department of Environmental Protection (DEP), Division of State Lands (DSL), Office of Environmental Services (OES).

## **FUNDING SOURCES**

Florida Forever

## **OWNERSHIP PATTERN AND ACQUISITION PLANNING**

### **Title and Legal Access, Jurisdictional and Sovereignty Lands, Legal Issues**

Record of title, a designation of jurisdictional and sovereignty lands and any other legal Issues will be determined at the time of acquisition and are not known at this time.

### **Known Encumbrances (easement, long-term leases, restrictive covenants, etc.)**

The easements and encumbrances of record would be determined during the appraisal mapping. A current title insurance commitment would be obtained, or the owner's title insurance policy would be reviewed if the policy is available. The easements and encumbrances would be depicted or noted on the appraisal map.

### **Description and location of hazardous waste sites, dumps, borrow pits**

There are no apparent contamination sites within the project based on the application form.

### **Estimated Cost of Appraisal and Mapping**

DEP Bureau of Appraisal estimates \$10,000 to \$20,000 in appraisal fees.

### **Acquisition Phases**

Subject to funding, the Quail Creek Ranch Florida Forever project will be phased based upon price.

## **GOVERNMENT PLANNING and DEVELOPMENT**

### **Contribution to Recreation and Open Space Needs**

The proposal has moderate potential for contributing to recreation and open space needs due to the sheer size of the property. According to the application, Quail Creek Ranch provides a vital opportunity to build upon the recently approved acquisition of Horse Creek Ranch (approximately 2 miles to the east) by expanding a corridor of connected conservation lands to link the Myakka River to the Peace River. This project lies in an agriculturally important rural county that has among the least amount of conservation lands in the state. It sits at the center of a gap of conservation lands between the Myakka Ranchlands Project Area, Duette Preserve, and the Peace River, and is relatively close to Rocking Seven Ranch (approximately 6.2 miles west), Horse Creek Ranch (approximately 2 miles east), and the Limestone Ranch Florida Forever project (approximately 5 miles east) that borders the Peace River.

Securing additional conservation lands in this under-protected area will begin to establish conservation corridors between areas vulnerable to development.



## **Potential for Losing Significant Natural Attributes or Recreational Open Spaces**

According to the application, the Quail Creek Ranch property is unique in that it contains two significant creeks that drain into two ecologically and anthropologically important rivers that flow into Charlotte Harbor. The property encompasses much of the headwaters to Owen Creek, which flows for 2.2 miles through the western third of the property and then southwest to the Myakka River. Osborn Branch flows out of the eastern side of the property to Horse Creek which flows into the Peace River. A set of unnamed ditches in the center portion of the property drain the headwater floodplains of these systems into their respective creek channels.

The National Wetlands Inventory dataset identifies 750.2 acres of wetlands on-site, 512.5 acres of which are identified as high priority functional wetlands (levels 2-5). 436.8 acres of wetlands on Quail Creek Ranch are classified as high priority (levels 2-6) natural floodplains, contributing to enhanced water quality, aquifer recharge, flow attenuation, and flood hazard reduction. Significant surface waters occur across the entire property.

Moderate Potential: The potential for losing significant natural attributes located on the property due to urban development is low, however, the expanding mining operations could pose a significant threat.

## **Potential for Being Subdivided**

Low Potential: The future land use designation is Agriculture that allows for a limited amount of residential development. However, the application states that Quail Creek Ranch is near expanding mining operations and adjacent land is owned by a phosphate mining company. If not placed in conservation, then the most likely future land use will be intensive cultivation and phosphate mining. With existing and proposed mining both to the north and south of the property, Quail Creek Ranch likely represents the best remaining opportunity to protect a functional ecological and wildlife corridor between Horse Creek Ranch and other conservation lands in the Peace River watershed and conservation lands in the Myakka watershed.

## **Zoning and Densities within the Project Boundaries**

The subject property is zoned as Agriculture.

## **Development Potential**

Based on the Hardee County Comprehensive Plan future land use designation, Agriculture (one dwelling unit per five acres), the subject property has a residential development potential of 540 dwelling units (see map B). In accordance with Policy L1.13 of the Future Land Use Element of the Hardee County Comprehensive Plan: Development of 20 units or more shall retain a minimum of 80 percent of the project site as open space and shall be clustered or otherwise developed as suitable for the site to protect agricultural areas, wetlands, native vegetative communities and wildlife habitats.

## **Existing Land Uses and Future Land Use Designations**

Existing Land Uses: The subject property is classified with the following land use/land cover with a variety of natural communities: pasture-improved (1,421 acres); pasture-semi-improved (544 acres); basin swamp (295 acres); depression marsh (106 acres); mesic flatwoods (55 acres); agriculture (49 acres); mesic hammock (47 acres); wet prairie (42 acres); basin marsh (42 acres); scrub (37 acres); xeric hammock (25 acres); road (15 acres); scrubby flatwoods (14 acres); wet flatwoods (4 acres); developed (3 acres); and artificial pond (2 acres).

**Future Land Uses:** The subject property is designated as “Agriculture” on the Hardee County Comprehensive Plan Future Land Use Map (FLUM) (see Map B). Based on the Hardee County future land use designation, Agriculture (one dwelling unit per five acres), the subject property has a residential development potential of 540 dwelling units.

### **Transportation Planning Issues**

This project falls within FDOT District 1. It is not located near any Strategic Intermodal System (SIS) facilities or evacuation routes. There are no plans or projects currently planned in the vicinity of the site, however a Resurfacing project is planned along County Road 663. While the Department finds no adverse impact to this proposed project, there should be coordination with the appropriate FDOT District staff during the acquisition process to ensure that issues related to the transportation system and partnering opportunities are addressed and incorporated into the management plan as appropriate.

### **ACKNOWLEDGEMENTS**

Staff in DEP’s Division of State Lands (DSL) and the Florida Natural Areas Inventory determined the final project recommendations. Sine Murray in DSL’s Office of Environmental Services was responsible for the overall coordination of this report, with contributions from the following:

- Division of Historical Resources – Brandon Ackerman, Jason O’Donoghue
- Florida Forest Service – Cat Ingram, Richard Larsen
- Department of Economic Opportunity – Barbara Powell
- Florida Fish and Wildlife Conservation Commission – Susie Nuttall, Steve Shattler
- Florida Natural Areas Inventory – Geoffrey Parks, Geena Davis, Nathan Pasco
- DEP Division of Environmental Assessment and Restoration – Ken Weaver
- Florida Department of Transportation – Ben Naselius
- Southwest Florida Water Management District – Mike Singer

**APPENDICES**

**Appendix A:**

Final FF measures table: Report requirement 259.105 (15)d, prepared by Florida Natural Areas Inventory

**Quail Creek Ranch: Florida Forever Measures Evaluation 20230224**

GIS ACRES = 2,700

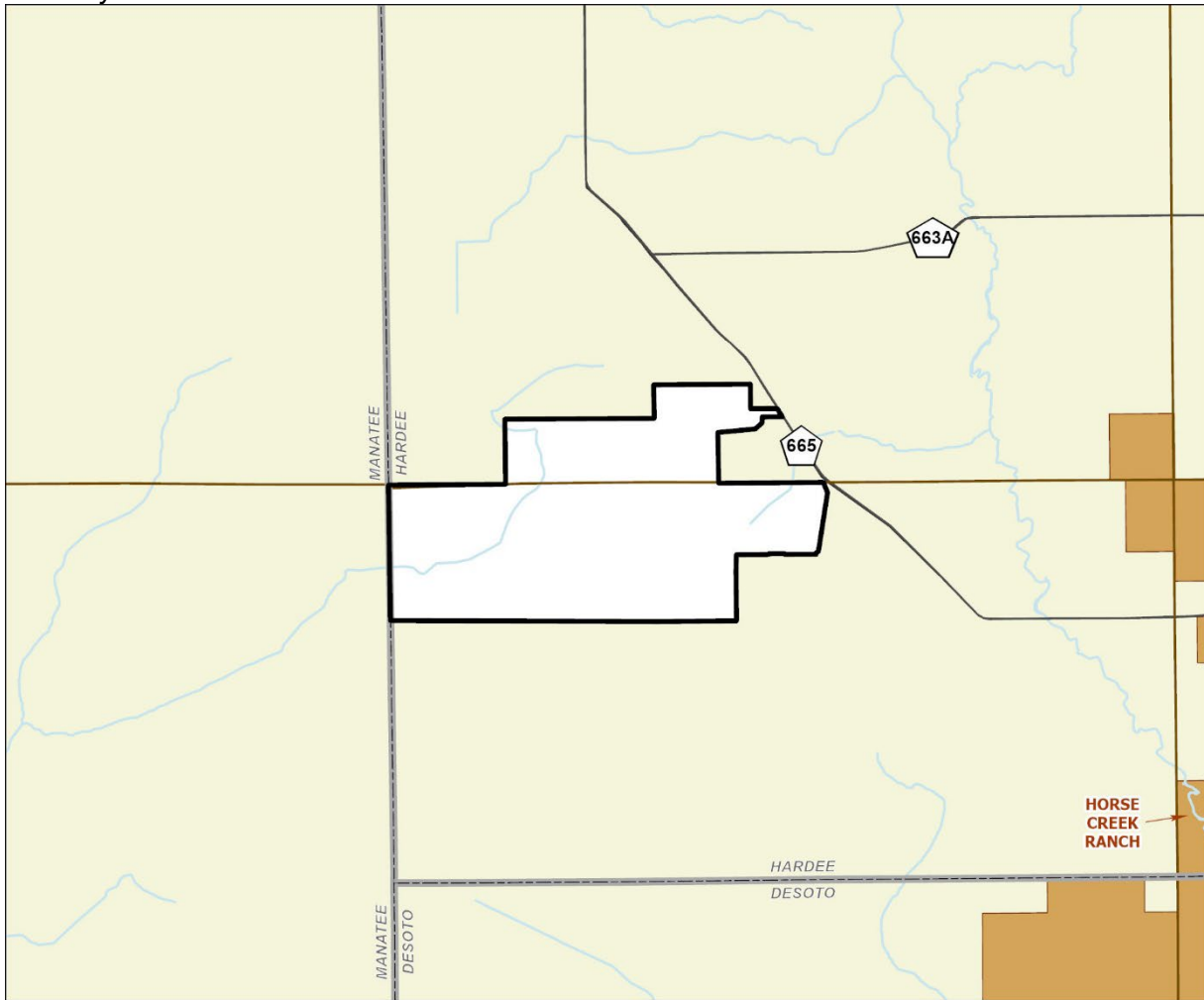
MEASURES	Resource Acres <sup>a</sup>	% of project
<b>B1: Strategic Habitat Conservation Areas</b>		
Priority 1	0	0%
Priority 2	12	<1%
Priority 3	394	15%
Priority 4	0	0%
Priority 5	1,062	39%
<b>Total Acres</b>	<b>1,468</b>	<b>54%</b>
<b>B2: FNAI Habitat Conservation Priorities</b>		
Priority 1	0	0%
Priority 2	0	0%
Priority 3	42	2%
Priority 4	723	27%
Priority 5	1,253	46%
Priority 6	631	23%
<b>Total Acres</b>	<b>2,651</b>	<b>98%</b>
<b>B3: Ecological Greenways</b>		
Priority 1	0	0%
Priority 2	0	0%
Priority 3	2,610	97%
Priority 4	0	0%
Priority 5	0	0%
<b>Total Acres</b>	<b>2,610</b>	<b>97%</b>
<b>B4: Under-represented Natural Communities</b>		
Upland Glade (G1)	0	0%
Pine Rockland (G1)	0	0%
Scrub and Scrubby Flatwoods (G2)	146	5%
Rockland Hammock (G2)	0	0%
Dry Prairie (G2)	0	0%
Seepage Slope (G2)	0	0%
Sandhill (G3)	0	0%
Sandhill Upland Lake (G3)	0	0%
Upland Pine (G3)	0	0%
Mesic/Wet Flatwoods (G4)	175	6%
Upland Hardwood Forest (G5)	0	0%
<b>Total Acres</b>	<b>321</b>	<b>12%</b>
<b>B6: Occurrences of FNAI Tracked Species</b>		
G1	0	
G2	1	
G3	3	
G4	0	
G5	1	
<b>Total</b>	<b>5</b>	
<b>C4: Natural Floodplain Function</b>		
Priority 1	0	0%
Priority 2	12	<1%
Priority 3	15	<1%
Priority 4	321	12%
Priority 5	88	3%
Priority 6	0	0%
<b>Total Acres</b>	<b>437</b>	<b>16%</b>

MEASURES (continued)	Resource Acres <sup>a</sup>	% of project
<b>C5: Surface Water Protection</b>		
Priority 1	0	0%
Priority 2	0	0%
Priority 3	1,519	56%
Priority 4	8	<1%
Priority 5	1,041	39%
Priority 6	119	4%
Priority 7	0	0%
<b>Total Acres</b>	<b>2,687</b>	<b>100%</b>
<b>C7: Fragile Coastal Resources</b>		
Fragile Coastal Uplands	0	0%
Imperiled Coastal Lakes	0	0%
Coastal Wetlands	0	0%
<b>Total Acres</b>	<b>0</b>	<b>0%</b>
<b>C8: Functional Wetlands</b>		
Priority 1	0	0%
Priority 2	25	<1%
Priority 3	51	2%
Priority 4	336	12%
Priority 5	100	4%
Priority 6	0	0%
<b>Total Acres</b>	<b>513</b>	<b>19%</b>
<b>D3: Aquifer Recharge</b>		
Priority 1	0	0%
Priority 2	151	6%
Priority 3	412	15%
Priority 4	1,472	55%
Priority 5	641	24%
Priority 6	22	<1%
<b>Total Acres</b>	<b>2,698</b>	<b>100%</b>
<b>E2: Recreational Trails (miles)</b>		
<small>(prioritized trail opportunities from Office of Greenways and Trails &amp; Univ. Florida)</small>		
Land Trail Priorities	0.0	
Land Trail Opportunities	0.0	
<b>Total Miles</b>	<b>0.0</b>	
<b>F2: Arch. &amp; Historical Sites (number)</b>		
<b>0 sites</b>		
<b>G1: Sustainable Forestry</b>		
Priority 1	0	0%
Priority 2	0	0%
Priority 3	282	10%
Priority 4	0	0%
Priority 5 - Potential Pinelands	1,740	64%
<b>Total Acres</b>	<b>2,022</b>	<b>75%</b>
<b>G3: Forestland for Recharge</b>		
	47	2%

<sup>a</sup>Acres of each resource in the project and percentage of project represented by each resource are listed except where noted. This analysis converts site boundary into pixels, which causes slight differences from GIS acres; this effect is most noticeable on small sites.

**Appendix B:**

Final FF proposal boundary maps: Report requirement 259.105 (15)k, prepared by Florida Natural Areas Inventory



### QUAIL CREEK RANCH FLORIDA FOREVER PROPOSAL

HARDEE COUNTY

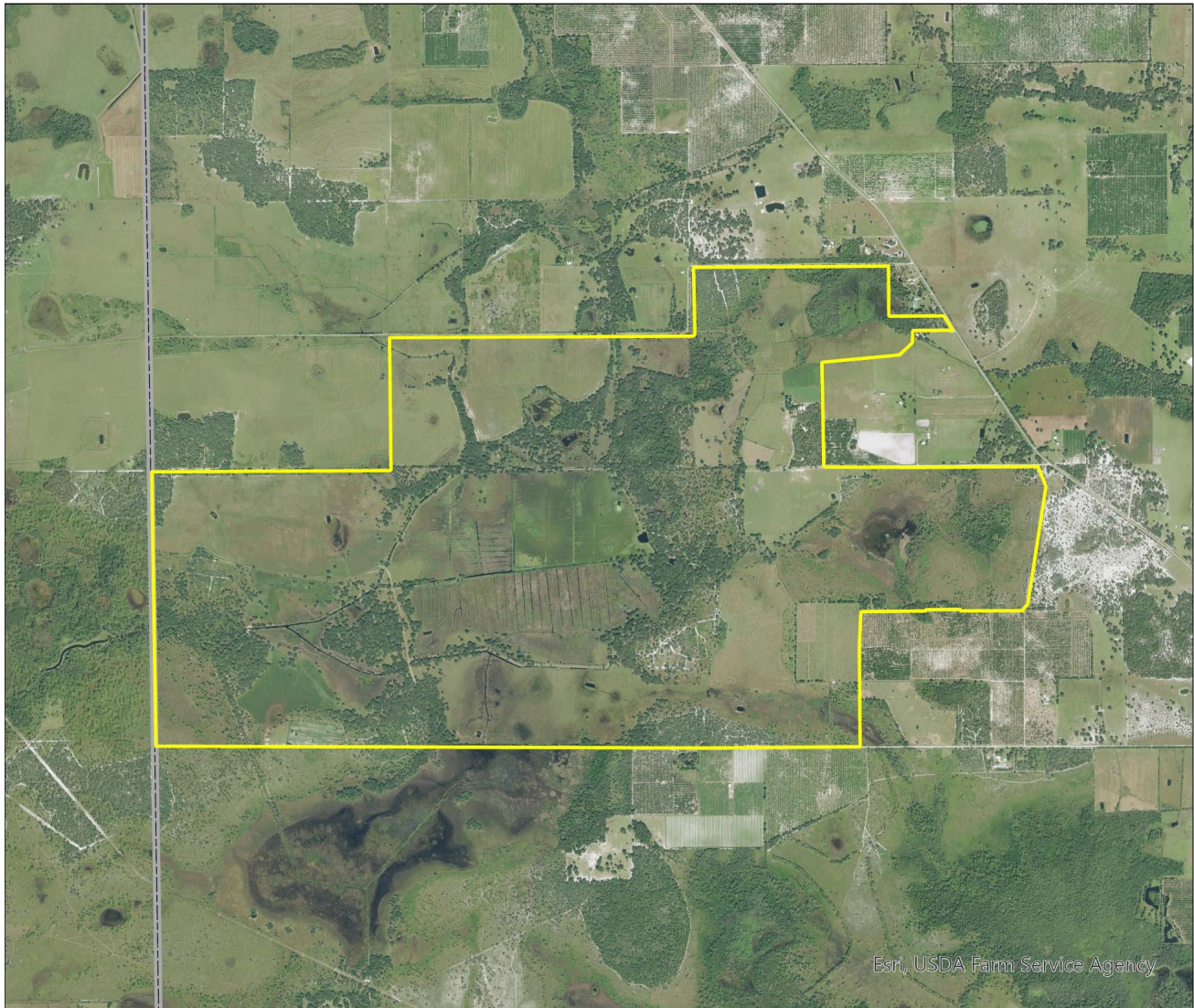
-  Florida Forever Proposal
-  Florida Forever BOT Projects
-  State Owned Lands
-  Other Conservation Lands



MAP BY FL NATURAL AREAS INVENTORY MARCH 2023

# Quail Creek Ranch Florida Forever Proposal

FLORIDA FOREVER BOARD OF TRUSTEES PROJECT PROPOSAL BOUNDARY AS OF MARCH 2023



Map Produced by: FL Natural Areas Inventory, N. Pasco, March 2023

Background: USDA NAIP Imagery Resolution = 1.0 meter



**Appendix C:**

**PROPERTY ID #'S FOR FINAL RECOMMENDED BOUNDARY**

<b>COUNTY</b>	<b>PARCEL ID</b>	<b>OWNER</b>	<b>ACRES PER TAX CARD</b>	<b>JUST VALUE</b>	<b>ASSESSED VALUE</b>	<b>PARCEL DESIGNATION</b>
Hardee	05-36-23-0000-00500-0000	Quail Creek Farms Inc	1,362.00	\$5,603,673.00	\$553,720.00	Essential
Hardee	33-35-23-0000-03760-0000	Quail Creek Farms Inc	679.52	\$2,771,139.00	\$218,163.00	Essential
Hardee	03-36-23-0000-05050-0000	Quail Creek Farms Inc	656.46	\$2,686,607.00	\$176,751.00	Essential
			<b>2697.98</b>	<b>\$11,067,872.00</b>	<b>\$949,953.00</b>	

**Appendix D:****Imperiled Species FNAI Ranking Definitions**

**FNAI**  
**Definitions of imperiled species ranks and conservation status**

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Using a ranking system developed by NatureServe and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks for each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element Occurrences (EOs), estimated abundance (number of individuals for species; area for natural communities), geographic range, estimated number of adequately protected EOs, relative threat of destruction, and ecological fragility.

**FNAI GLOBAL ELEMENT RANK**

- G1** = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.  
**G2** = Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.  
**G3** = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.  
**G4** = Apparently secure globally (may be rare in parts of range).  
**G5** = Demonstrably secure globally.  
**GH** = Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker).  
**GX** = Believed to be extinct throughout range.  
**GXC** = Extirpated from the wild but still known from captivity or cultivation.  
**G#?** = Tentative rank (e.g., G2?).  
**G#G#** = Range of rank; insufficient data to assign specific global rank (e.g., G2G3).  
**G#T#** = Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1).  
**G#Q** = Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q).  
**G#T#Q** = Same as above, but validity as subspecies or variety is questioned.  
**GU** = Unrankable; due to a lack of information no rank or range can be assigned (e.g., GUT2).  
**GNA** = Ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).  
**GNR** = Element not yet ranked (temporary).  
**GNRTNR** = Neither the element nor the taxonomic subgroup has yet been ranked.

**FNAI STATE ELEMENT RANK**

- S1** = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.  
**S2** = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.  
**S3** = Either very rare and local in Florida (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.  
**S4** = Apparently secure in Florida (may be rare in parts of range).  
**S5** = Demonstrably secure in Florida.  
**SH** = Of historical occurrence in Florida, possibly extirpated, but may be rediscovered (e.g., ivory-billed woodpecker).  
**SX** = Believed to be extirpated throughout Florida.  
**SU** = Unrankable; due to a lack of information no rank or range can be assigned.  
**SNA** = State ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).  
**SNR** = Element not yet ranked (temporary).

**FEDERAL LEGAL STATUS**

Legal status information provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant federal agency.

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida

2019-04-19

Page 2

**FNAI**  
**Definitions of imperiled species ranks and conservation status**

populations and that federal status may differ elsewhere.

- C** = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
- E** = Endangered: species in danger of extinction throughout all or a significant portion of its range.
- E, T** = Species currently listed endangered in a portion of its range but only listed as threatened in other areas
- E, PDL** = Species currently listed endangered but has been proposed for delisting.
- E, PT** = Species currently listed endangered but has been proposed for listing as threatened.
- E, XN** = Species currently listed endangered but tracked population is a non-essential experimental population.
- T** = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
- PE** = Species proposed for listing as endangered
- PS** = Partial status: some but not all of the species' infraspecific taxa have federal
- PT** = Species proposed for listing as threatened
- SAT** = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
- SC** = Not currently listed, but considered a "species of concern" to USFWS.

**STATE LEGAL STATUS**

Provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant state agency.

**Animals:** Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission, 1 August 1997, and subsequent updates.

- C** = Candidate for listing at the Federal level by the U. S. Fish and Wildlife Service
- FE** = Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service
- FT** = Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service
- FXN** = Federal listed as an experimental population in Florida
- FT(S/A)** = Federal Threatened due to similarity of appearance
- ST** = State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
- SSC** = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species. (SSC\* for *Pandion haliaetus* (Osprey) indicates that this status applies in Monroe county only.)
- N** = Not currently listed, nor currently being considered for listing.

**Plants:** Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or see: <<http://www.doacs.state.fl.us/pi/>>.

- E** = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
- T** = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
- N** = Not currently listed, nor currently being considered for listing.



**Appendix E:**

*Site Visit Photos*



*Improved Pasture*



*Sand Pine Scrub*



*Scrubby Flatwoods*



*Mesic Flatwoods*



*Mesic Hammock*



*Scrub*



*Osbourn Branch*