WHISENANT FARMS: A CONSERVATION ASSET FOR MANATEE COUNTY, FLORIDA

by

EMILY C. WHISENANT

(Under the Direction of Georgia Harrison Hall)

ABSTRACT

Florida is home to two dueling landscapes, the developed and the rural. Historically, Florida has held many of the US' top agricultural lands. According to the 2017 USDA Census of Agriculture, Florida ranked second in the US for citrus acreage and fourth for vegetable production. However, Florida's agricultural land is amongst the highest under threat of development. Between 2001-2016, 298,400 acres of agricultural land were developed or compromised (American Farmland Trust, n.d.). Due to the threat of development, many Florida counties have adopted tax and bond referendums dedicated to land conservation. On the November 2020 ballot, Manatee County, Florida residents approved a land conservation acquisition tax. This paper looks at how the conservation of one Manatee County property in particular, Whisenant Farms, would achieve the county's aspiration to protect significant open lands. A three-part analysis will examine the historical, environmental, and community assets that Whisenant Farms contains.

INDEX WORDS: Farmland Conservation, Manatee County, Florida, Open Land, Land Acquisition

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EMILY C. WHISENANT

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EMILY C. WHISENANT

Major Professor:	Georgia Harrison Hall
Committee:	R. Alfred Vick
	Rosanna Rivero
	Debi Osborne

Electronic Version Approved:

Ron Walcott
Vice Provost for Graduate Education and Dean of the Graduate School
The University of Georgia
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DEDICATION

This paper is dedicated to the Whisenant family. I am so grateful to have grown up within a family that invested in its community and fields of expertise. I am so proud to call myself a 6th generation resident of Manatee County and more importantly, a Whisenant. While I may not be continuing in the family farming tradition, I know that my family's passion for the natural environment has led me to the field of landscape architecture. Completing this thesis and beginning my career as a landscape architecture I strive to continue my family's legacy as a good steward of the land.

ACKNOWLEDGEMENTS

Firstly, I would like to thank my father, Bob Whisenant in encouraging me to explore this thesis topic. Thank you to the entire Whisenant family for also allowing me to pick your brains and learn more about the Farm. Thank you in particular to Mary de Greef for the essential data used to examine bird species seen on the farm. Additionally, thank you for allowing me to highlight your beautiful wildlife photos. A special thanks must be given to Debi Osborne of the Conservation Foundation of the Gulf Coast for providing me with a plethora of research resources and personal expertise. I am also grateful for the information and research that was provided by the staff at the Manatee County Agricultural Museum.

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CHAPTER 1

INTRODUCTION

Manatee County, located in southwest Florida, is a home to a diverse history, community, and ecosystem. Its pristine white sand beaches, miles of waterfrontage, and proximity to major cities like Tampa and St. Petersburg, have largely positioned it for continual population growth and pressure to develop. With increased development and dwindling open spaces in recent years, concerns regarding remaining open land and natural resources within the county have risen.

With little action being taken to combat land conservation, concerned citizens led their own efforts to address local land conservation. With expert assistance from The Trust for Public Land, a national conservation group, a property tax referendum was brought to County Commissioners in 2020. County Commissioners approved the referendum on July 28th,2020 officially bringing the matter to citizens on the November 2020 ballot. The referendum allowed Manatee County voters to decide for themselves to leverage a small property tax for the purpose of funding county acquisition of conservation and park lands. On November 3rd, 2020, with 141,928 votes cast in agreement, the referendum passed with 71% of voter approval (Sabella 2020).

Efforts to tax residents for the purpose of land conservation is not new to the county. A sales tax for the purpose of land conservation made it to the 2004 ballot but lost by a small margin. Land conservation is also not a new topic for the county. In past the county has issued bonds for specific acquisitions as well as partnered with private and public agencies to leverage matching funds for acquired environmental restoration grants. County projects that have

followed this formula include Perico Preserve, Neal Preserve, Robinson Preserve, Tom Bennett Park, the Perico-Robinson Connector, and Ungarelli Preserve. While these projects have been successful, their funding has been unsustainable (Wikle, n.d.).

As local citizens saw the need for sustainable funding for the conservation of local land, the referendum was developed. The Manatee County Bond Referendum dedicates an additional 0.15 million in county property tax, equating to around $29 for the average homeowner annually. With an estimated 5 million dollars in annual revenue, the county shall "finance the acquisition, improvement, and management of land to protect drinking water sources and water quality, preserve fish and wildlife habitat, prevent stormwater runoff, and provide parks," (Resolution No. R-20-105). Annual revenue could also significantly rise if the county approves to further bond the funding.

While the county and its residents have officially approved this measure, many decisions are still needed in order to establish the avenue in which the county will plan for, prioritize, and choose land acquisitions. The county Parks and Natural Resources staff along with the existing Environmental Lands Management and Acquisition Advisory Committee will be tasked with identifying acquisition priorities and plans (Wikle, n.d.). This paper will strive to show the historic, environmental, and social benefits to prioritizing the conservation of the county's agricultural land. In order to do so, Whisenant Farms, a semi-retired tomato and citrus farm located in the northern part of the county, will serve as the case study. In analyzing the property's historic land use, natural resources, and community context, this paper intends to contribute to the local significance of agricultural lands that are currently under threat of development in the county, and ripe for conservation.

Analyzing the feasibility of land conservation for Florida farmland is important as farmland is continually threatened by development. Between 2001-2016, 298,400 acres of agricultural land in Florida were developed or compromised (American Farmland Trust, n.d.). While a wealth of data explaining the threat of development exists, and similarly, data supporting the importance of land conservation exists, this research is aimed at providing an analysis of the possible benefits of farmland conservation specifically aimed in Manatee County. It is the hope of this research that it will assist county officials in their conservation prioritization for the Manatee County land acquisition program.

CHAPTER 2

METHODOLOGY

An extensive amount of data exists concerning Manatee County's natural resources. This paper will utilize existing data in order to create a comprehensive conservation analysis on a semi-retired tomato and citrus farm. Research will begin with land conservation literature and then delve into historic context, analyzing the significance of agriculture to the county's development and local identity. Additional research will delve into the historic land use of the Whisenant Farms property as well as the family's agricultural and social legacy in the community. This analysis will be composed of onsite observations, including the documentation on any possible historic structures or equipment, oral history, and historic data from county databases and local historians. Addressing the historic context will not only provide a thorough understanding of the property but also, provide a basis for analyzing the property's community value. Community value will be essential to assess, as community approval has been proven to be essential in successful land acquisition transactions (Tassel 2009). In analyzing community value, Manatee County GIS data will be utilized to understand the community context of Whisenant Farms. GIS analysis will include analysis of adjacent land uses, existing zoning, property elevations, drainage watersheds located both on and off the property, floodwater analysis, wildlife corridors, proximity to the county's towns/neighborhoods, and proximity to other conservation lands, public parks, preserves, or recreational spaces. Finally, an environmental analysis will consist of an inventory of the site's existing habitats and wildlife as well as the steps necessary for remediation. An environmental analysis is an essential step in this

research as it addresses the county's preliminary requirements for the land acquisition referendum. The county's referendum clearly states its purpose is to "protect drinking water sources, protect the water quality of bays, rivers, and creeks, prevent polluted storm water runoff from flowing into bays, rivers, and creeks, acquire and preserve fish and wildlife habitat, provide natural floodwater storage to help reduce flooding, conserve natural areas, provide parks, and manage environmentally significant lands and parks." (Resolution No. R-20-105). The environmental analysis will utilize both first-hand observations during an on-site visit as well as existing online data from the Manatee County Natural Resources GIS database, the Manatee County Water Atlas, the Florida Natural Areas Inventory, Florida Fish and Wildlife Conservation Commission, as well as supplemental information from local and national organizations like the Tampa Bay Estuary, the Trust for Public Land, and the Land Trust Alliance.

Utilizing a singularly owned property will allow for a greater focus into the various elements and resources that pertain to retired farmland. Whisenant Farms has been chosen for this research due to a personal connection. As the property is owned by my family, not only do I have a greater interest in its future use, but I am able to contribute the oral knowledge of family members that otherwise may not be available to the immediate public. This knowledge is essential to understanding the historical importance of the property as well as the community perception and influence. Additionally, this property is an appropriate choice for analysis as its owners are currently in the process of deciding its future. Providing a conservation analysis on this property at this point in time is essential to protecting this property, and similar properties, to future development.

CHAPTER 3

LAND CONSERVATION LITERATURE

To conserve land is to protect its existing state or natural characteristics. In most cases, land conservation is used to preserve and protect endangered, environmentally sensitive, and significant land. Land conservation is also a legal process which can involve the local, state, or federal government or qualified non-profit groups like land trusts. Land trusts are private, non-profit organizations that can range from local, regional, or national levels. They share a common mission to assist landowners in the protection and conservation of individual lands (Land Trust Alliance 2008, 1). Whether a land contains scenic views, historic events or values, sensitive wildlife habitat, or any additional significance, land trusts of all scales assist landowners and local communities in conserving land.

The most common form of land conservation is a conservation easement. Sometimes also known as a conservation restriction or conservation agreement, is it defined as "a voluntary, legal agreement between a landowner and a land trust or government agency that permanently limits uses of the land in order to protect its conservation values," (Land Trust Alliance, n.d). These agreements may be donated or sold, follow the terms established between the two parties and are protected in perpetuity. In other words, the protection remains even when land ownership changes hands. In exchange for relinquishing certain rights to their property, property owners may receive certain benefits like federal or state tax deductions or credits. According to The Conservation Tax Incentive, passed by Congress in 2015, landowners who voluntarily donate a

conservation easement may deduct up to 50% of their annual income beginning on the year of the donation for an additional 15 years (Land Trust Alliance 2016, 2).

While conservation easements are the most common form of conservation, additional options exist for landowners. If the landowner desires to relinquish its ownership of the land, then they may sell or donate the land for the purpose of conservation. Sales or donations may be given to municipalities or land trusts. An outright donation assists landowners who no longer want to own, manage, or pass down the property while benefiting from substantial tax benefits as well as avoiding capital gains taxes that incur from the sale of a property. On the other hand, land sale, also known as land acquisition, may be utilized when a landowner no longer desires to maintain the property but is unable or unwilling to relinquish their ownership without just compensation. A landowner may choose to sell at fair market value or under market value, which is commonly referred to as a bargain sale (Land Trust Alliance 2008, 2). Typically, if a property is being sold to a land trust, then a bargain sale will occur. All transactions are based on the conservation value of the land, often precipitated by an imminent threat of development (Land Trust Alliance, n.d.).

Land Acquisition

Government land acquisition for the purpose of land conservation has grown in popularity over the previous decades. Directly purchasing land is a straightforward approach to protecting open land avoiding many of the expensive regulatory and legal battles often associated with conservation. In November of 1998, 240 ballots across the nation included measures to directly fund the acquisition of land for the purpose of conserving open land (Trust for Public Land 1999, 15). As of 2020, over 25 counties within Florida contain a tax dedicated to the acquisition of park and conservation land. Directly south of Manatee County, Sarasota

County issued bonds in 1999 and 2005 and since have acquired and conserved over 35,000 acres. Hillsborough County to Manatee's North, began acquiring land for conservation in 1987. Since then, voters have approved additional financing in 1990, 1992, and 2008. Finally, Pinellas County, to Manatee's northeast, passed conservation referendums in 2007 and 2017. Land acquisition has risen as an effective and beneficial tool for land conservation for Florida's southwestern region.

The Benefits

Land conservation may sound like a moral commitment, but the benefits are far reaching. As stated by former president of The Trust for Public Land Will Rogers, "open space protection is good for a community's health, stability, beauty, and quality of life. It is also good for the bottom line," (1999). Throughout the 20th and 21st century, land conservation research has rigorously expanded. This research addressed the great concern for the majority of municipalities, the bottom line. Financial feasibility is essential in addressing land conservation. Traditional wisdom claims that development is a property's "highest and best use." Further, that developed land will produce high tax revenue than vacant land. However, over 20 empirical studies throughout the past few decades have supported the Proximate Principle. That Proximate principle states that "market values of properties located near a park or open space frequently are higher than those of comparable properties located elsewhere," (Crompton). Additionally, Crompton and subsequent reviews establish that the cost of public services and infrastructure necessary for development will most often exceed the additional generated tax revenue (2004). Compton finds that residential development costs an average $1.16 million, in 2004, for residential land use while farm/forest/open space costs a subsequent $0.35 million.

Economic benefits to land conservation transcend the studies developed by Crompton. As mentioned, the environmental benefits of conservation equate to financial benefits as well. Protected forested land is a cost-effective way to provide clean drinking water. A 2002 study by The Trust for Public Land found that water treatment costs that utilized the supply of surface water varied depending on the amount of forest cover within the watershed. Additionally, for every 10 percent increase in forest cover within the watershed, treatment costs decreased by approximately 20 percent. Land conservation provides permanent protection to forest, riparian areas, and wetlands that are critical to reducing water pollutants and recharging water sources (Ernst, Gullick, and Nixon 2007, 25). Water pollution occurs in two ways, nonpoint source and point sources. Point source pollution occurs from a single source, like industrial discharge, and is mostly controlled by regulations through the federal Clean Water Act. Nonpoint source pollution therefore is responsible for the majority of water pollution. This occurs through multiple sources of runoff like agricultural activities, urban areas, construction sites, and industrial properties. Runoff from multiple sites is then concentrated into a singular runoff location. Within the natural process these pollutants are captured by forested areas and then transformed and utilized by plants. Although, with development lands, these pollutants continue directly into water sources like streams, rivers, and lakes. Additionally, development impairs water quality through an increase in stream flow and peak runoff. This is the result of increased impervious surfaces, so that rainfall is no longer being recharged through the ground and instead if flowing off impervious surfaces like building and concrete and flows directly into adjacent water bodies. These increased stream flows can also result in flooding, soil erosion, sedimentation. Sedimentation is defined as soil particles entering water bodies, altering the water clarity. Increased sedimentation alters water quality and ecological life within the water body. Typically,

un-developed land, or forested land would provide a forested buffer along the water body to trap sediments from entering the water (Nowak, Wang, and Endreny 2007). Urban and suburban development greatly affects the environmental quality of surrounding areas. The economic and environmental effects of development can be addressed with increased land conservation.

While research has shown that conservation is financially and environmentally beneficial, it has also woven together those benefits with social benefits. Quality of life has emerged as a key factor in community success and economic health. With the nation's shift away from traditional industrial economies and towards a mixed economy with service, hospitality, consumer goods, technology, and tourism, businesses are free to choose cities and towns where their employees can enjoy a high quality of life. Often high quality of life is associated with an abundance of open space and recreational opportunities (Trust for Public Land 1999, 12-16). With proven research into the economic, environmental, and social benefits, land conservation, within its various avenues, continues to benefit communities across the nation.

CHAPTER 4

A LOOK AT WHISENANT FARMS

Whisenant Farms is a semi-retired tomato and citrus farm located off SR 62 in Parrish, Florida (Figure 1). The farm consists of nineteen individual properties, totaling 1,668 acres. Sixteen of the properties were purchased in 1961, and the remaining three were added in 1983. Access to the property is located at 19755 SR 62, just five and a half miles east of Parrish's town core. A layout of the farm and its elements can be seen in Figure 2.

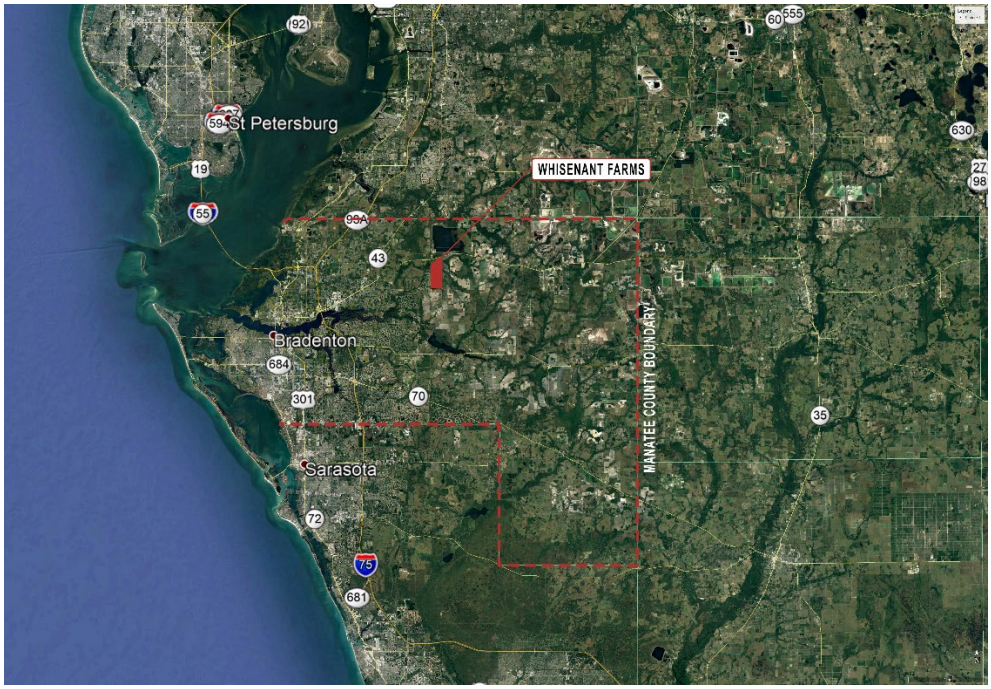

Figure 1: Location of Whisenant Farms in respect to Manatee County (2021 Google Earth Image, edited by Emily Whisenant)

KEY

- Property Boundary
- Creeks

1. Entrance
2. Workforce Housing
3. Packing House
4. Retention Pond
5. Steel Barns
6. Employee House
7. Gamble Creek
8. de Greef House
9. Pumping Station
10. Equipment Barn
11. The Shop
12. Hog Pens
13. Whisenant House
14. Hamlin Groves
15. Tyre Creek
16. Cow Pasture
17. Gilly Lake
18. Previous Tomato Fields
19. Hay Barn
20. Tractor Barn
21. Pumping Station
22. Cattle Pens
23. Pumping Station
24. Water Hole Creek
25. Retired Groves
26. Valencia Groves
27. Pumping Station

Figure 2: Whisenant Farms Property Map

(2021 Google Earth Image, edited by Emily Whisenant)

Upon entering the farm, directly to the west of the entrance are remnants of workforce housing that were built in the 60's and 70's. Promoting quality migrant housing conditions were one of Blake Whisenant's core missions at his farm and within the local agricultural community (Florida Agricultural Hall of Farm 2015). To the east stands the farm's prominent grouping of working buildings. The largest is the packing house that was erected in 1981(Figure 3).

Figure 3: Whisenant Farms packing house (Whisenant, January 2021)

This almost 10,000 square foot steel trust structure served the Whisenants as they began to harvest cherry tomatoes in the 80's. On a typical workday, the packing house was filled with a maze of conveyor belts surrounded by the busy hands of the workers who stood along the assembly line. The building also housed Whisenant Farms' administration offices (Figure 4), refrigerated storage, and a loading zone (Figure 5). Today, the administrative offices are still used while the remaining space is used for storage (Figure 6). The same year as the construction of the packing house, a retention pond was dug on the same piece of land (Figure 7). The approximate 360'x 225' retention pond was created to serve the strawberry plants that had also been planted that year. Constant watering is needed on strawberry crops during periods of freeze.

Adjacent to the pond, and directly across from the packing house, are two corrugated steel barns, built in the early 2000s and used for equipment storage (Figure 8 and Figure 9). On the property adjacent to the packing house is one out of the three single-family houses located on the farm. This wood frame vernacular bungalow pre-existed the farm and for years has been the home of a key employee and his family.

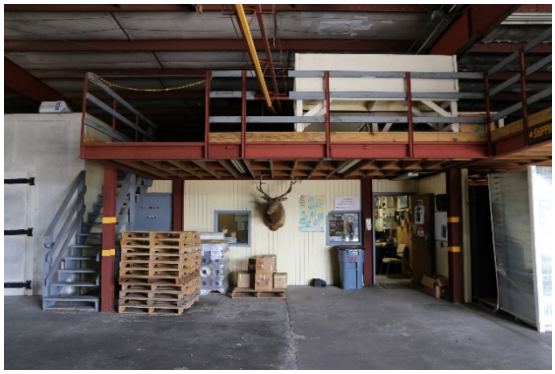

Figure 4: Whisenant Farms offices (Whisenant, January 2021)

Figure 5: Loading zone and refrigerated storage (Whisenant, January 2021)

Figure 6: Packing house interior (Whisenant, January 2021)

Figure 7: Retention Pond (Whisenant, January 2021)

Figure 8: Corrugated steel barns
(Whisenant, January 2021)

Figure 9: Barn interior
(Whisenant, January 2021)

Traveling south into the property along the main dirt road, the visitor is met with the first creek on the property, Gamble Creek (Figure 10). Additional information on Gamble Creek will be addressed in Chapter 5.

Figure 10: Looking east down Gamble Creek (Whisenant, January 2021)

Crossing the creek's narrow paved bridge and following the alle of live oaks on the western roadside, the visitor is met with the second greatest congregation of structures on the farm. To the west is the home of Mary and Jaap de Greef (Figure 11). Mary is the oldest daughter of Blake and Virginia Whisenant. She and her husband have spent their careers in

charge of the farm's administration. Their property includes their 2,000 square foot house built in 1969, a 5,000 square foot horse barn, a small pond, and a fenced horse pasture. While noting the presence and context of their home is important in understanding the farm's existing conditions, the property is not owned by the Farm and thus their 15-acre lot has not been included in the overall count of the farm's assets.

Figure 11: de Greef house (de Greef, June 2020)

Four structures line the dirt road that runs perpendicular to the de Greef's driveway. First, a pumping station, then a 3,000 square foot open air barn holding an array of trailers and tractors (Figure 12). Next, is a 1,600 square foot closed corrugated metal building known as "the shop," where all mechanical repairs take place (Figure 13). The final structure in this row, is a small hog barn and pen (Figure 14). Directly south of these structures is the previous home of Blake and Virginia Whisenant. Built in 1971, the Whisenant family moved from their family home in Ellenton to this classic ranch home where they would spend the second half of their lives. As the patriarchs of the Whisenant family, their home became the centerpiece for each family holiday and special occasion for the next 40 years.

Figure 12: Pumping station and equipment barn (Whisenant, January 2021)

Figure 13: “The shop”
(Whisenant, January 2021)

Figure 14: Hog barn and pen
(Whisenant, January 2021)

Figure 15: Whisenant family house (Whisenant, January 2021)

Directly across from Blake Whisenant's house is an orange grove, containing around 125 acres of early-season Hamlin oranges (Figure 16). Planted in the early 1980s this grove saw its last season of harvest January 2021.

Figure 16: Early-season Hamlin orange groves (Whisenant, January 2021)

Traveling west down the dirt road intersecting the groves, the visitor is guided through one of the farm's largest flood zones. A section of paved concrete continues the road across the farm's second creek, Tyre Creek (Figure 17).

Figure 17: Tyre Creek foodplain (Whisenant, January 2021)

Just beyond the culvert that directs Tyre Creek under the road, Tyre intersects with previously mentioned, Gamble Creek. The floodway and ecosystem that runs along the creeks will be discussed further in chapter 5. The dirt road continues throughout the rest of the farm, running the outer perimeter of the property and creating a wide loop around the property. After crossing the creek, the road curves south, cutting through two of the grazing pastures for the hundreds of cattle that the farm routinely maintains. Currently the pastures are home to almost 600 heads of cattle. This is an increase from the average 200 that the farm retaining during their days of full tomato production. The westerly pasture also contains the farm's sole recreation area. At the north end of the pasture is a pavilion and firepit that looks upon a body of water known as Gilley Lake (Figure18).

Figure 18: Gilley Lake recreation area (Whisenant, January 2021)

Technically, Gilley Lake is an approximate 15,000 square foot clearing of Gamble Creek. Over the years, the Gilley Lake recreation area has hosted family thanksgivings, local Future Farmers of America cookouts, church gatherings, and weekend camping trips. According to Whisenant family members, the fishing hole has gone by the name Gilly Lake as long as they can remember. But the lake is most likely named after a man who grew up down the street, along SR 62.

Traveling south past the cow pastures, one reaches the farm's previous tomato fields (Figure 19). The three properties that encompass the back half of the farm contain 1,255 acres. Over two-thirds of that acreage were allocated to growing tomatoes. For almost 60 years the Whisenant Family has farmed an average 300-400 acres of tomatoes on Whisenant Farms annually. Typically, of the 1,000 acres devoted to tomatoes, around 150 acres were planted and harvested each fall with another 200 each spring, planted with seasonal rotation throughout the various fields. Besides the open pastures, this area of the farm also contains the hay barn (Figure 20), a tractor barn (Figure 21), three pumping stations (Figure 22), and the cattle pens (Figure 23).

Figure 19: Previous Whisenant Farms tomato fields (Whisenant, January 2021)

Figure 20: Hay barn
(Whisenant, January 2021)

Figure 21: Tractor barn
(Whisenant, January 2021)

Figure 22: Pumping station
(Whisenant, January 2021)

Figure 23: Cattle pens
(Whisenant, January 2021)

The property's southern boundary follows Water Hole Creek, an offshoot of Gamble Creek. Circling back to the north, the main dirt road runs along the eastern edge of the property and bringing the visitor through the farm's remaining orange groves. At the southern end, 40 acres of groves were removed within the past year, and a remaining 80 acres were harvested for the last time two years ago and await removal (Figure 24). The final 40 or so citrus acres are planted to the south of Tyre Creek (Figure 25).

Figure 24: Retired orange groves (Whisenant, January 2021)

Figure 25: Late-season Valencia orange groves (Whisenant, January 2021)

These late season Valencia oranges were planted in the late 80's and will continue to be harvested for the next 5-10 years. Passing north over the Tyre Creek culvert, the visitor is brought back to the original orange groves that begin adjacent to Blake Whisenant's house. Continuing north, the road again reaches Gamble Creek and loops back round to the west to connect to the main entrance.

Driving through Whisenant Farms one is taken through a rural journey. The barns filled with tractors, herds of cattle roaming the pastures, forest lined streams, and what seems like endless groves of oranges tell the story of 60 years of stewardship. As we begin to analyze the possibility of its conservation, we will first provide the context of the Whisenant family and their role in Manatee County's agricultural history. From there we will delve further into the farm's environmental elements and how its conservation can contribute to future ecological and societal benefits.

CHAPTER 5

AGRICULTURAL LEGACY

Early Settlement

Manatee County is located on the Gulf Coast of Florida, along the southwestern tip of Tampa Bay (Figure 26). The county encompasses 741 square miles, divided up between its six municipalities with the largest being Bradenton. According to 2019 US Census estimates, the county population is 403,253.

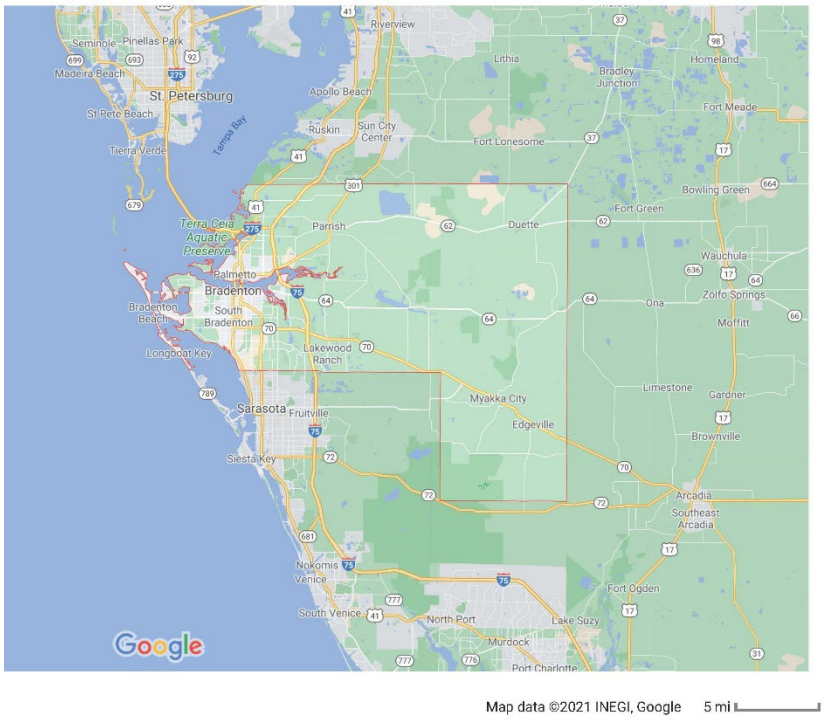

Figure 26: Manatee County, Florida (Google Maps, 2021)

The region is believed to include the site of the first landing of Spanish explorer Hernando de Soto in 1539 (Manatee County, n.d.). Whether this account is accurate or not, after

the era of Spanish exploration, the county's modern civilization spun from agricultural settlements in the mid-19th century. After twenty-four years as a US territory, Florida became a state in 1845. Just ten years later Manatee County was formed. The original county stretched north to Tampa Bay, south to Lake Okeechobee, east to the Kissimmee river and west to the Gulf of Mexico, totaling almost 5,000 square miles (Warern 1980, 8). Open land ripe for cultivation was a dominant attraction for the immigration of Manatee County's early settlers. The ending of the Second Seminole Wars in 1842 opened up land for white settlement in central and southern Florida (McDuffee 1967, 24). The Seminole Wars occurred from 1817-1858 and were concentrated into three periods of war. The United States Army fought Florida's native Seminole Tribe, in an effort to push the Seminoles out of Florida and relocate them to designated lands in the Midwest (Florida Department of State, n.d.). By February of 1842, only 230 Seminoles had been moved, leading the new Commander, Colonel William J. Worth, to recommend that the remaining Seminoles be relocated into designated lands in South Florida. This, along with dwindling resources and enthusiasm, allowed the US to declare the end of the Second Seminole War (Matthews 1983, 125). In August of 1842, just before the US government declared the end to the Second Seminole War, Congress passed the Armed Occupation Act. The Act secured 160 acres to any who settled eastern or southern Florida and cultivated the land for five years. Additionally, settlers were required to provide military service if fighting continued against the Seminoles (Florida Historical Society, n.d.). Of the 200,000 acres allocated under the Act, about 6,000 were located around the Manatee River and Sarasota Bay region (Matthews 1983, 129).

By the time that the Armed Occupation Act homesteaders moved south into Manatee County, settler Josiah Gates had already sailed down the Manatee River to claim his land. Six miles east of the mouth of the river, Gates and his family settled down and came to cultivate the

land growing corn, sugarcane, and tobacco (Warner 1986, 76). Agriculture immediately became an essential component in the area's growth. Robert Gamble, William Pinkston Craig, and brothers Joseph and Hector Braden were some of the original planters that relocated along the Manatee River from northern Florida (Warner 1986, 103). Through the dense hammock of native vegetation these men saw potential in the rich and fertile soil. Just five years after families filed land ownership under the Armed Occupation Act, large tracts of land were producing an array of produce. The Gambles had cultivated 320 of their 1,500 acres, the Craigs with 500 of their 1,560 acres, and the Bradens with 300 of their 900 acres (Matthews 1983, 156). The most lucrative crop was sugarcane. By 1850 the Gambles and the Bradens were harvesting over 200,000 pounds of premium sugar (Matthews 1983, 163). Thus, the importance of agriculture had begun upon the lands of what would soon become Manatee County. By 1857 when the county's circuit court seal was designed, sugarcane was seen as such a foundational element to the county that "two stalks of sugar cane crossed" became the seal (Matthews 1983, 239).

Citrus & Vegetables

While sugarcane dominated Manatee County's early agricultural history, the county quickly expanded crop production to include many of the species that still dominate the land today. Similarly, the late 19th century marked the beginning of influence of Manatee County's most prominent agricultural families. According to Kermode, the county's first tomato crops were planted in 1875 by William H. Gillett on his farm in Ellenton. While citrus production was more popular at the time, Gillett found that the area's sandy soil yielder a higher quality of tomatoes (Kermode n.d., 2). By 1885, Palmetto settler Joel Hendrix began to harvest oranges from the grove he planted years earlier. Hendrix also expanded his lands to other field crops and is noted as setting the stage for many of the county's tomato growers, such as the Harllee family

(Warner 1986, 56-57). In 1862, after retiring from the Seminole Wars, Major William Iredell Turner purchased land north of the Manatee River near Fort Hamer. He named his land Oak Hill and it was recorded as having the area's first large vegetable farm. This area eventually became the rural town of Parrish (Warner 1986, 42). The county's agricultural production saw a boom after the turn of the century due to the influence of Florida's new railways. In 1890 oil tycoon Henry Flagler had extended his Florida East Coast Railway all the way to present day Miami (Harris 2002, 35). Even more importantly for Manatee County, Henry Plant built his railway to Tampa and invested in the city's major port (Harris 2002, 36). With increased accessibility, by 1904 Bradentown had a population of 2,000 and its main crops were citrus and pineapple (Warner 1986, 49). By 1915 Ellenton was considered an important agricultural center comprised of 2,000 acres of tomatoes, vegetables, and citrus (Warner 1986, 112). Agriculture and the early era of Manatee County are synonymous, but the legacy of the county's agricultural production did not conclude there. Rather, agriculture continues as a ribbon of influence throughout the county and has served as a foundation for both the county's economy and local identity.

The Whisenant Family & Agriculture

The Whisenant family has held a central role in Manatee County agriculture for almost a century. As tomato farmers first, the family's role stems farther as innovators, educators, and supporters of the county's wider agricultural community.

Peter Whisenant, born in Alabama in 1870, can be coined as the patriarch of the Whisenant's investment in Florida agriculture. He moved with his family to Jacksonville, Florida in 1877. By the 1890's Peter began growing citrus in Brooksville, about eighty miles north of the Manatee River. A severe freeze in 1895 ruined his groves and encouraged Peter to move further south. Near Isle of Pines he started a grapefruit nursery. His success was grand until suddenly his

groves were again destroyed, this time from ants rather than the cold. Obviously frustrated, Peter Whisenant packed up and moved from Florida to Ceiba Mocha, Cuba, near present day Matanzas. In Cuba, Peter met his future wife, Celia Emiquez. They married in 1902 and a year later had their first child, Robert "Bob" Billingsley (Figure 27). Bob moved to the United States when he was eleven to live with his uncle. He later attended the University of Florida and graduated with a civil engineering degree. The Whisenant's legacy in Manatee County officially begins in 1920's when Bob moved to Palmetto. Bob was joined by his father Peter and family who moved from Cuba. Between 1925 and 1926 Bob, and his wife Emma Tyler, built their house at 1013 24th Avenue W. in Palmetto. The house was a part of the Bay View Park development, for which Bob completed the platting and engineering (Kermode n.d., 82). Bob's wife Emma Tyler was an Ellenton local whose family legacy traces back to 1888 when her grandfather and grandmother moved their family from Missouri to Ellenton. Emma's father, Samuel Lee "Mitch" Tyler, like his father, became a farmer and grew lettuce, cabbage, escarole, and tomatoes on their family farm off Gillette Road in Ellenton (Warner 1983, 107).

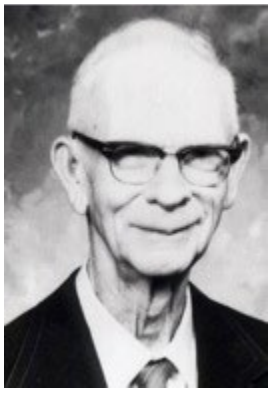

Figure 27: Portrait of Robert "Bob" Billingsly Whisenant

(Florida Agricultural Hall of Fame, 1997)

Bob Whisenant began farming in Manatee County in 1931 (Manatee County Agricultural Museum, n.d.). While Bob was a farmer, he seemed first to be an innovator. In efforts to advance farming technology, Bob created his mark in Florida's agricultural history. With local grower Grover Vowell, Bob created the first power pesticide sprayer to be pulled behind a tractor. Other "firsts" of his include the first to practice seepage irrigation in tomato farming and utilize the basket-tie method of tying tomatoes (Florida Agricultural Hall of Fame, 1997). He is also noted for the development of the Whisenant System of wide row, or low-density farming. This system consisted of planting crops with 12-14 feet between rows instead of the traditional 4 feet. Not only did this allow tractors and modern equipment to better navigate through the rows, it also allowed for fewer plants to produce the same yield. His most noteworthy invention, the Water Wheel, created a more efficient method of setting plants in plastic. The machine, or wheel, had a foot on it that would punch a hole in the plastic and then fill the hole with water. After the hole was punched and filled, a worker sitting on a seat attached to the back of the machine would set the plant in the prepared hole (Figure 28). His prototype was created in 1970 in his son's workshop with a few pieces of scrap iron (Figure 29).

Figure 28: The Water Wheel in-use while planting tomatoes at Whisenant Farms (Bob Whisenant, February 2009)

Figure 29: Blake Whisenant posing with his father's original Water Wheel (Whisenant Farms, n.d.)

The Water Wheel became a widely used tool for many local farmers (Manatee County Agricultural Museum, n.d.). Bob's Water Wheel design was eventually adapted by several tractor and equipment companies and is still sold and used today (Kermode n.d., 83). Due to these accomplishments, Robert "Bob" Billingsly Whisenant was inducted to the Florida Agricultural Hall of Fame in 1997.

Bob's only son, Blake Whisenant joined his father's farming business in 1950 after graduating from the University of Florida (Figure 30). Blake married Palmetto native Virginia Cox in 1953 and raised their five children, in Ellenton- sons Bob, Peter and Daniel and daughters Mary and Priscilla. Before beginning to farm on land that the Whisenants bought in 1961, located off State Road 62 in Parrish, they farmed in Parrish near Fort Hamer. Throughout the 1950s and early 60s they farmed around 200 to 300 acres of tomatoes on land they leased. Since this was before the era of effective fertilization and pesticides, in order to maximize the crops' success, they would relocate their crops every two to three years to a new plot of land.

Figure 30: Robert “Bob” and Blake Whisenant (pictured to the right) discussing their tomato crops with two other men (Whisenant family, 1960)

Blake followed his father’s footsteps in more ways than just farming. Like Bob, he was an agricultural pioneer and constantly pushed the field of Florida agriculture forward. He opened up Whisenant Farms for a number of research and education opportunities (Figure 31).

Figure 31: Blake Whisenant touring local Palmetto High School Future Farmers of America students around the farm (Whisenant family, n.d.)

In its infancy, Blake began using Integrated Pest Management (IPM) and allowed field trials to be conducted on his crops. Additionally, some of the first university research to be conducted on plastic mulching was conducted on Whisenant Farms. Blake was also responsible for holding his own experiments. He played around with planting density and planting multiple-row beds but his most passionate experiment was centered around the Earthbox. The Earthbox was the result of Blake's passion to create easy and efficient gardening so that anyone, no matter their skill or time, could enjoy fresh vegetables. The Earthbox is a patented 25" x 10" x 11" plastic container that systemizes growing so that it produces greater yields with minimum maintenance and low

water usage. The Earthbox was first commercially produced in 1994 and sold at the Whisenant Family's Earthbox Garden Center that Blake opened in Ellenton (Figure 32).

Figure 32: Blake Whisenant posing with an Earthbox grown red pepper plant at the Earthbox Garden Store (Whisenant family, n.d.)

Since its introduction in the 90s the Earthbox has been sold in more than 2,000 retailers across the country and today is sold as a product of Novelty Manufacturing (Earthbox 2016). Robert Blake Whisenant joined his father in the Florida Agricultural Hall of Fame as a 2015 inductee. Since 1980, the Florida Agricultural Hall of Fame has inducted just 171 members, two of which are Whisenants.

Production at Whisenant Farms continued with its third generation of Whisenants in the late 20th century and into the 21st century. As Blake Whisenant got older, he spent most of his

time working and educating patrons of the Earthbox Garden Center in Ellenton. Meanwhile, Whisenant Farms continued on under the work and leadership of the Blake and Virginia's children. The eldest, Robert "Bob" Whisenant, took over crop production while son Daniel maintained the cattle and pasture upkeep. Daughter Mary and her husband Jaap de Greef took charge of the farms' finances and administration. Daughter Priscilla stayed in the agricultural field by founding the Ellenton Nursery with her husband Craig Trace. Priscilla also inherited her father's sense of community for she served as a Manatee County Commissioner from 2016-2020.

While the family worked tirelessly to maintain operation of Whisenant Farms, as any farmer knows, it is no simple task. Under an accumulation of factors, the time has come for the family to consider the farm's future. Firstly, the farms leadership have reached their 50s and 60s and there is no one to take their place. Additionally, the high-risk nature and constant work of farming has taken its toll. Aside from leadership, available workforce is also a persistent issue. Tomato farming is a highly work intensive production and if your farm is not large enough to afford costly equipment to replace the manual labor needed to pick tomatoes, then one must rely on a consistent human workforce. But in addition to uncertainty about who would assume the leadership role, the physical environment around the farm has radically changed. With increasing residential presence and environmental regulations, the already high-risk world of family farming has incurred a greater liability. Due to these factors Whisenant Farms ceased tomato growing just over 4 years ago. As mentioned above, citrus production has also ramped down and will continue to do so until the last fruit is harvested within the next 5-10 years.

Today, the Whisenants continue their roles within the farm but at a much more manageable pace. The decrease in farm production has allowed Bob to spend his days running the Earthbox Garden Center (Figure 33). The transition from farm to store was necessary as

Blake's health deteriorated over the years until his passing in 2018. Mary and Jaap remain as managers of both the farm and Earthbox's finances and administration needs. Daniel continues to spend his time with the farm's upkeep and cattle production. But as time passes it is essential to look towards the farm's future. In honor of the environmental stewardship and values that generations of Whisenants, friends, and employees have invested in the land, the family desires to conserve the land. As this analysis continues, we look past the family's legacy and towards the land itself. Investigating the environmental and community benefits of conserving Whisenant Farms will aid the family and the county as they continue to plan for the farm's future.

Figure 33: Bob Whisenant teaching a group of community youth how to plant an Earthbox (Earthbox Garden Center, 2017)

CHAPTER 6

COMMUNITY BENEFITS

For over 150 years Manatee County has grown into a diverse and thriving community. In recent years particularly, the county has shown tremendous growth and development. With developmental pressures in mind, the Manatee County land acquisition resolution prioritizes land conservation for the purpose of community benefit. The resolution states that its core purposes stems from "the health, safety, and welfare of the residents of, and visitors to, the County." (Resolution No. R-20-105). The following chapter analyzes the county's population and development growth as well as the previous and existing land use. Further, it examines the probable benefits for the surrounding community under the context of conserving Whisenant Farms.

Manatee County's Growth

While Manatee County started as an agricultural hub for Florida, it currently stands at the state's fifteenth most populous county with a 2020 estimate of 398,503 residents (Office of Economic and Demographic Research, 2021). The county's growth and development has steadily risen since a large population boom in the 1980's (Figure 34). Between the 1980 and 19090 US Census, Florida's average population increased by 32.7%. Manatee County's population exceeded that average with a 42% population increase during the 1980's. Since then, the county's population has continually exceeded a 20% increase every ten years (Office of Economic and Demographic Research, May 2021). With a 23.4% population increase from 2010 to 2020, Manatee County experienced the seventh highest population increase out of all 67

Florida counties (University of Florida Bureau of Economic and Business Research 2020, 31). According to the 2030 and 2040 projections, that growth is not anticipated to slow (Figure 34).

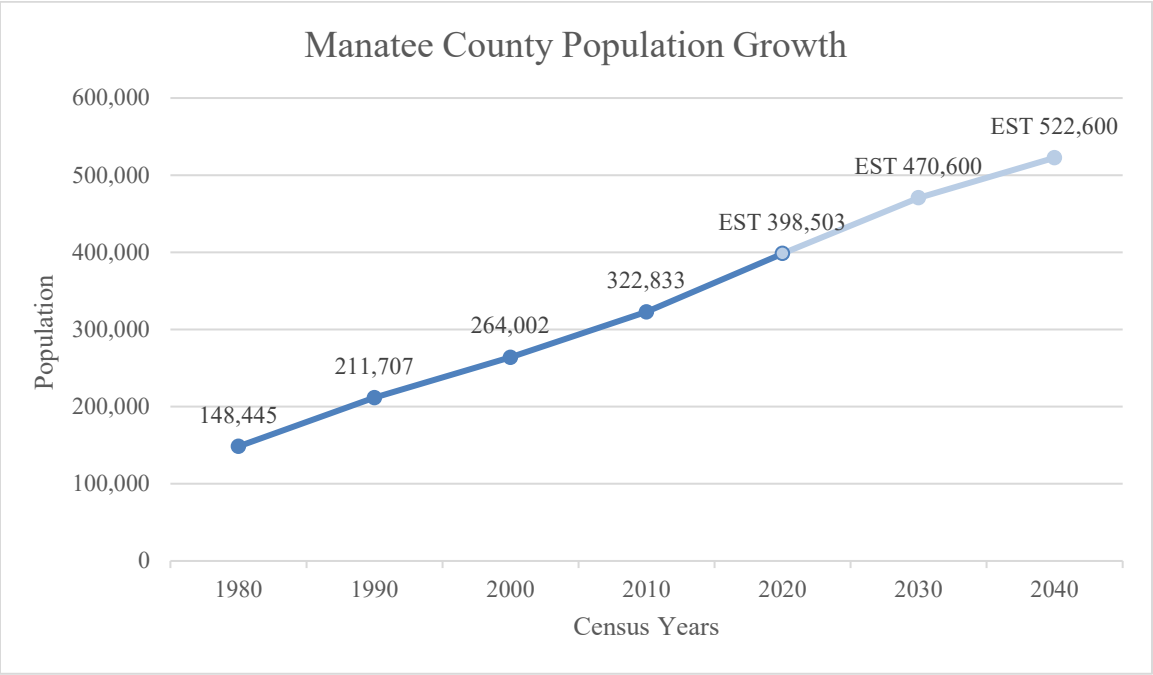

Figure 34: Population growth of Manatee County according to US census data and projected estimates (Florida Legislature, Office of Economic and Demographic Research, May 2021) (University of Florida, Bureau of Economic and Business Research, April 2020, 7).

Anticipating future growth, it is essential to analyze where the county's growth is occurring. As shown in Table 1, population growth is consistently occurring in the county's unincorporated areas. While growth prior to 1980 remained located along the coast, development on the four island municipalities, Bradenton, and Palmetto have reached their maximum, forcing development to the eastern county, around areas like Parrish, Fort Hamer, and Lakewood Ranch (Sarasota Manatee MPO 2019, 9). While the county saw a brief dip in development due to the

2008 housing crisis, levels are back up to the previous 2005 high (Table 2). Without an end in sight, actions must be made to enhance the rate of land conservation along with development.

City	April 1, 2010	April 1, 2000	Total Change	Percent Change	April 1, 2020 Estimates
Anna Maria	1,503	1,814	-311	-17.1%	1,617
Bradenton	49,546	49,504	42	0.1%	58,621
Bradenton Beach	1,171	1,482	-311	-21.0%	1,188
Holmes Beach	3,836	4,966	-1,130	-22.8%	3,913
Longboat Key	2,398	2,591	-193	-7.4%	2,481
Palmetto	12,606	12,571	35	0.3%	13,661
Unincorporated	251,773	191,074	60,699	31.8%	317,022

Table 1: Manatee County 2010 and 2000 Census Population Data (University of Florida, Bureau of Economic and Business Research, n.d.) (University of Florida, Bureau of Economic and Business Research, April 2020, 7).

Years	Housing Units Permitted
1990	2,381
2000	3,454
2005	5,131
2010	1,247
2011	1,641
2012	1,860
2013	3,608
2014	3,565
2015	3,619
2016	4,168
2017	3,835
2018	4,490
2019	4,779
2020	5,052

Table 2: Number of Housing Units Approved by the County Per Year (Office of Economic and Demographic Research, May 2020) (Manatee County Government 2013, 13).

Existing and Future Land Use

In order to analyze the county's existing land use, especially surrounding Whisenant Farms, Manatee County's existing zoning code and 2019 Comprehensive Plan have been examined. The existing zoning code tells the tale of current community conditions surrounding the farm while the comprehensive plan lays out the county's vision for the county's future. The farm is zoned general agricultural, as is the land to its east (Figure 35). In fact, a majority of the land east of the farm is either zoned agricultural, conservation, or commercial. The property north of the farm, across SR 62, is zoned Planned Development Public Interest (PD-PI). This property serves as a Florida Power Light's Manatee Power Plant. This natural gas power plant was erected in the early 1970s, and thus their dual smokestacks have been a continual landmark along Whisenant Farm's horizon (Figure 36). Sharing a majority of the farm's western boundary

is the Residential Planned Development, Foxbrook (Figure 37). Foxbrook is about a 1,000-acre single-family residential development that began construction in the early 2000's. The typical lots within the neighborhood are around 1-acre, with a few of larger lots that extend to 5 acres in the back of the neighborhood. Continuing west, a majority of the properties are zoned residential or mixed-use planned developments, with a few scattered agricultural or agriculture-1 (light agricultural use) plots.

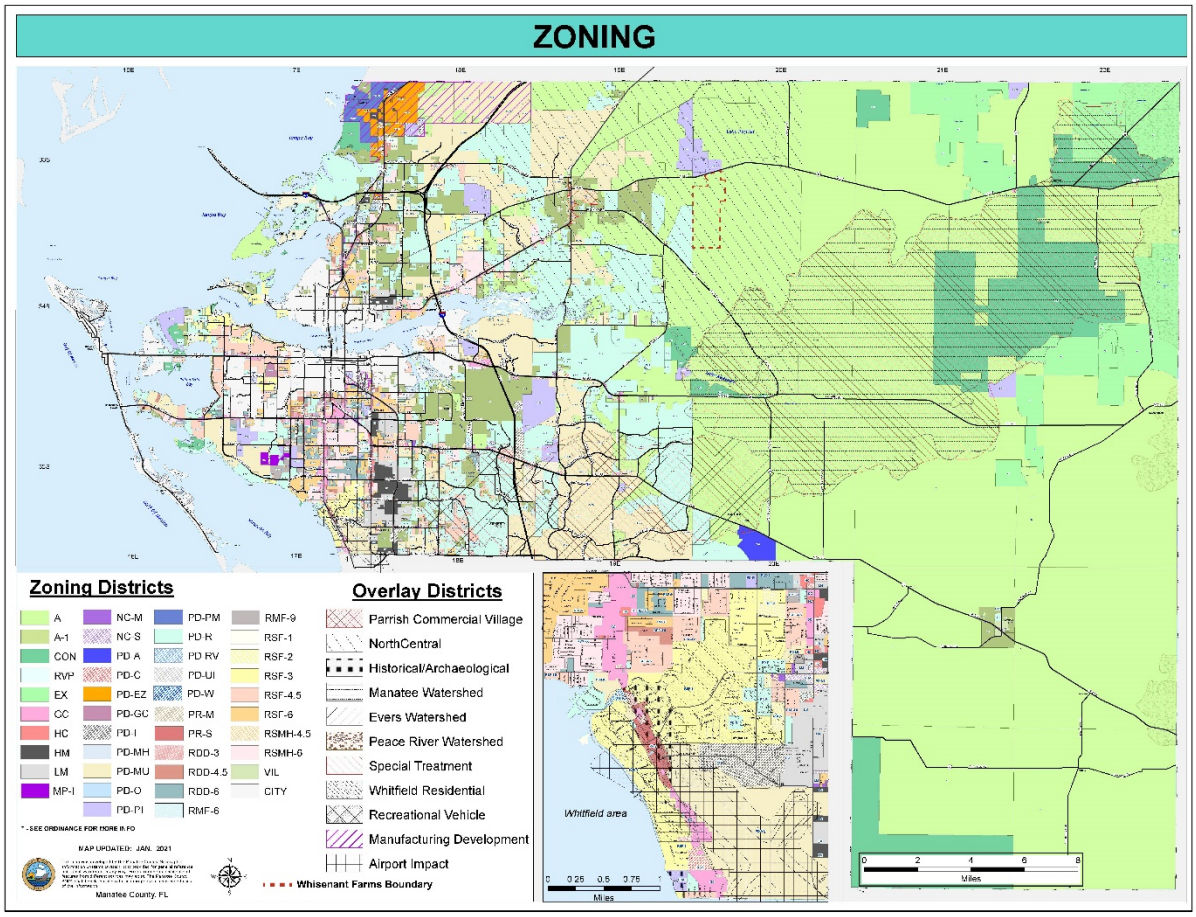

Figure 35: Manatee County Zoning Map (Manatee County, 2021, Edited by Whisenant, 2021)

Figure 36: View of the Florida Power and Light smokestacks looking north within the Farm

(Whisenant, January 2021)

Figure 37: View of Foxbrook houses along the Farm's southwest border

(Whisenant, January 2021)

Another layer of zoning code in effect for this community is the North Central Overlay District (Figure 38). According to section 403.12 of the county's Land Development Code, the North Central Overly District (NC) was created in order to promote development harmonious to the existing community. This developmental vision promotes preserving the community's existing "green, open, quiet, natural, and agricultural" characteristics. The NC overlay also strives to promote the small-town atmosphere and existing native vegetation of the area. Additional goals for this overlay include promoting the creation of a multi-use trail network for greater pedestrian safety and connectivity. The overlay covers a vast area, about 12 miles wide, it stretches west to Erie Road in Parrish, east past the farm and Lake Parrish, north to the county line, and south to the upper Manatee River. An overwhelming majority of this area is zoned mixed-use or residential planned development. While open, or agricultural zoned, land is mixed throughout the district, the comparison of this district's development against the vision and purpose of the NC overlay is glaringly inconsistent. While the eastern edge of the district has remained characteristically rural, the western half of the district is entirely suburban. For example, Highway 301 east of Erie Road has been expanded to a divided 4-lane road, lined with highly vegetated gated neighborhood entrances while SR 62 remains a simple 2-lane road lined with swaths of open land.

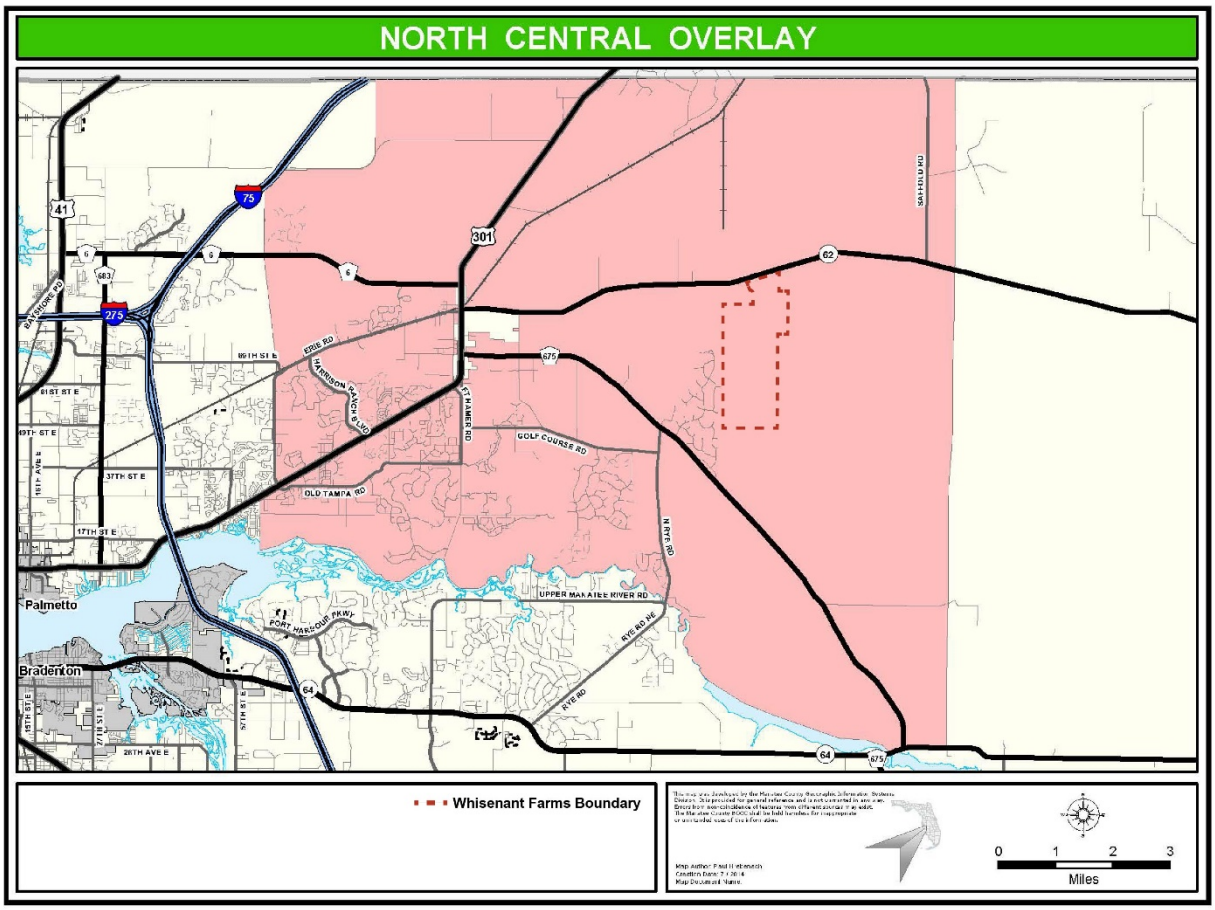

Figure 38: North Central Overlay Map (Manatee County, 2014 Edited by Whisenant, 2021)

While the North Central Overlay District fails to recognize the community's existing characteristics, the county's 2019 Comprehensive Plan appropriately outlines a Future Development Area Boundary (FDAB) east of the existing suburban development. Currently the FDAB is less than two miles west of the farm on SR 62. On the farm's southern boundary, the FDAB runs directly along the farm's perimeter. At the current rate of development, suburban development reaching the farm's southern boundary is indisputable. According to the future land use map (Figure 39), the majority of Parrish is designated at Urban Fringe-3. This category extends to the FDAB boundary. According to the Manatee County Land Development Code,

UF-3 includes zoning districts Conservation (CON), Agricultural Suburban (A-1), Residential Single Family (RSF-1, RSF-2, RSF-3), Recreational vehicle park (RVP), Residential duplex (RDD-3), and Master Planned Institutional (MP-I). And under determination of locational criteria, UF-3 could also include zoning districts Neighborhood Commercial Small or Medium (NC-S, NC-M,), Professional Small or Medium (PR-S, PR-M,), and General Commercial (GC). In examining Whisenant Farm's future it is essential to consider the extent of future development. While the farm is currently located in eastern Parrish's rural countryside, its future lays directly on the path of the urban fringe. Assuming that this area follows the vision laid out in the comprehensive plan, a sharp transition from dense residential development to agricultural land could appear at the FDAB boundary in Parrish. It is here that Whisenant Farms could greatly benefit its surrounding community. As a publicly accessible preserve it would both provide respite for its surrounding suburban community and a more congruent land use transition.

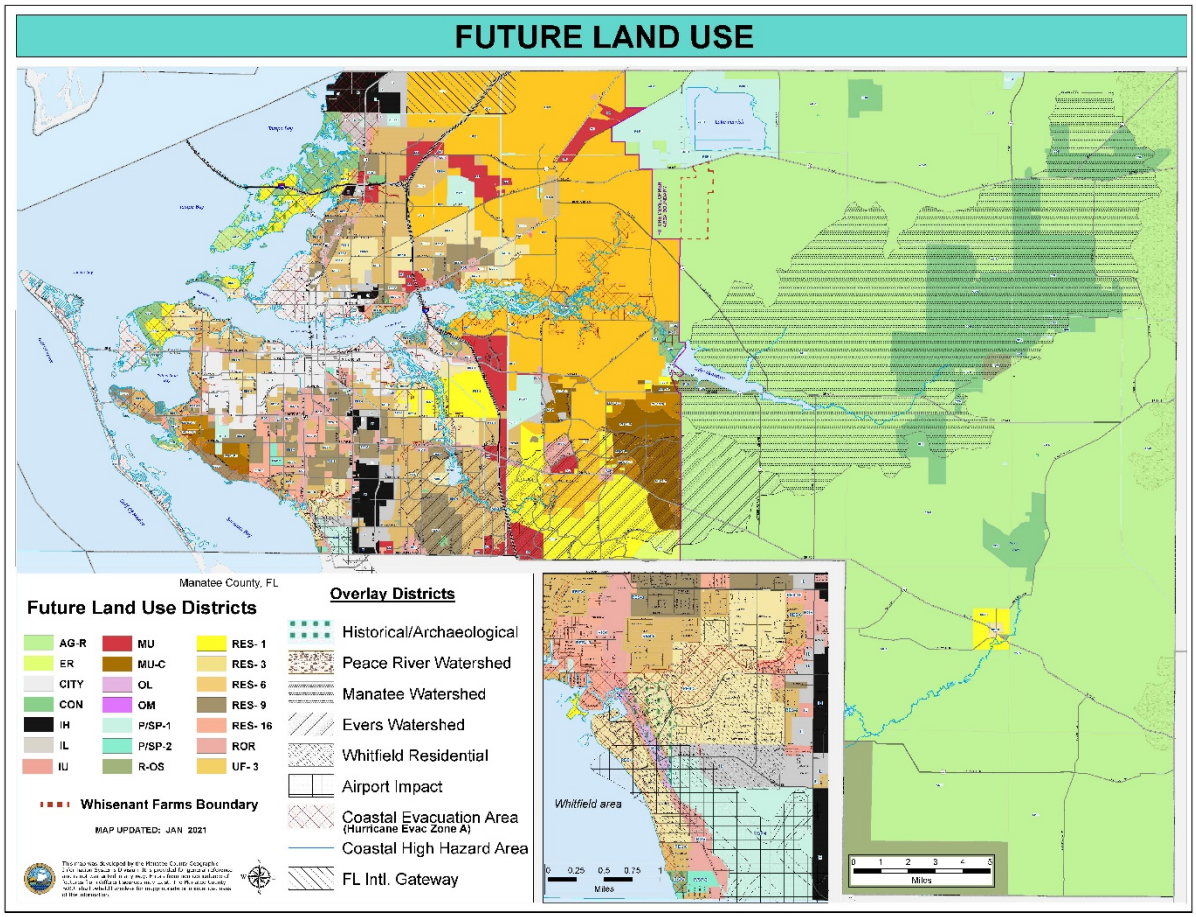

Figure 39: Future Land Use map (Manatee County, 2021, Edited by Whisenant, 2021)

Proximity to Open Space

If one of main purposes of the county's land acquisition is to increase access to public parks for the county, then it is essential to first evaluate how Whisenant Farms could serve its community as a public park or preserve. According to Manatee County Parks and Recreation, three parks serve the Ellenton/Parrish community (Figure 40). Buffalo Creek Park is centrally located in the community and is the largest with an array of facilities including basketball, baseball, soccer, and football fields, a playground, dog park, and restrooms. Ola Mae Sims Park is located in Parrish's historic village and includes basketball, softball, volleyball, a playground,

and pavilions with grills and picnic spaces. Fort Hamer Park is located on the Upper Manatee River and has been expanded in the recent past along with the construction of the Fort Hamer Bridge. Fort Hamer is home to a public boat ramp, canoe/kayak launch, picnic and grill areas, and public restrooms (Manatee County "Parks, Preserves, and Beaches" n.d.). According to the Future Land Use Map, additional recreation space is planned for the previous agricultural land east of Fort Hamer Park. Named Hidden Harbor Park, park improvement will begin with habitat restoration, followed by public restrooms, trails, and a kayak launch. But as work on the park was planned to begin subsequent to Fort Hamer's Bridge completion in 2017, it is unclear what progress has been made on the park (Jones 2016).

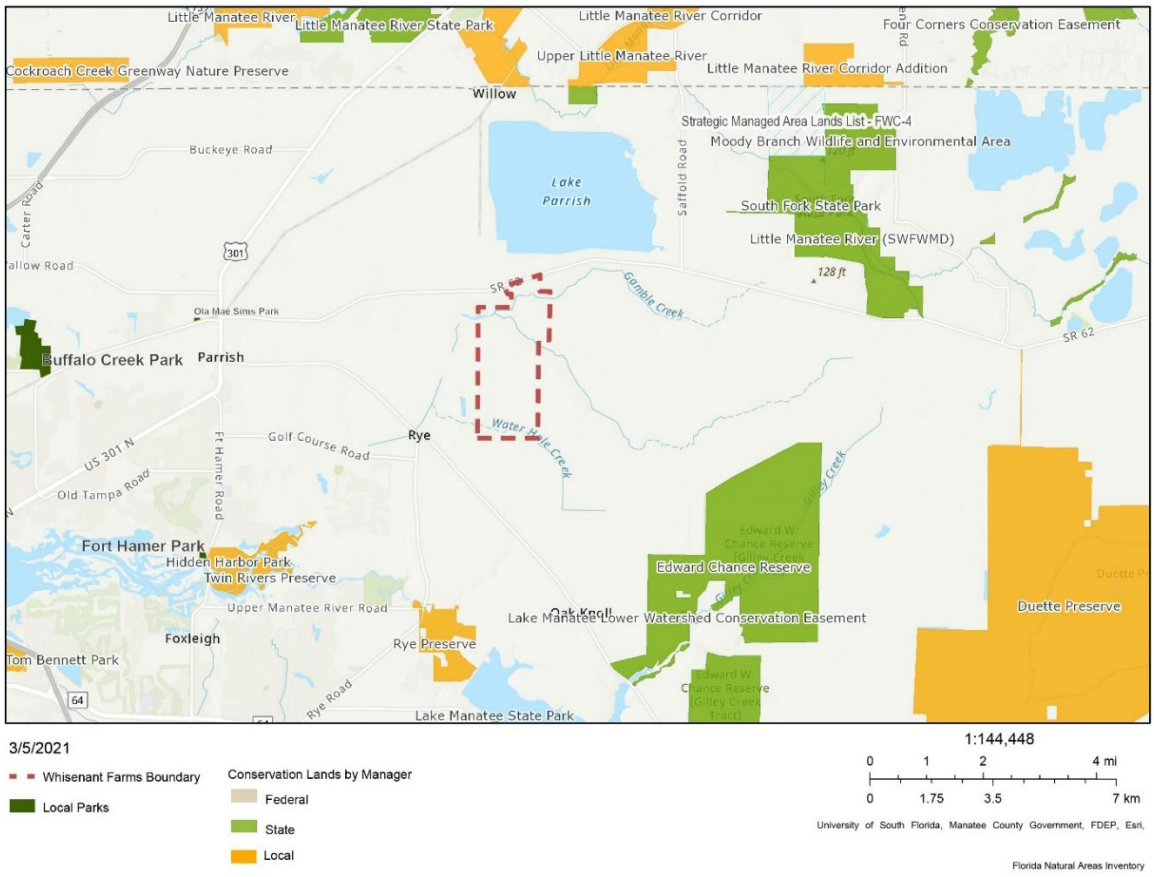

Figure 40: Parks and conservation land located around the Parrish area

(Florida Natural Areas Inventory, 2021)

While progress is currently being made to preserve open space and expand park access, as previously mentioned, development is continually shifting further east into the Ellenton and Parrish communities. According to the 2010 US Census, the Parrish community ranged from less than 1,000 people per census tract, to 2,500-3,999 people per census tract (Figure 41). Census tract 19.10, composed on the neighborhoods that line the southern side of US 301 in Parrish, contained 3,927 people or 1,685.15 people per square mile. Ten years later, the population density has surely increased. The amount of existing and approved development in the farm's surrounding community can be further examined in Figure 42. As more and more subdivisions and mixed-use developments are being constructed in the Parrish community it is essential that the access to natural resources also expands.

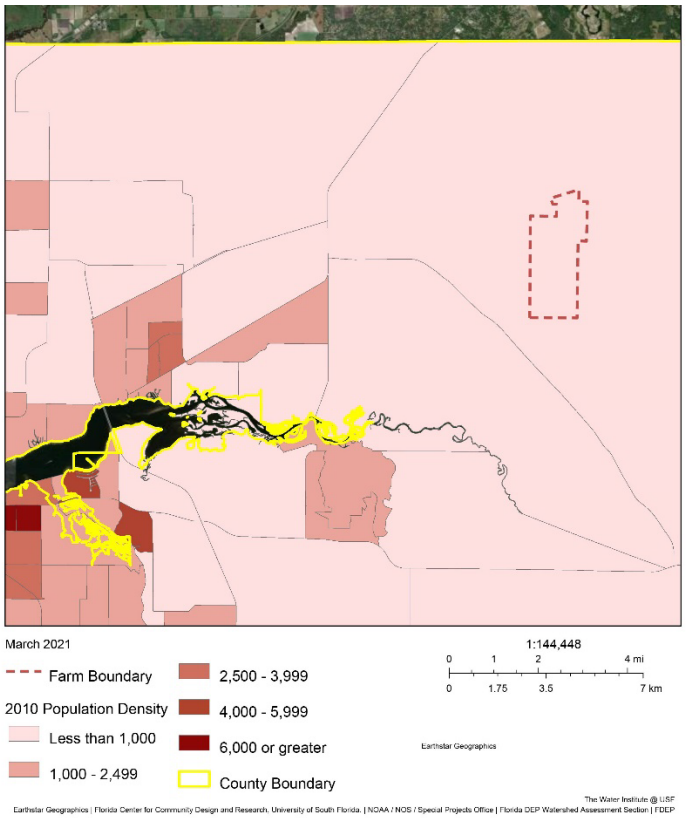

Figure 41: Parrish area 2010 population density map (The Water Institute, 2021)

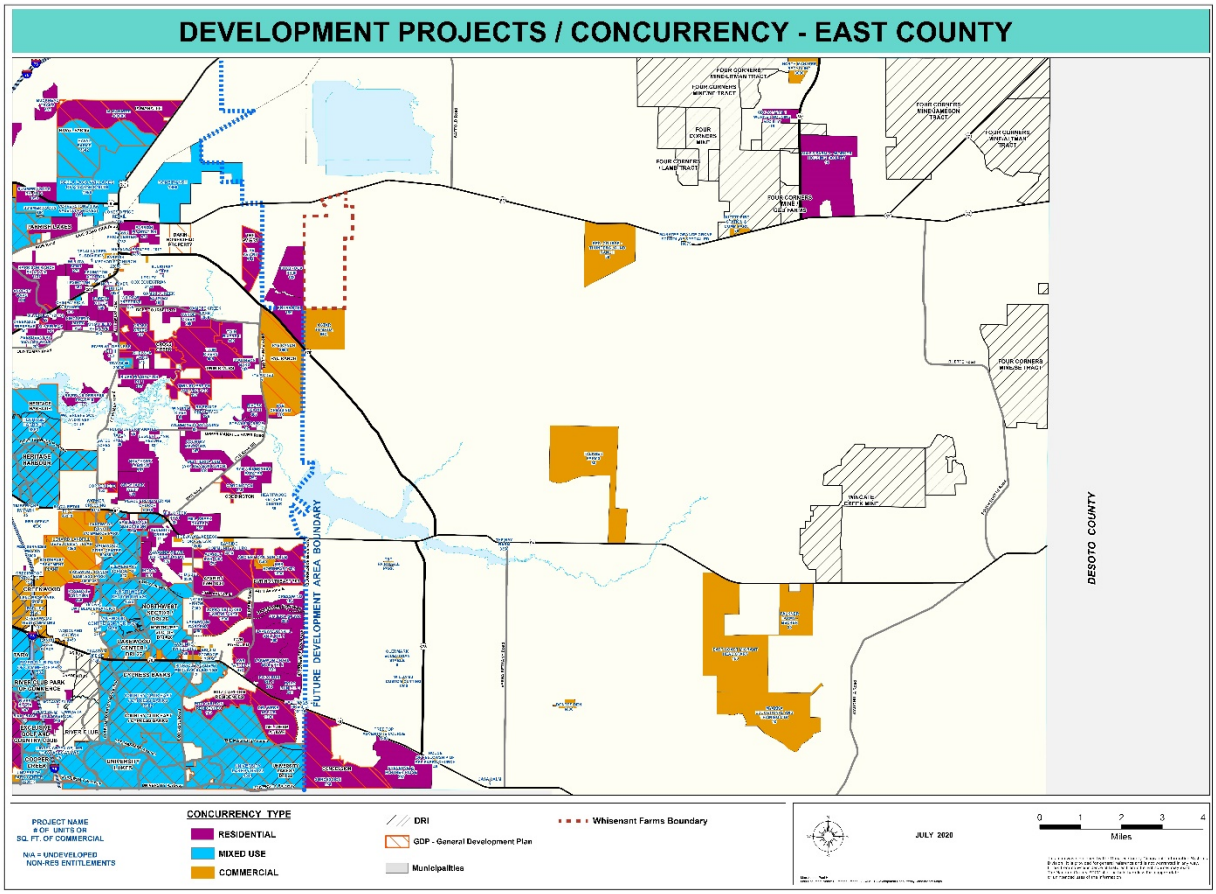

Figure 42: East-county concurrent development projects

(Manatee County, 2020, Edited by Whisenant, 2021)

Aside from parks, the community has access to local and state preserves on the eastern side of the county (Figure 40). South Fork State Park and Moody Branch Preserve are state conservation lands located in the county's eastern most town Duette. About 11 miles east of central Parrish and about 7 miles east of the farm, down SR 62, South Fork's 1,124 acres provides vital protection of Florida's rosemary scrub, scrubby flatwoods, mesic flatwoods, mesic hammocks, and sandhill ecosystems. Recreational opportunities include hiking, birding, and wildlife viewing (Florida State Parks n.d.). Duette also houses the county's largest preserve.

Known as Duette Preserve, this 21,000-acre preserve houses an array of natural Florida communities similar as well as the Manatee River's headwaters. Recreational opportunities include hiking, managed hunting, fishing, horseback riding, trail biking, wildlife viewing, and camping (Duette Preserve n.d.).

Edward W. Chance Reserve- Gilley Creek Tract is another nature reserve accessible to the Parrish community. This 5,800-acre reserve is managed by the Southwest Florida Water Management District for the protection of Gilley Creek, one of the main tributaries of the Manatee River. This reserve serves as a good example for the conservation assets of Whisenant Farms as the Gilley Creek Tract was formerly a cattle ranch and row crop farm. These lands have been restored to pastures and the property's hardwood hammocks and scrub habitats have undergone restoration in order to enhance their natural communities. These efforts have supported habitat for birds like the Florida scrub-jay and improved water quality. Public recreation opportunities include hiking, bicycling, horseback riding, and fishing (Southwest Florida Water Management District n.d.).

While access to open land and nature preserves exist within the Parrish/Ellenton community, efforts to provide these spaces should continue alongside the constant suburban development. Whisenant Farms could serve the community as a place for respite, environmental education, as well as passive and active recreation. Located just a five-minute drive down SR 62 from central Parrish, or a 13-minute drive from the North Central Overlay District's southwestern bounder, its proximity to the community would provide greater access to natural areas than are currently provided by the existing public preserves. Looking towards the future, the farm could provide direct outdoor recreational opportunities for residential developments allowed along the FDAB.

CHAPTER 7

ENVIRONMENTAL BENEFITS

The term conservation connotes both habitat and ecological protection. While the benefits of land conservation go beyond the realm of environmental protection, the environmental benefits are a key factor. Ecological importance also lies at the foundation of Manatee County's land acquisition resolution as it cites management of water quality, stormwater runoff, habitat protection, and environmentally sensitive lands within their core objectives. The following chapter analyzes Whisenant Farms' environmental contributions to the region's significant landscapes, wildlife habitat, and water quality and further, how those elements can benefit through conservation.

Ecosystems Within the Farm

Whisenant Farms' 1,668 acres cover an array of landscapes and the ecosystems associated with those landscapes. In order to classify the land cover within the farm, this analysis utilized the Florida Cooperative Land Cover Project. The project is a partnership between the Florida Fish and Wildlife Conservation Commission (FWC) and Florida Natural Areas Inventory (FNAI) aimed at classifying ecologically based statewide land cover. The project used existing resources and expert aerial photography review in order to classify land cover according to the Florida Land Cover Classification System (FWC 2019). The Florida Land Cover Classification System was published in 2018 by Robert Kawula and Jennylyn Redner of the FWC and utilizes a habitat approach classification system created in order to better assess the needs and status of wildlife in Florida.

According to the Cooperative Land Cover database, the majority of the farm's acreage is classified as 18331-Cropland/Pasture or 183313- Improved Pasture. The two classifications differ as 18331-Cropland/Pasture includes lands that may be improved, unimproved, or are woodland pastures while 183313- Improved Pasture solely characterizes pastures that have been tilled, reseeded, fertilized, or otherwise managed (Kawula and Redner 2018, 19). Other obvious classifications include 18332-Orchards/Groves for the citrus groves, 1821- Low Intensity Urban around the workforce housing, 1830- Rural around the barns, and 3220-Artificial Impoundment/Reservoir for the retention pond.

The wetland landscapes that run parallel along the farm's three streams are classified as 2200- Freshwater Forested Wetlands. These are characterized as floodplains that are dominated by hydrophytic trees (Kawula and Redner 2018, 28). The dominance of hydrophytic trees like bald cypress (Taxodium distichum) can be easily seen along the shore of Gilley Lake and as the visitor crosses over the bridge that spans Gamble Creek towards the farms' entrance (Figure 43).

Figure 43: Inundated Bald Cypress trees in Gamble Creek (Whisenant, January 2021)

Additional wetland habitats throughout the farm include 2112-Mixed Scrub-Shrub Wetland, which are dominated by woody vegetation that is less than 20 feet high. This classification can be found sandwiched between the previous cropland and the retired orange groves on the southern end of the farm. Also located in this area is a sliver of 2110-Prairies and Bogs. These contain a short hydro-period and are accompanied by grasses and sedges (Kawula and Redner 2018, 24). Also classified as Prairie and Bog land cover are a few of the watering holes that are scattered throughout the pastureland (Figure 44). A few of these watering holes are differentiated as 2111-Wet Prairies. In comparison, these are sandy and usually saturated but only occasionally inundated with water (Kawula and Redner 2018, 24).

Figure 44: Classified prairie and bog land cover at the farm (Whisenant, January 2021)

The farm's sole wooded areas, found on the farm's western and southern perimeter, are classified as 1400- Mixed Hardwood Coniferous, meaning neither the hardwoods or the coniferous trees are dominant (Kawula and Redner 2018, 13). The southwestern corner of the farm contains the greatest ecological diversity. The farthest corner is classified as 1500-Shrub

and Brushland. This land is most likely undergoing the natural successional process after commercial disturbance, characterized by various shrubs, tree saplings with minimal grasses (Kawula and Redner 2018, 13). As the southwest corner of the property shares a border with the Foxbrook subdivision built in the early 2000s as well as the farm just south of Whisenant Farms, disturbance is highly plausible. The shrub and brushland shifts to 1311-Mesic Flatwoods until the landscape becomes 2200-Freshwater Forested Wetlands along Water Hole Creek. Mesic Flatwoods are a statewide habitat where pines dominate the canopy and the understory is full of low shrubs or herbs such as saw palmetto, gallberry, or wiregrass (Kawula and Redner 2018, 12). As Water Hole Creek continues easternly down the property line, the forest becomes 1400-Mixed Hardwood Coniferous, mentioned previously. A comprehensive map of the land cover classifications on Whisenant Farms can be further examined in Figure 45.

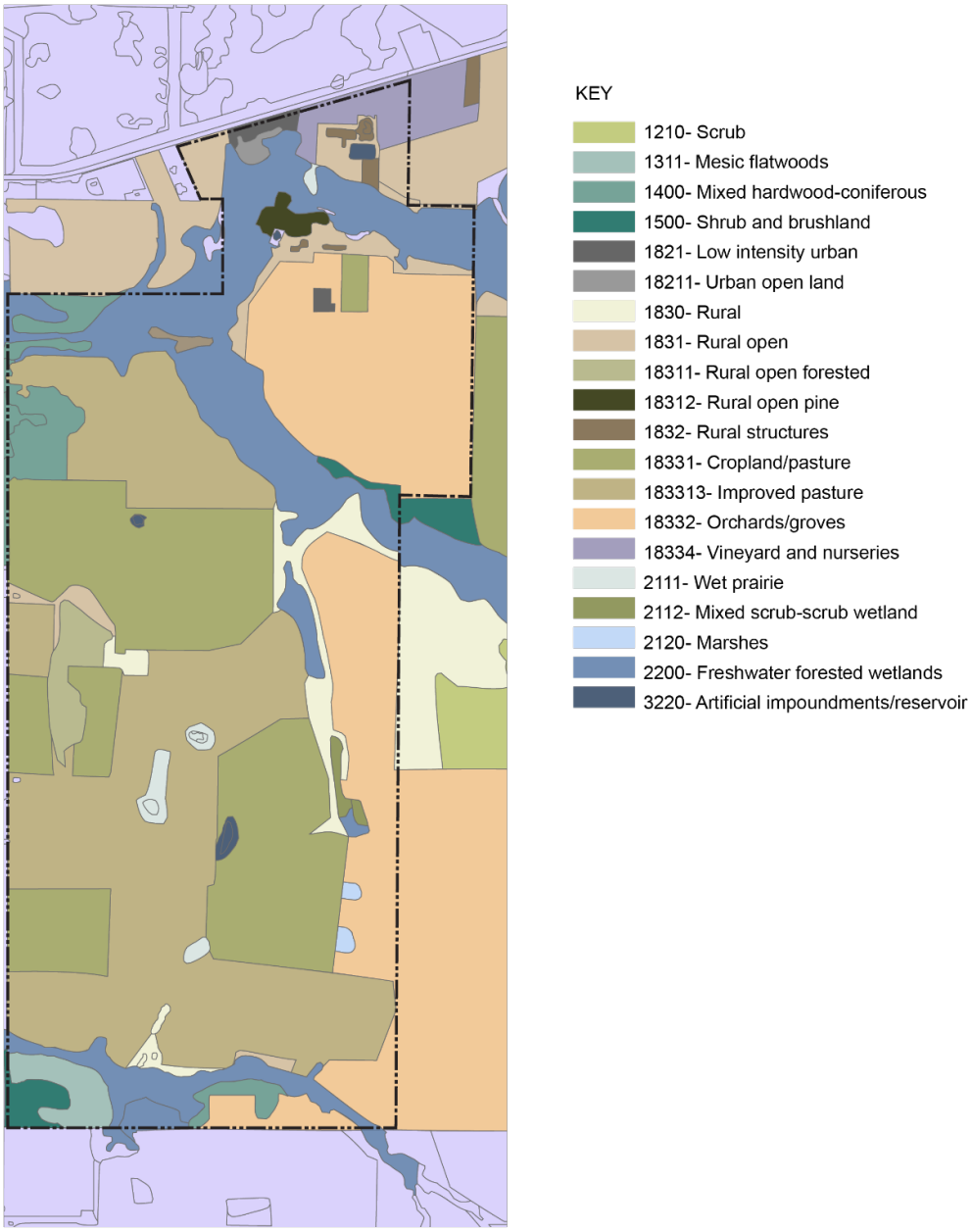

Figure 45: Whisenant Farms 2019 Land Cover Classifications

(2019 Florida Cooperative Land Cover Project, edited by Emily Whisenant)

An Abundance of Wildlife

With such an array of habits throughout the farm, it is no surprise that wildlife is abundant. Animals typically found on the farm include deer (Figure 46), turkeys (Figure 47), hogs, armadillos, rabbits, skunks, fox, snakes (Figure 48), alligators, turtles, a range of insects (Figure 49), and an assortment of birds.

Figure 46: Two Deer on the Farm
(de Greef, June 2020)

Figure 47: Flock of wild turkeys
(de Greef, December 2020)

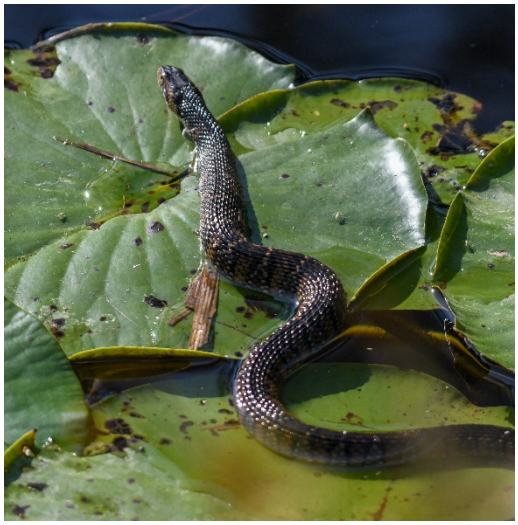

Figure 48: Water moccasin located in one of the Farms ponds (de Greef, May 2020)

Figure 49: Up close shot of a dragonfly
(de Greef, October 2020)

Due to avid bird watcher, Mary de Greef, there is an extensive documentation of bird species present at the farm. Mary has observed and documented 122 species of birds at the farm over the last two years. Out of de Greef's record, seventeen of the species fall under species of greatest conservation need (SGCN) according to the Florida Fish and Wildlife Conservation Commission's (FWC) 2019 State Wildlife Action Plan. In total, the action plan lists 101 bird species listed under the greatest conservation need throughout the state. FWC's SGCN ranks the listed species into six categories. The first category is for NatureServe conservation status ranks of S1,G1, or S2G2. According to NatureServe, their conservation status assessment is a method specifically to assess a species extinction risk at the global and regional scale (n.d.). S1 stands for sub-nation critically imperiled species. G1 stands for globally critically imperiled "due to very restricted range, very few populations or occurrences, steep declines, severe threats, or other factors," (NatureServe, n.d.). The 2 stands for "imperiled," which falls just below the ranking of critically imperiled (NatureServe, n.d.). The second category records species that score a 27 or greater on FWC species biological score. The third column records species on the International Union for the Conservation of Nature and Natural Resources' (IUCN) vulnerable species 'red list.' The fourth and fifth columns record species that are state listed or federally listed as threatened or endangered. Finally, "Taxa of Concern" are recorded as species that may be newly described, species delisted in the past five years, species listed in neighboring Alabama or Georgia, or species vulnerable to an emerging risk like declining range or introduced disease (FWC 2019, 145). The following bird species observed at the farm are listed under "Taxa of Concern:" wood stork, burrowing owl, little blue heron, southeastern American kestrel, Florida sandhill crane, mottled duck, northern bobwhite (Figure 50), eastern meadowlark, common nighthawk, painted bunting, white ibis, loggerhead strike, red-headed woodpecker (Figure 51),

grasshopper sparrow, and swallowed tail kite (Figure 52). Five species are state listed: the roseate spoonbill, little blue heron, southeastern American kestrel (Figure 53), Florida sandhill crane (Figure 54), and Florida burrowing owl. Two species are federally listed, the wood stork (Figure 55) and Audubon's crested caracara (Figures 56 and 57).

Figure 50: Northern bobwhite
(de Greef, April 2020)

Figure 51: Red headed woodpecker
(de Greef, December 2020)

Figure 52: Flock of swallowed tail kites
(de Greef, July 2020)

Figure 53: Southeastern American kestrel
(de Greef, March 2020)

Figure 54: Florida sandhill crane
(de Greef, December 2020)

Figure 55: Wood stork
(de Greef, September 2020)

Figure 56: Audubon's crested caracara
(de Greef, January 2021)

Figure 57: Audubon's crested caracara
(de Greef, January 2021)

For the seventeen species mentioned above, the farm's landscape serves as a key habitat. For a majority of these species, pinelands, uplands, scrub, and pastures located on the farm are particularly important. Ten out of the seventeen species rely on high pine and scrub, or pine flatwoods and dry prairie. In other words, all of the terrestrial species listed are found within the

farm's open pasture and pinelands and scrub. According to the State Wildlife Action Plan, conservation of these habitats is the primary conservation priority for this region of Florida (2019, appendix A). Florida's southwestern pinelands provide habitats for breeding and foraging while the dry prairies or pastures provide essential wildlife corridors. A look at a particular species that rely on these habitats sheds light on their importance.

The Florida Burrowing Owl (Athene cumicularai floridanan) is a state designated threatened species. They live in high pine and scrub or in flatwoods and dry prairie habitats (State Wildlife Action Plan 2019,122). Historically, their habitats were concentrated in prairie lands. Although as Florida's development increased in the 1950's, their habitats were increasingly recorded alongside man-made habitats like airports, roadsides, and cleared pastures. This habitat shift peaked as the species was added to the Florida Fish and Wildlife Conservation Commission's "species of special concern" in 2001 (Bowen 2001, 113). The species reliance on man-made habitats may be posing as a threat to the species as "ecological traps," where the landscape suggests ideal nesting sites but comes with an increased number of predators (Bowen 2001, 124). While agricultural pasture lands are not equal to native prairie lands, they provide a more stable habitat for the burrowing owls than vacant urban lots that are frequently developed or highly trafficked areas like roadsides and airports (Bowen 2001, 124). In 2020 the farm recorded the only burrowing owl sighting in Manatee County in years (Figure 58 and 59) (de Greef, 2021). Due to their frequent presence, the farm could also serve as a location to monitor future burrowing owls.

Figure 58: Burrowing owl atop a fence post (de Greef, June 2020)

Figure 59: Two burrowing owls amongst the grass (de Greef, April 2020)

The pasturelands that once yielded hundreds of acres of tomatoes have become significant wildlife habitat. The pastures of uplands scattered around Florida's southwestern region have become incredibly significant wildlife corridors and habitats for species with limited ranges, like the Audubon's crested caracara. Similarly, the region's pinelands are ideal habitat for widely distributed species like the American kestrel (State Wildlife Action Plan 2019, 218). Conservation of Whisenant Farms would directly follow the habitat prioritization in FWC's State Wildlife Action Plan recommendations for Florida's southwest region.

Providing Habitat for the Florida Panther

While the farm currently serves as habitat for an array of significant species, the property could also provide habitat opportunity for one of Florida's most endangered species, the Florida panther. The Florida panther (*Puma concolor coryi*) is a wide-ranging predator native to most of the southeastern United States. Due to habitat loss, by the mid-1900s the Florida panther solely exists within southern Florida, just 5% of its historic range (Meegan and Maehr 2002, 217). The

Florida panther was first designated as endangered on the US inaugural list of endangered plants and animals in 1967. By the 1990s, their population numbers were depleted, with just 20-30 panthers remaining (FWC 2020, 4). Due to rapid development and increasing population in Florida, habitat loss and fragmentation remains the greatest threat to the Florida panther (Kautz et al. 2006, 119). These factors resulted in inbreeding, depression, and isolation that continued to plague the remaining population. In efforts to revive the Florida panther population, a restoration and management plan was developed in 1994 and implemented in 1995 with the release of 8 female pumas from west Texas. Efforts were deemed successful as breeding with the male Florida panthers produced at least 20 kittens. Today, genetic variations have doubled, and improved survival rates have resulted in an estimated population of 120-230 individuals (FWC 2020, 4). Population increases have also supported dispersal improvements. As of the 1990's and early 2000's their breeding habitat was restricted to, south of the Caloosahatchee River in southern Florida. The first female panthers located north of the Caloosahatchee River since 1973 were finally documented in 2017. Recent dispersal activity is encouraging but only emphasizes the need to continue protecting essential habitat for the Florida panther (FWC 2020, 5).

The Florida panther requires large contiguous areas of suitable habitat. Forested land accounts for the preferred habitat while freshwater marsh, scrub, and prairie lands are also suitable habitat (Kautz et al. 2006, 127). According to Meegan and Maehr's 2002 study as well as subsequent studies, connectivity of forest patches are essential in maintaining a panther population. While larger blocks of forest are preferred for panther habitat, smaller, connected forests may successfully facilitate the movement panther populations require (Meegan and Maehr 2002, 226). This research was further supported by the research of Kautz et al., which

supported that forest patches less than 500 ha were utilized within the panther's home range more frequently than the larger forest patches (2006, 127).

As the Florida panther habitat is increasing north towards central Florida, Manatee County is well situated to provide more panther habitat range. Whisenant Farms falls directly around the range of 500 ha of contiguous land (approximately 1,235 acres). The county's first FWC confirmed Florida panther sighting took place in 2014 along the forested wetlands within the Duette Preserve (Figure 60). After one more sighting in 2014, the Florida panther was not confirmed in the area until 2020. During 2020 there were two confirmed sightings in the county, and one in 2021. The 2021 sighting was located within the Beker-South Fork State Park, just 6 miles east of Whisenant Farms (FWC 'Panther Sightings'). The preservation and restoration of Whisenant Farm's land would provide an additional steppingstone for Florida panther movement. As seen in Figure 51, the farm is less than two miles northwest from existing conserved forest habitat within the Lake Manatee Lower Watershed. The farm could further connect the panther to preserved land north in the Little Manatee River State Park and additional protected land in southern Hillsborough County.

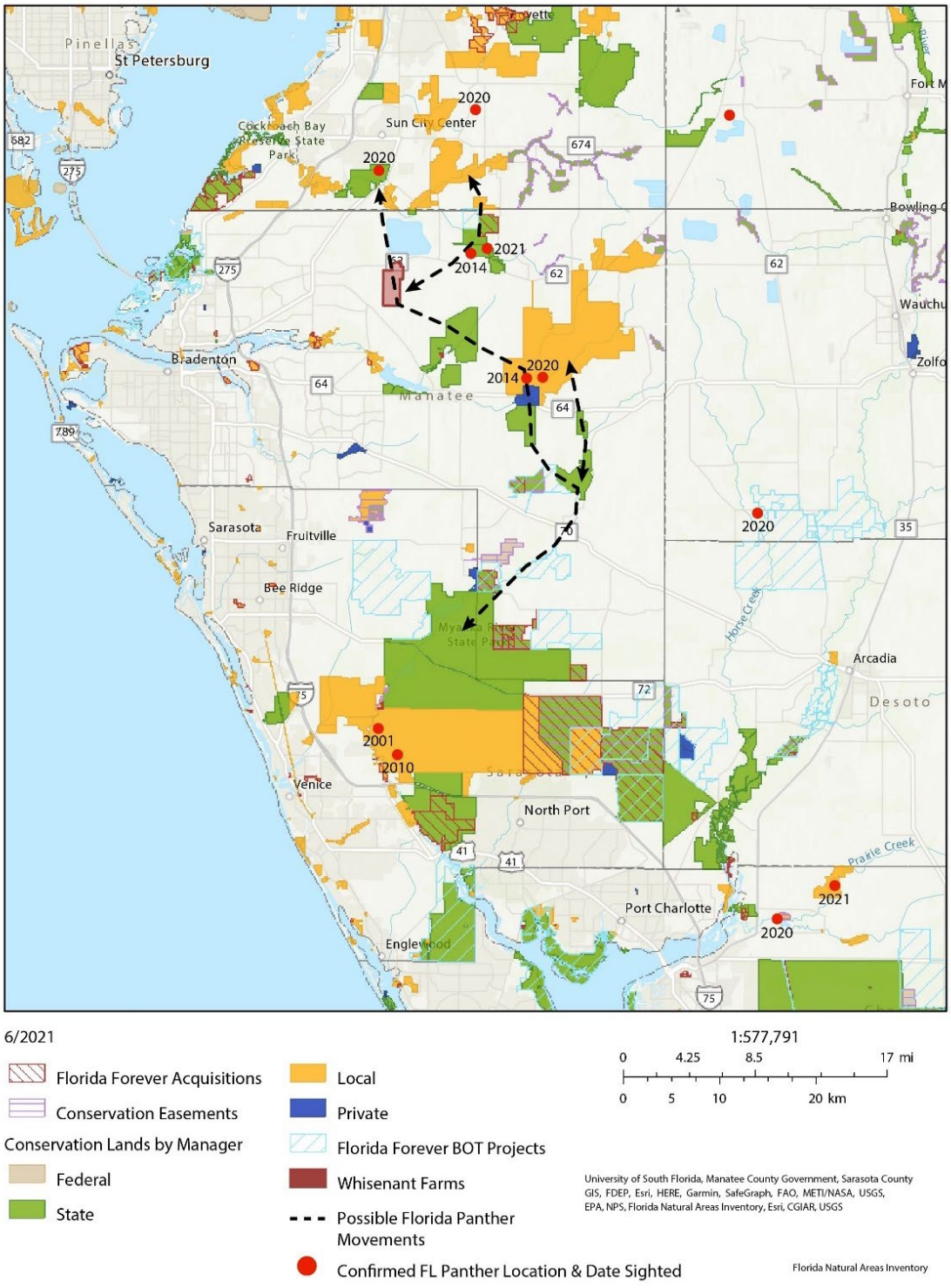

Figure 60: Regional Conservation Lands

(Florida Natural Areas Inventory 2021, Edited by Whisenant, 2021

Regional Water Resources

When assessing the benefits of land conservation, it is essential to also assess its role in water resources and water quality. Land conservation, water supply, and water quality improvements are all inherently connected, especially within a coastal state like Florida (Office of Economic and Demographic Research 1, 2021). As explained in chapter 3, population growth and increased development negatively affects water quality and water supply (Nowak, Wang, and Endreny 2007). With Florida's growing population, water demand is expected to increase fifteen percent between 2020 and 2040 (Office of Economic and Demographic Research 2, 2021). Preserving Whisenant Farms would assist in water quality and supply improvements for its many associated waterbodies.

The entirety of Whisenant Farms falls within the Manatee River watershed. A watershed, or drainage basin, is "an area on the land surface from which water flows or has the potential to flow to a common destination," (Manatee County Water Atlas, n.d.) This 224,911.8 acre watershed is the county's primary watershed, covering well over two-thirds of the county (Figure 61) (Manatee County Water Atlas, n.d.). As the county's primary watershed, it contains the majority of the county's potable water. Table 3 shows how land use within the watershed has significantly changed over the past few decades. The increase in urbanized land is sure to put excessive pressures on the water quality and water supply for Manatee County and the surrounding regions.

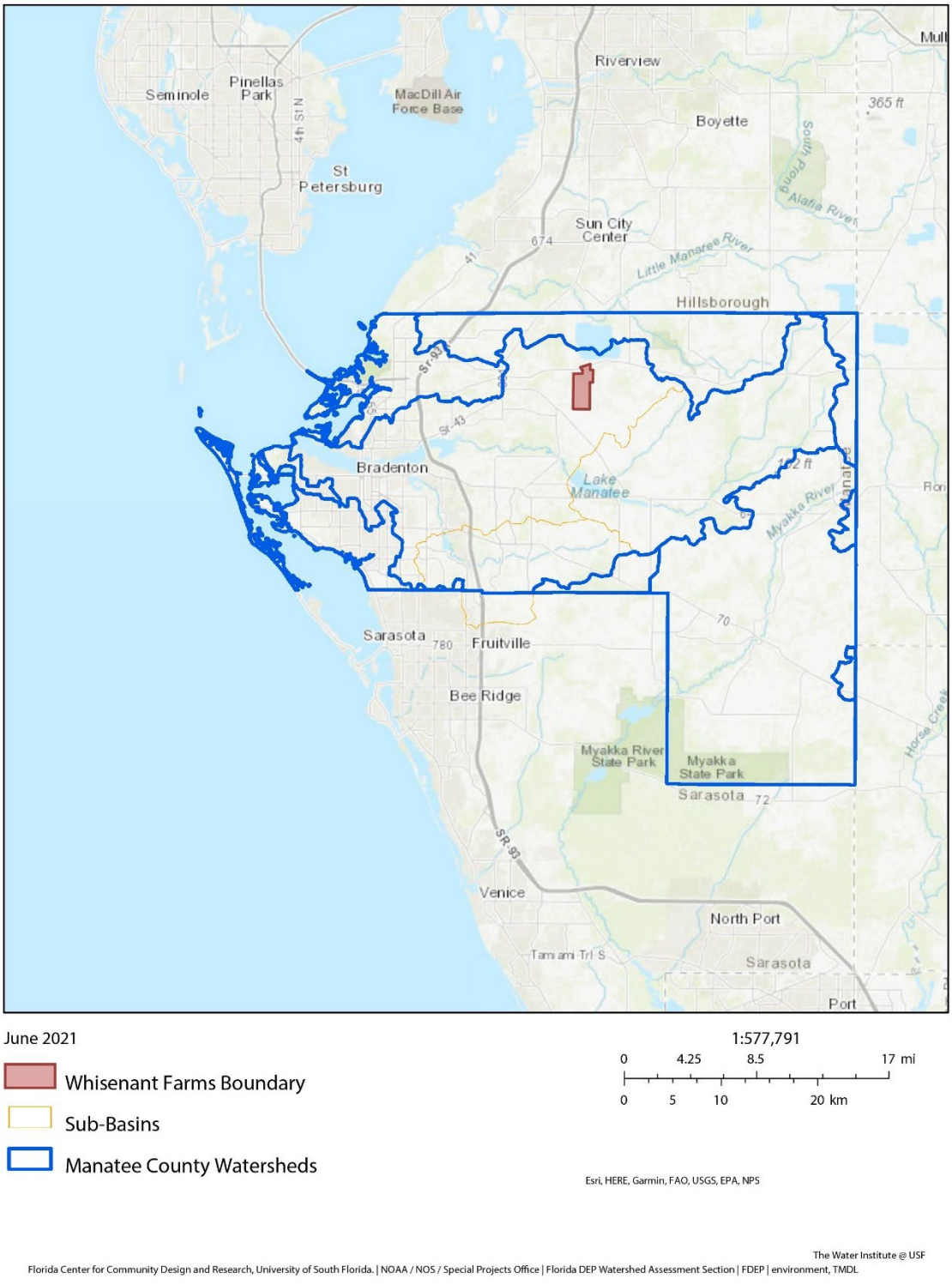

Figure 61: Manatee County Watershed Boundaries

(The Water Institute 2021, Edited by Whisenant, 2021)

Year	Urban & Built-up		Agriculture		Rangeland		Upland Forests		Water		Wetlands		Barren Land		Transportation and Utilities	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
2017	61,909	28	67,476	30	25,390	11	18,359	8	16,798	8	29,960	13	292	<1	4,808	2
2014	57,931	26	67,235	30	25,545	11	21,353	10	16,211	7	31,415	14	658	<1	4,564	2
2011	56,968	25	71,647	32	26,670	12	18,956	8	15,902	7	30,240	13	110	0	4,418	2
2010	56,695	25	72,480	32	26,195	12	18,956	8	16,427	7	29,678	13	181	<1	4,300	2
2009	55,971	25	72,489	32	27,054	12	19,625	9	15,674	7	29,764	13	130	<1	4,204	2
2008	56,519	25	74,224	33	26,998	12	18,078	8	15,733	7	29,028	13	172	<1	4,161	2
2007	56,281	25	74,442	33	26,747	12	18,618	8	15,721	7	28,913	13	142	<1	4,048	2
2006	54,297	24	75,788	34	26,662	12	19,151	8	15,455	7	28,983	13	558	<1	4,017	2
2005	51,878	23	77,314	34	26,301	12	21,019	9	15,285	7	28,919	13	382	<1	3,813	2
2004	49,987	22	78,749	35	26,534	12	21,525	10	15,018	7	28,952	13	446	<1	3,702	2
1999	39,582	18	87,671	39	26,899	12	24,184	11	13,491	6	29,367	13	421	<1	3,296	2
1995	30,581	14	91,034	40	32,070	14	25,383	11	12,713	6	29,864	13	112	0	3,156	1
1990	27,631	12	85,421	38	33,007	15	33,394	15	11,835	5	30,680	14	161	<1	2,621	1

Table 3: Changes in Land Use/Land Cover within the Manatee River Watershed

(Manatee County Water Atlas, Accessed June 2021)

While the Manatee River watershed is essential for Manatee County, it also holds a significant role within the large Tampa Bay watershed. Also known as the Tampa Bay estuary, its waters are home to an array of marine life. Estuaries are defined as transition zones from land to sea and are often defined as "one of the most productive environments in the world," and "the nursery ground for fish, crustaceans, and shellfish," (Tampa Bay Estuary Program, n.d.). Shown in Figure 62, the Tampa Bay watershed consists of watersheds from the Hillsborough, Alafia, Little Manatee, and Manatee River tributaries. The Tampa Bay estuary is Florida's largest open-water estuary at 400 square miles. The human activities that occur with its 2,200 square mile watershed directly affects the health and productivity of Tampa Bay's rich marine life.

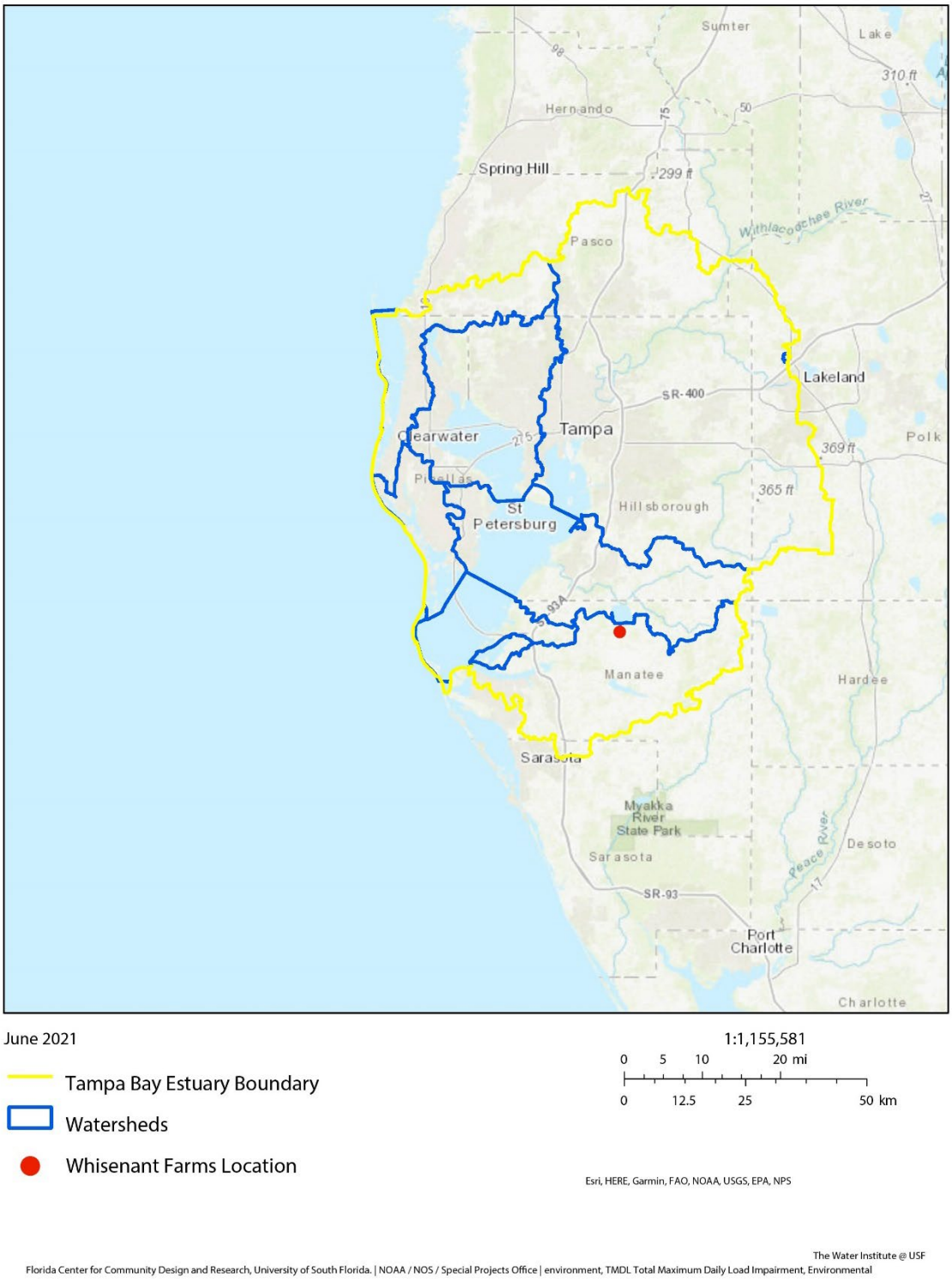

Figure 62: Tampa Bay Estuary Watershed Boundaries

(The Water Institute 2021, Edited by Whisenant, 2021)

According to the Tampa Bay Estuary Program, nitrogen is the Bay's largest pollutant. Half of all nitrogen that enters the Bay is the result of stormwater runoff from the surrounding urban areas. Due to the negative affects on water quality from urbanization, Florida has many organizations whose missions are aimed at protecting the state's water resources. The Manatee River watershed and larger Tampa Bay estuary are part of the state's Southwest water management district (Figure 63). Under the authority of the Florida Department of Environmental Protection, the state's five water management districts were established in order to manage water supply, water quality, flood protection and floodplain management, and natural systems (Florida Department of Environmental Protection, n.d.). The southwest district includes approximately 10,000 square miles of land and water. As stated by the district, a key tool in carrying out their mission to protect the region's water needs is land acquisition surrounding water bodies. Preserving the land around water resources preserves natural systems like filtering pollutants from runoff. Further these lands support wildlife habitat and provide recreation opportunities. Currently, the district manages six conservation sites within Manatee County.

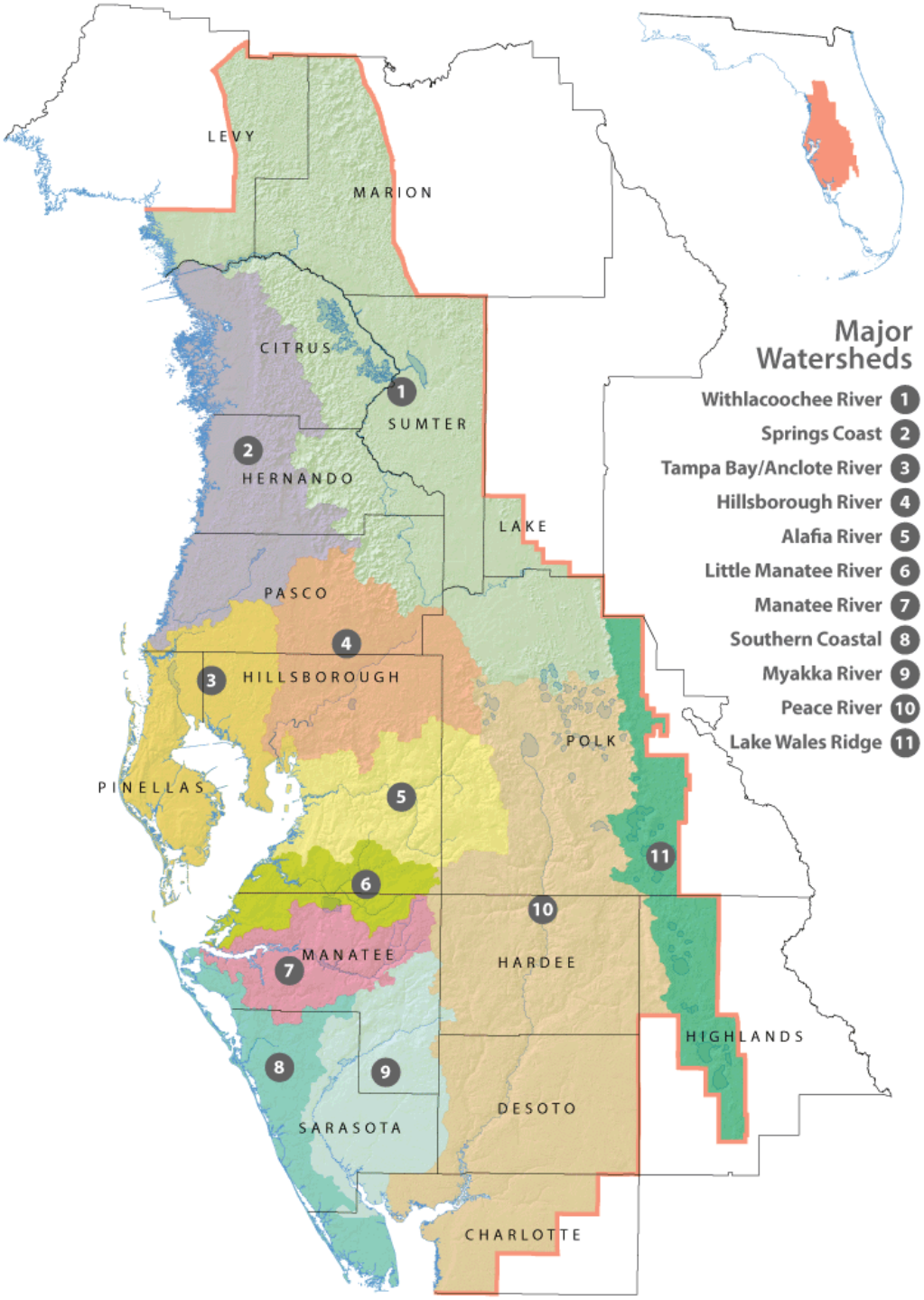

Figure 63: Southwest Florida Water Management District

(Southwest Florida Water Management District, Accessed June 2021)

Whisenant Farms Water Resources

Analyzing the role of water within the farm is essential as water conservation is one of the leading benefits of land conservation. The following section will utilize data from the Manatee County Water Atlas to provide a comprehensive analysis of the three freshwater streams that flow through the farm and out towards their connected waterbodies. The Manatee County Water Atlas is a resource funded by Manatee County, the City of Bradenton Beach, and City of Holmes Beach, that synthesizes current water quality and hydraulic data for professional research, personal exploration, and local education. By partnering with the University of South Florida's Water Institute, the Manatee County Water Atlas is able to provide up to date mapping and sampling of the county's waterbodies (Manatee County Water Atlas, n.d.).

Whisenant Farms falls just south of the Manatee River watershed's northern boundary, where the Little Manatee River watershed's southern boundary begins. The watershed can further be categorized into three sub-basins and the farm falls within the northwestern sub-basin. At an even smaller scale, the farms' rainwater can be divided into three stormwater sub-basins (Figure 64) (Manatee County Water Atlas, n.d.). The largest portion of the farm's rainwater flows into Tyre Creek. The southern end of property flows into Water Hole Creek while the northern and western land flows into Gamble Creek.

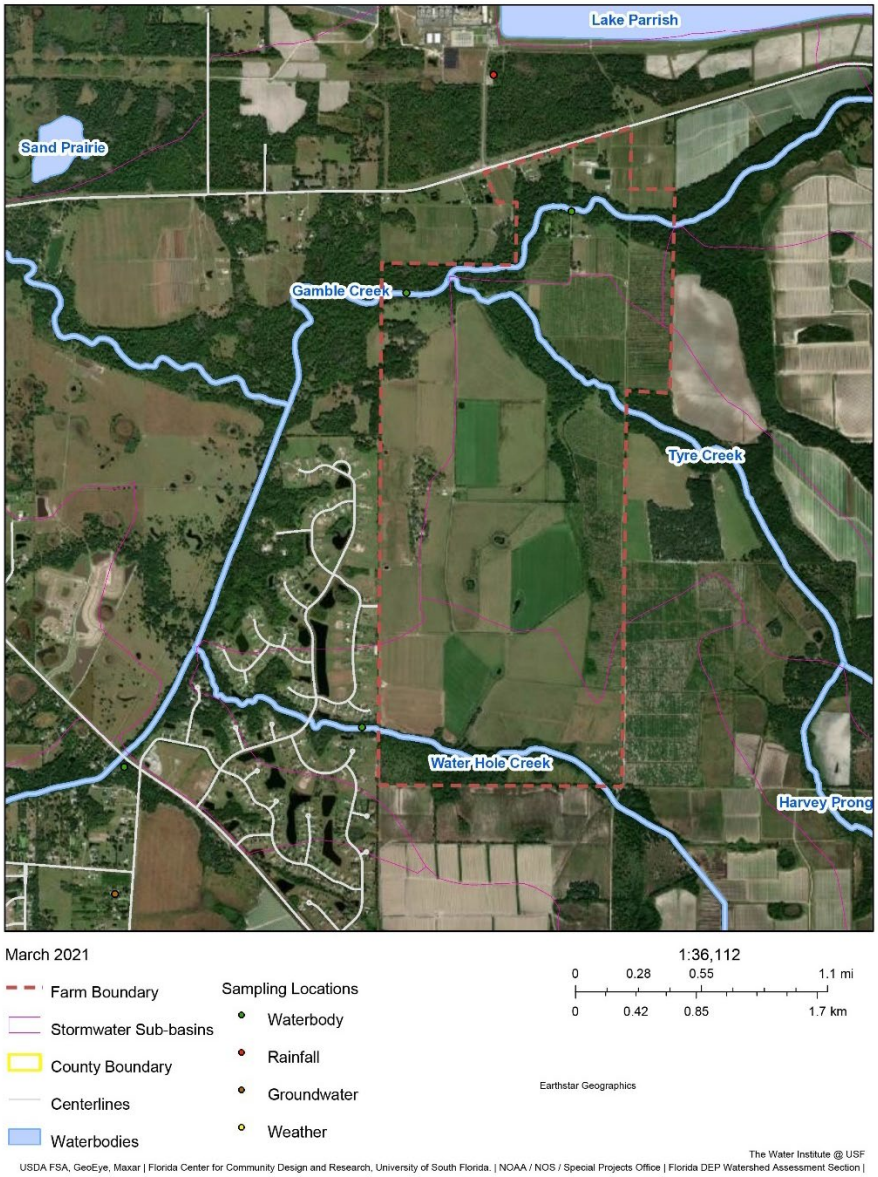

Figure 64: Location of the Stormwater sub-basins on the Farm

(The Water Institute, 2021)

Gamble Creek is a 22.4-mile stream that flows through the northern portion of Whisenant Farms (Figure 65). The creek flows southwest from its headwaters within the swamps north of SR 62 to its mouth, the Manatee River, just north of Fort Hamer. The Water Atlas includes data from 14 sampling stations located along Gamble Creek. The data ranges from 1962

to 2021. In 1974 sampling was conducted on the farm, near Gilley Lake. Current data categorizes Gamble Creek as impaired. According to a 2004 report, Gamble Creek was listed as impaired due to high level of fecal coliform and total coliform bacteria. As defined by the state's water quality criteria, fecal coliform should not exceed 100 ml of bacteria a day or a monthly average of 20ml. Total coliform bacteria should not exceed a 1,000ml monthly average (Gao and Petrus 2004, 6). With measurements routinely above the state water quality criteria from 1996-2002, the stream was put on the impairment list. Source assessment found that due to the high agricultural use and cattle presence in the watershed, the containment can be expected to have largely stemmed from livestock operations (Gao and Petrus 2004, 11).

Tyre Creek is a 9-mile stream that flows from its headwaters south of SR 62 near South Fork State Park, west till it flows into Gamble Creek on the Whisenant property (Figure 65). Unfortunately, no sampling has been conducted along Tyre Creek. Water Hole Creek is a 4.4-mile stream that similarly to Tyre Creek, flows into Gamble Creek (Figure 65). Its headwaters begin north of Oak Knoll Road and east of Rutland Road. Flowing northwest, the creek crosses the very southern end of Whisenant Farms until it flows under the entirety of Foxbrook subdivision, adjacent to the farm's southwestern boundary, until it meets up with Gamble Creek. Water Hole contains one sampling station, with 33 total samples all conducted in 2013 by the Florida Department of Environmental Protection. According to the 2013 data, the creek is not impaired, sampling normal levels of nitrogen, phosphorus, chlorophyll, fecal coliform, enterococcus group bacteria, and dissolved oxygen (Manatee County Water Atlas, n.d.). While the 2013 samples show no concern for Water Hole Creek's water quality, first-hand observations from Whisenant Farm's Bob Whisenant indicate that the creek has undergone extensive erosion over the last 5-10 years (Figure 66).

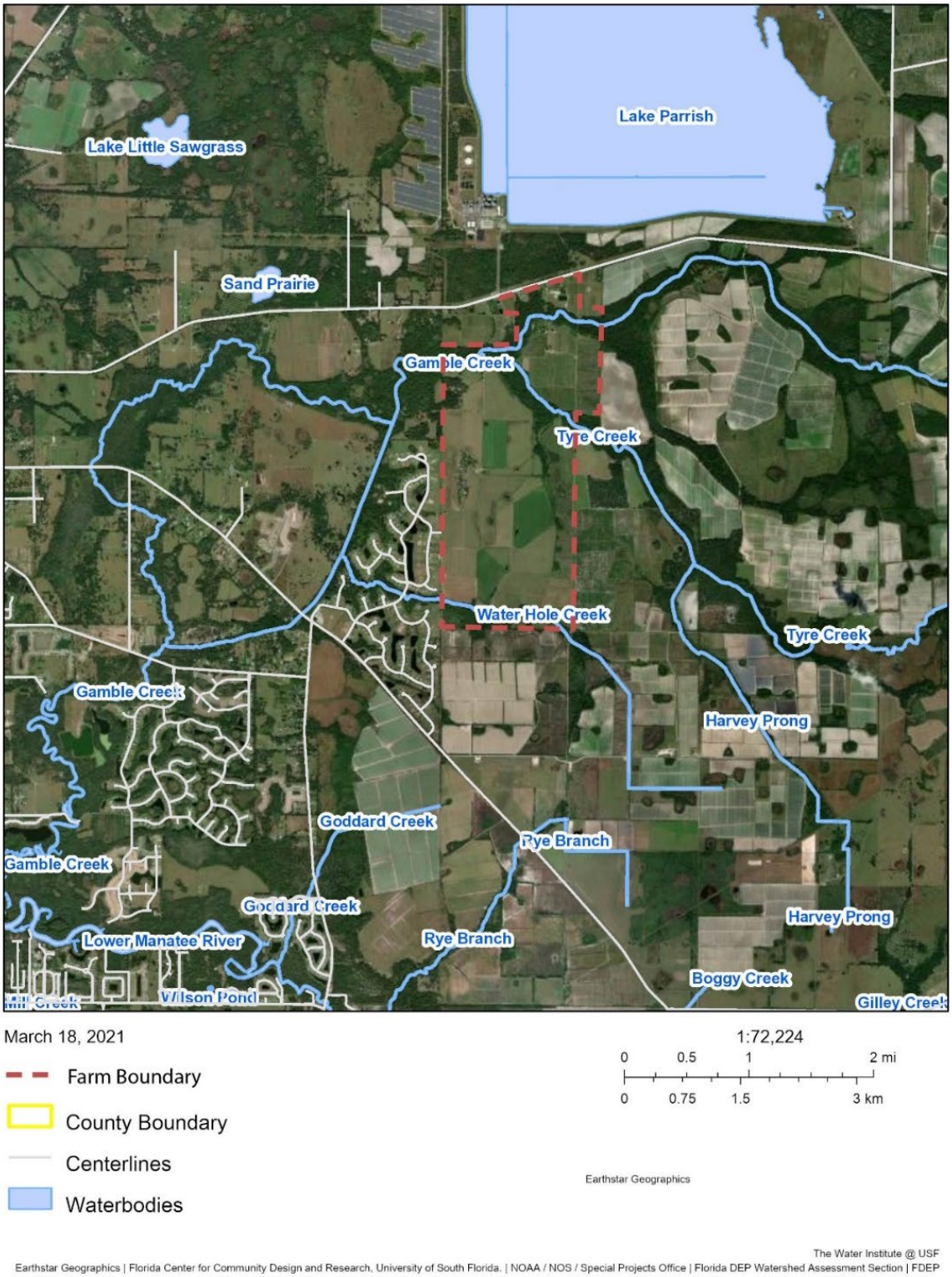

Figure 65: Stream locations relative to Whisenant Farms

(The Water Institute, 2021)

Figure 66: Erosion and sedimentation evident in Water Hole Creek

(Whisenant, January 2021)

Water Quality Restoration

Erosion, as well as sedimentation, is an issue that plagues all three streams within the farm. Extensive land soil disturbance like crop cultivation and cattle ranching exacerbate erosion which leads to increased sedimentation along streams and water bodies. Both erosion and sedimentation can greatly destroy habitats (FWC 2019, 83). Stream edge destruction due to these effects can be seen in (Figure 67), along Gamble Creek. If Whisenant Farms were to be preserved, water quality restoration efforts would most likely be needed for all three of the property's streams. But while restoration would be needed, the overall benefit of preserving 1,668 acres of pervious surface would greatly assist in improving the site's natural systems. Designating the land for conservation rather than agricultural or suburban development would assist in groundwater and watershed recharge levels as less water would be needed on-site.

Additionally, restoring the previous cropland to native forests or prairies would assist in decreasing stormwater runoff. Due to the cessation of use of agricultural or residential fertilizers, any remaining runoff should contain a lower number of pollutants from entering in the water systems. Finally, preserving the pervious land would maintain existing peak flows of the surrounding streams.

Water quality is an essential element in land conservation. Especially in a coastal Florida community, water is a constant factor in one's daily life. As stated by FWC, "an interconnected matrix of lakes, rivers, springs, and streams cover much of the southwest region (of Florida) and play a critical role in providing domestic water supplies, navigation corridors, and socio-economic and environmental benefits," (2019, 220). Conservation of Whisenant Farms would enhance watershed protection and enhance water quality for the surrounding community.

Figure 67: Exposed tree roots due to erosion and severe sedimentation along Gamble Creek (Whisenant, January 2021)

CHAPTER 8

PRIORITIZING AGRICULTURAL LAND CONSERVATION

Manatee County has completed positive steps towards conserving open land. As of November 2020, Manatee County residents approved to finance "water quality protection, fish and wildlife habitat preservation, and park(s)" with ad valorem tax and bonds, creating the county's land conservation acquisition program (Resolution No. R-20-105). With public approval and financing secured, county officials must take the next necessary steps of establishing a plan to select and prioritize properties appropriate for acquisition. In support of these decisions, it was the aim of this paper to better understand the significance and benefits of conserving agricultural land in Manatee County. More specifically, the analysis delved into the probable historic, environmental, and social benefits of prioritizing agricultural land conservation. Conserving open farmland in Manatee County is critical for the land is threatened by a constant pressure for development. As the county invests in land conservation, it is essential that it consider the precious opportunity for conservation of previously cultivated agricultural land while it is still available.

A Three-Tiered Analysis

In analyzing the feasibility of acquiring farmland for local conservation, it has been essential to cover all angles that the county defined in the purpose of its land acquisition program: environmental protection and park enhancement. Although, in addressing the significance of agricultural land, it was pertinent to add a third angle; preserving the local agricultural legacy. Thus, analysis began with the county's agricultural origins. For more than

150 years agriculture has held a prominent role in Manatee County. According to 2017 Census of Agriculture, Manatee County still contained 91 family farms and a total of 192,630 acres of farmland. Today, the agricultural legacy can also be seen through the county's Agricultural History Museum in Palmetto, or the county-wide Farm-City Week. Farm-City Week is a yearly event that aims to merge the county's urban and rural communities. Events include local farm tours, educational exhibits, and even local youth speech and writing contests (Manatee County, 2018). Preserving local farmland would only extend the county's current efforts. Further, preserved farmland could be used to extend the agricultural education and outreach that the Agricultural Museum and events like Farm-City Week already strive for.

In addition to the local agricultural significance, the probable social benefits of farmland conservation have been examined. This analysis is context dependent and thus will differ according to the agricultural land under examination. To generalize the importance of social benefits associated with agricultural conservation, analyzing a property's surrounding community is essential. This may include community characteristics, existing land use and zoning, future land use, property accessibility, and community access to surrounding preserves, parks, or other natural resources

Finally, the environmental assets of preserving agricultural land have been examined. Conservation would protect regionally significant landscapes, abundant existing wildlife, and enhance water quality. According to the Florida Fish and Wildlife Conservation Commission's 2019 State Wildlife Action Plan, Manatee County falls within the state's southwest region. For the southwest region, pineland, upland, scrub, and prairies habitats frequently found alongside rural agricultural lands are essential to the region's wildlife preservation. Additionally, the region's freshwater rivers and streams "play a critical role in providing domestic water supplies,

navigation corridors, and socio-economic and environmental benefits," (2019, Appendix A). With the conservation of agricultural lands, mitigation efforts could greatly enhance the water quality and freshwater habitats that agricultural practices have impaired.

The Case for Whisenant Farm's Conservation

In order to utilize the three-tiered analysis on a local level for Manatee County, a local family farm, Whisenant Farms, serves as a singular case study and prime example for possible locally significant farmland. In addition, Whisenant Farms is properly situated to be considered for county land acquisition as the landowners are currently examining the farm's future land use, are open to acquisition, and desire to conserve the land. Landowner willingness is an essential factor in land acquisition transactions. Landowner willingness in combination with land that meet a program's conservation priorities insures a more efficient and successful land acquisition process (Tassel 2009). Thus, this case study serves both the Whisenant family and county officials. Following the three-tiered examination described above, the analysis concludes that due to the numerous benefits of preserving Whisenant Farms, the property should be considered for conservation.

Acquisition of land by the County is not the only option for Whisenant Farm's future, but it is an appropriate one. While the Whisenant family could choose to preserve the environmental and historic integrity of their land through a conservation easement, the landowners do not desire to maintain ownership of the land, Additionally, a conservation easement does not provide the financial benefit that a land acquisition by the County could. While a conservation easement results in a permanent tax incentive from the federal government, the financial benefit would end there. Land acquisition on the other hand, could possibly provide market value for the property.

While both are complex transactions that require extensive thought and analysis, the current benefits of land acquisition outweigh the act of a conservation easement.

Historically, the Whisenant family has been a part of Manatee County agriculture for almost a century. As innovative tomato farmers the family assisted local and national tomato farmers towards improving their equipment and growing methods. The family held a significant role in education and research for state and local agricultural purposes. Their farm tells the story of innovation and hard work that were prominent throughout the county's development. For generations, the Whisenant family, like so many other Manatee County families, cultivated the land, grew a business, raised a family, and invested in their local community in Manatee County. Conserving Whisenant Farms would work towards preserving Manatee County's agricultural legacy. Considering Whisenant Farm's future, Whisenant Farm's existing structures could serve as avenues for agricultural education. For example, the packing house could be retrofitted with packing equipment original to the structure and serve as extension to the Manatee County Agricultural Museum. The storage barns adjacent to the packing could serve as additional educational presentation space for large groups. Similar to field trips already conducted annually during Farm-City Week, regular tractor or hayride tours could be given to the public to educate them on local wildlife habitats, local agricultural practices, and etc.

Environmentally, the case study shows substantial data considering Whisenant Farms for its environmental conservation benefits. The diverse wildlife species documented on the farm explain the importance of the various landscapes and habitats that inhabit the farm. Additionally, conservation of these habitats would follow the 2019 state wildlife conservation guidelines. The location of Whisenant Farms enhances the conservation value further, due to the potential for enhanced wildlife corridors. Whisenant Farms is located just six miles west of Beker-South Fork

State Park,12 miles west of Duette Preserve, and less than 4 miles north of Edward Chance Reserve. Due to the proximity of these significant wildlife habitats, Whisenant Farms could serve as an additional patch within the region's wildlife corridors. Providing additional patches of conserving land could greatly support the growth of the Florida panther habitat and hence provide additional population stability. Associated with the farm's wetlands are the three streams that run through the property. Gamble Creek, that runs through the farm's northern property, is a main tributary of the Manatee River. Two of the creek's offshoots, Tyre Creek and Water Hole Creek also run through the farm. Through remediation efforts the streams' structure and water quality can be enhanced, concomitantly enhancing the Manatee River watershed's quality, which produces the drinking water for the local communities and flows through significant marine life located in the Tampa Bay estuary and eventually into the Gulf of Mexico.

Possibly the most compelling justification for Whisenant Farm's conservation is its community context. As explained, the farm is compellingly situated along the county's Future Development Area Boundary (FDAB). This locates the farm within immediate proximity to future suburban development. Utilizing the land as a public preserve would create the first preserve within the Parrish community that could be safely accessed via a multi-use pedestrian/cycling trial. According to the North Central Overlay, enhancing community connectivity through the use of multi-use trails is a future priority for the area. As shown in Figure 68, if a multi-use trail network was created along SR 62, Rutland Road, Rye Road, and Golf Course Road, then the preserve would be accessible to pedestrians or cyclists from the surrounding neighborhoods. Within immediate proximity, the Foxbrook subdivision could gain pedestrian access to the preserve with an easement through their existing neighborhood land. The intersection of Rye Road and Golf Course Road would be less than a two mile walk to a future

preserve at Whisenant Farms. Additionally, access by vehicular traffic would be less than 15 minutes from the congregation of suburban developments located along Highway 301.

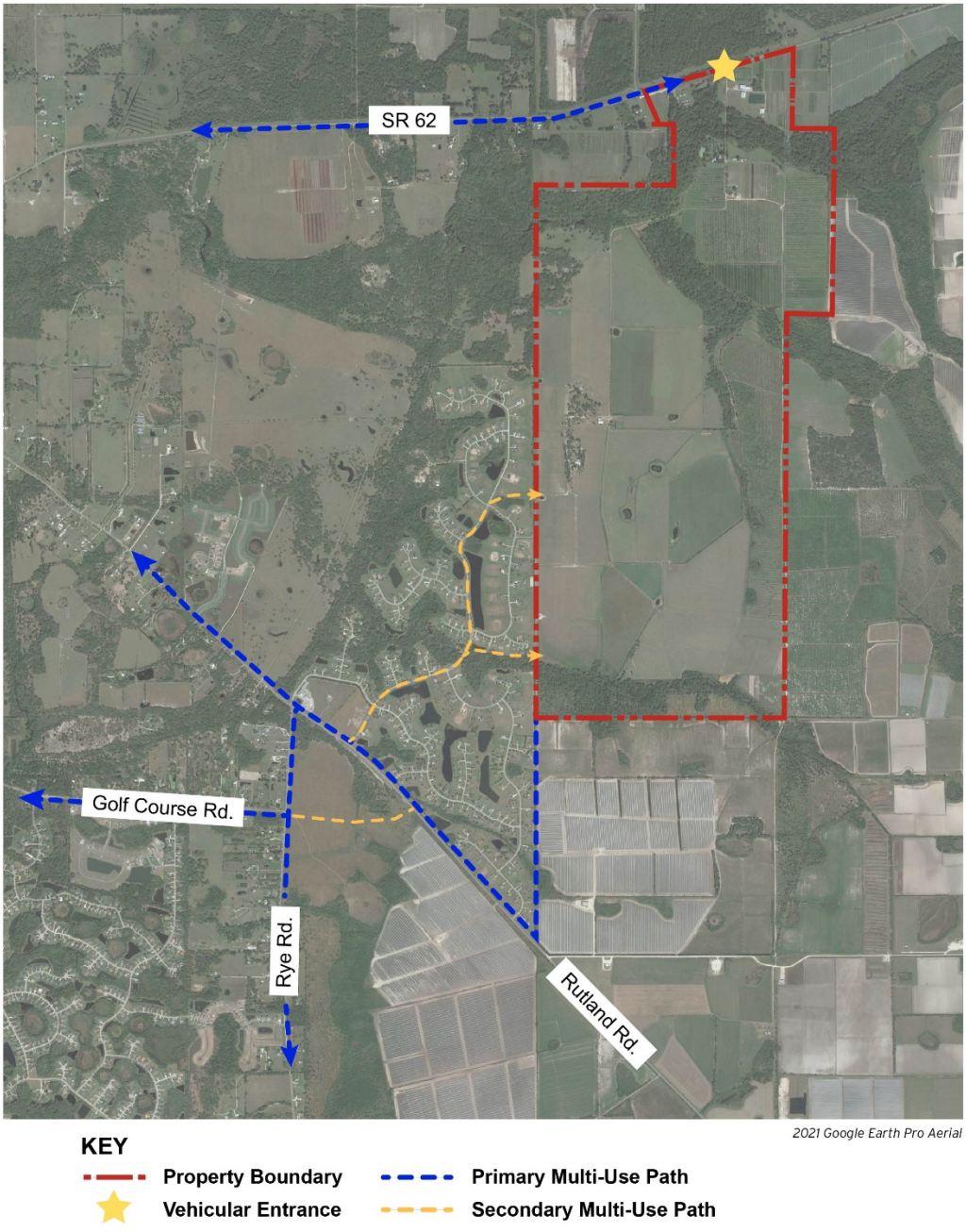

Figure 68: Proposed Access Points and Multi-Use Paths for Whisenant Farms Connection (Whisenant, 2021)

Whisenant Farms, Proposed Public Preserve

A preserve at Whisenant Farms could take many forms, three priorities should remain at the heart of the project. Firstly, to preserve and restore the freshwater forest wetlands that line Gamble Creek, Tyre Creek, and Water Hole Creek. Secondly, to rehabilitate the land and restore the native habitat within the property's existing pasture and cropland. Lasty, to provide public access so to contribute to the community's quality of life. In order to achieve these goals, this preserve would be best suited for passive recreation, as noted below in the table.

In order to better articulate the conservation benefits and possibilities for Whisenant Farms, the following table outlays suggested land uses and activities according to their historic, environmental, or social benefits. Suggestions reference Figure 69, as they are organized according to their suggested zone within the Whisenant Farms property.

LOCATION	PROPOSED USE/ACTIVITY	BENEFITS
Packing House & Area	• Agricultural Education • Office Space • Crop/garden demonstrations	• Preserves county agricultural history • Utilize existing buildings • Expand upon the county's existing agricultural education • Provides on-site educational opportunities
Streams & Forested Wetlands	• Forested wetland conservation and restoration • Expand stream forested buffers	• Improve watershed water quality • Protect aquatic species habitat • Reduce erosion • Expand wildlife habitat
Existing Houses & Barns	• Housing for park rangers • Housing/research space for field researchers	• Utilize existing buildings • Provide on-site housing to improve safety
Existing Orange Groves	• Maintain harvest until end of grove life • Long-term native habitat restoration	• Produce citrus for profit or donation • Opportunity for U-Pick • Expand wildlife habitat • Restore nutrients to soil
Cropland/ Pastures	• Restore pastures and cropland to native habitat like grasslands/scrub/forest • Recreational trails through native habitat • Educational Signage	• Expand wildlife habitat • Reduce stormwater runoff • Restore nutrients to soil • Increasing public access to recreational activities like walking, running, bird watching, etc. • Increase shade for recreation trails • Improve habitat and wildlife education

Table 4: Proposed Public Preserve Uses and Activites at Whisenant Farms (Whisenant, 2021)

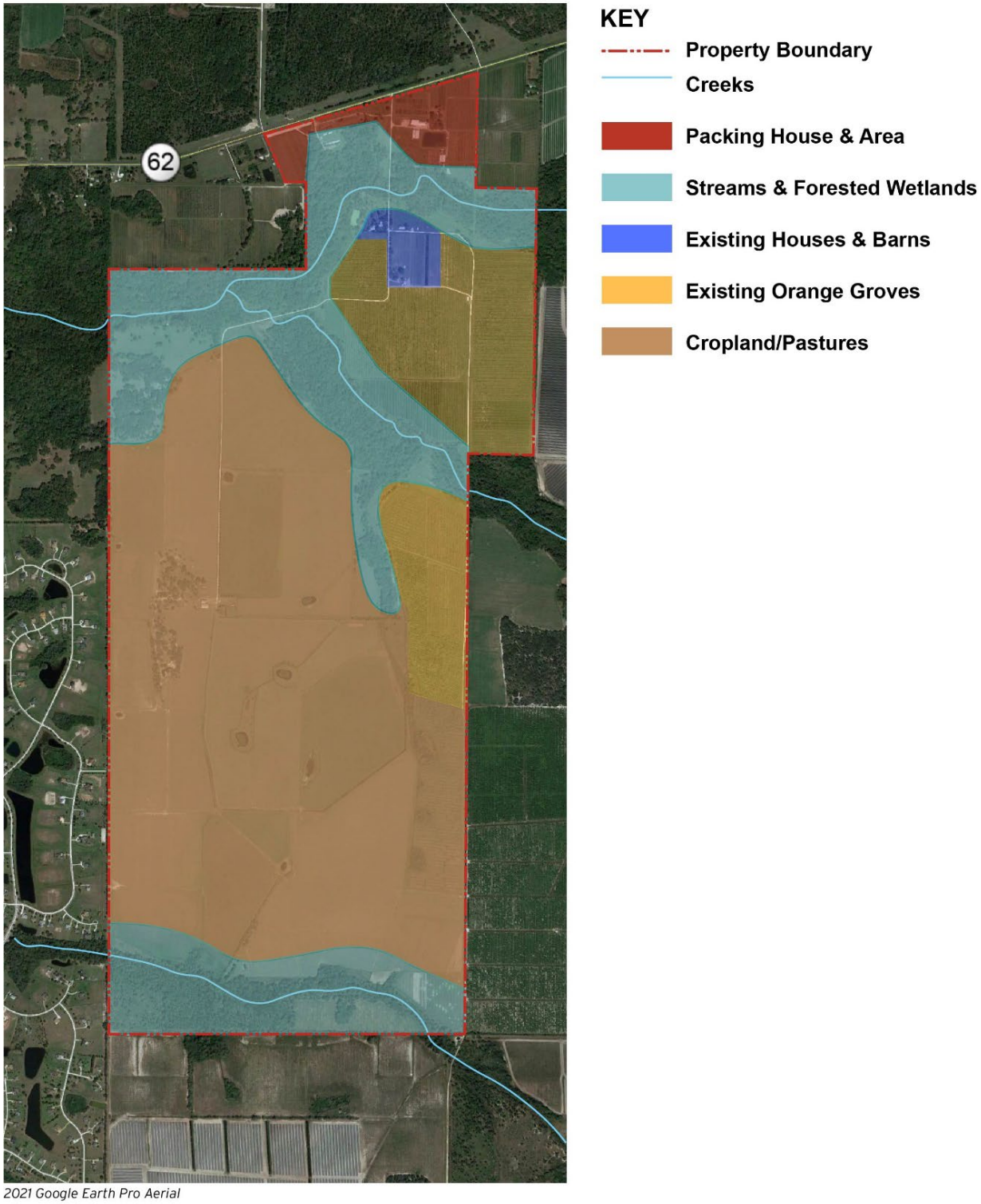

Figure 69: Proposed Uses Reference Map (Whisenant, 2021)

Future Steps

This report aims to begin the conversation of prioritizing the conservation of agricultural land within Manatee County's land acquisition program. Manatee County contains an array of significant natural resources, but while preserving coastline is important, so is rural agricultural land. Going forward additional environmental and social analysis is necessary. As emphasized by Tassel in her book, *The Conservation Program Handbook,* public engagement, and project prioritization are key (2009). The county should consider the balance of land conservation throughout the county's various communities. Additionally, if land acquisition is being considered in a community, then that community should be directly engaged. For example, if discussions continue around the conservation of Whisenant Farms, the Parrish community should be engaged in conversations about its conservation and accessibility. Additionally, planning, and environmental experts as well as local resources should be utilized. Finally, these discussions should result in site plans for the properties in question.

Manatee County is home to a wealth of natural beauty and rich culture. As the county moves forward in its land conservation efforts officials should be acutely aware of the benefits of preserving Whisenant farms and similar agricultural lands throughout the county. As seen in the comprehensive conservation analysis of Whisenant Farms, the conservation of rural open land, found within the fields of past agricultural fields, would assist Manatee County in its goal of future land conservation.

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