

Conflict Assessment Meeting

Joint Public Meeting of Brevard County Board of County Commissioners & Town of Malabar Town Council

Monday, May 1, 2023, 10:00 AM – 12:00 PM

**First Baptist Church of Malabar
1665 Malabar Road, Malabar, FL 32950**

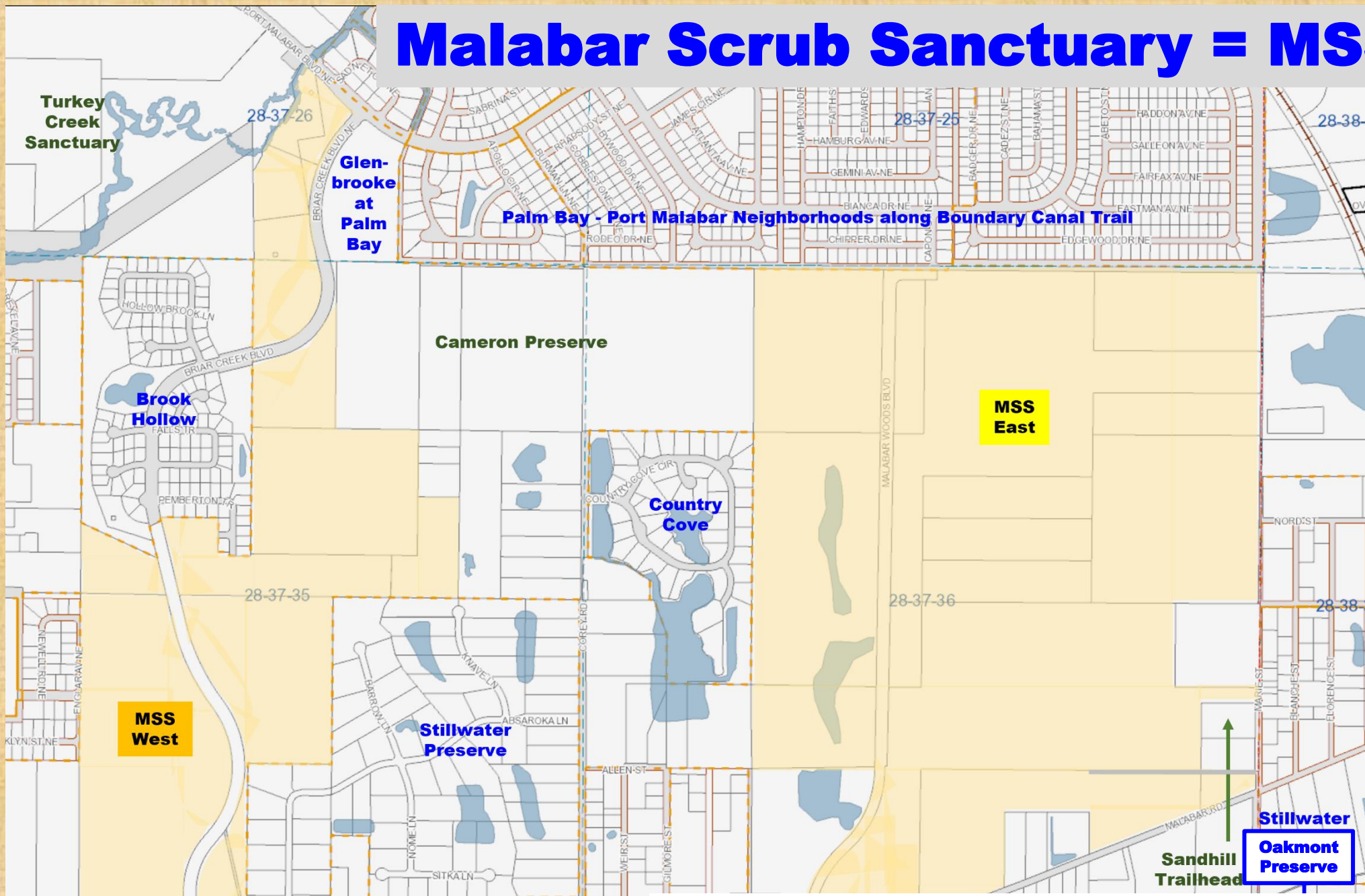
**Town of Malabar
Concerns & Requested Changes to
Malabar Scrub Sanctuary (MSS) Restoration Plan**

Scrub-jays, the Science
A Restoration Plan for MSS
MSS East
MSS West
Balanced Requests

The contents of this file represent Town of Malabar's third formal attempt to seek resolution to this issue and include further concessions by the Town toward that end.

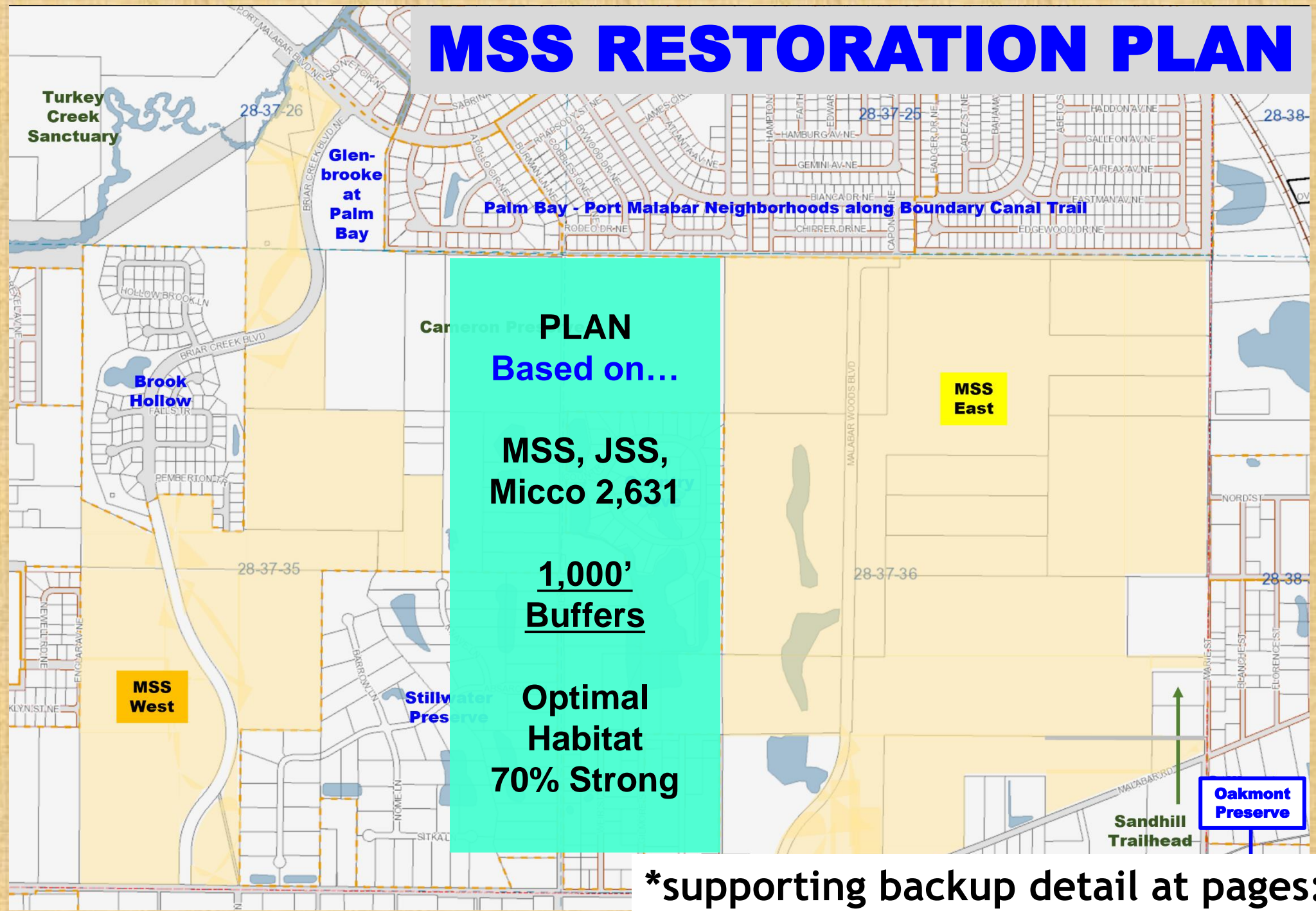
***Scrub-jays, the Science supporting backup detail at pages: 9 - 11**

Malabar Scrub Sanctuary = MSS



*supporting backup detail at pages: 12 - 17

MSS RESTORATION PLAN



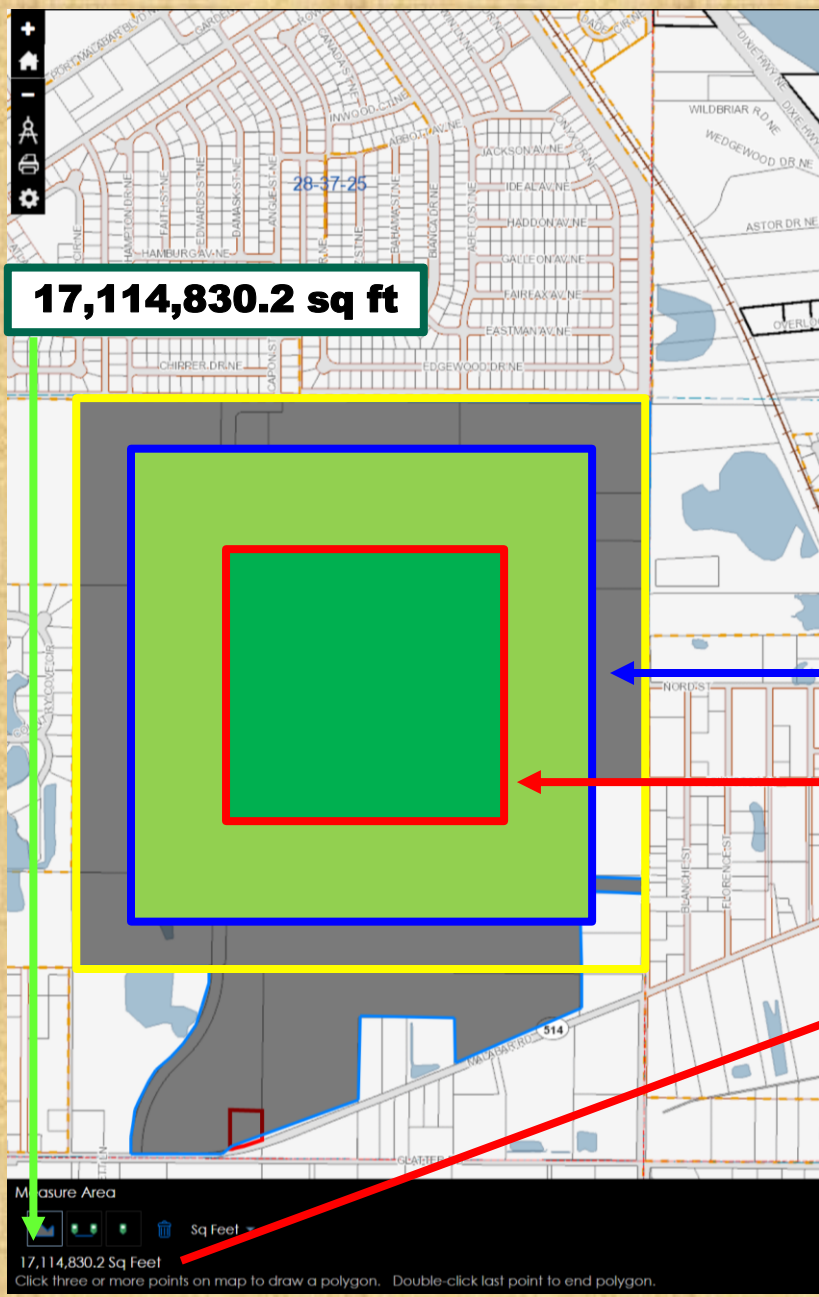
*supporting backup detail at pages: 12 - 17

MSS East Factors

MSS East and MSS West are completely different properties that must be treated differently...

MSS East is...

- larger than MSS West (x 2+)
- more suited for restoration to scrub habitat
- contiguous property... (not split by ROW)
- more proportional... with a main area length & width each about 4,000' as shown at left in yellow square
- 393 acres (all MSS East) (gray shaded area)



The Main Area of MSS East is approximately a 4000' X 4000' Square (shown in yellow).

4,000' x 4,000' = 16,000,000 sq ft



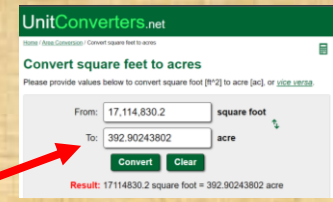
367.3

12 Families

Using the minimal 300' Tall Tree-Free Buffer = **265.4** acres suitable habitat

4 Families

(At 22 Acres / Family)



392.9

Using the 1,000' Tall Tree-Free Buffer = **91.8** acres optimal habitat

Rectangle Acreage calculations courtesy of <https://www.unitconverters.net/area/square-feet-to-acres.htm>

*supporting backup detail at pages: 18 - 20

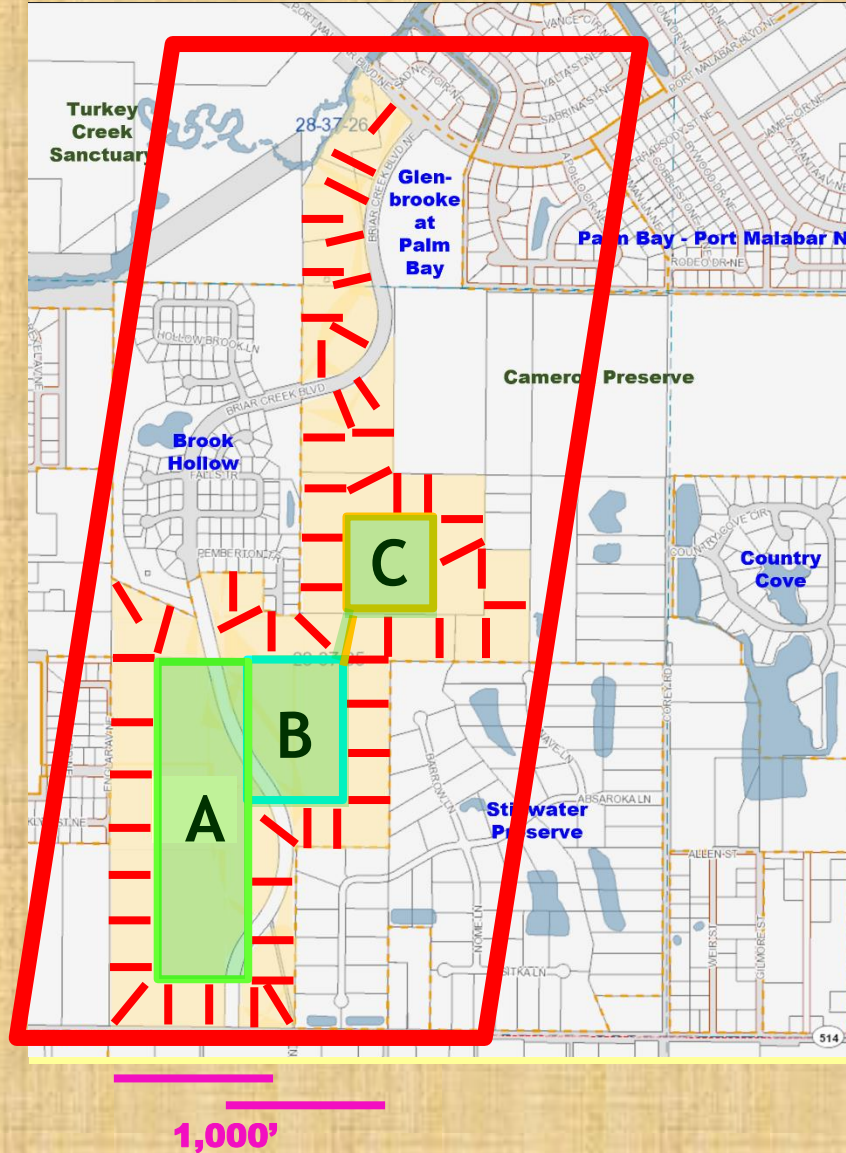
MSS West Factors

MSS East and MSS West are completely different properties that must be treated differently...

MSS West is...

- NOT a square nor circular
- a complex site that would be difficult to achieve optimal scrub-jay habitat
- smaller than MSS East (< half the acreage)
- far less suited for restoration to scrub habitat
- non-contiguous property... 3 areas split by ROW
- diagonal - yet asymmetrical variable widths and diagonal length 1 Mile+

MSS West area total = 181.5 acres
BCPAO site sourced



However, at the minimal 300' Tall Tree-Free Buffer and Not Counting Trees in ROW

MSS West Would Result in 68.8 Acres of Suitable Scrub-jay Habitat

$$A + B + C \\ 42.7 + 18.6 + 7.5$$

(At 22 Acres / Family)

3 Families

*supporting backup detail at pages: 21 - 31

MSS Restoration Plan Town of Malabar Requested Changes Request Location At Request Number

Circled Numbers Only Indicate Location and are Not To Scale

Circled Numbers Only Indicate Location and are Not To Scale

MALABAR SCRUB SANCTUARY WEST

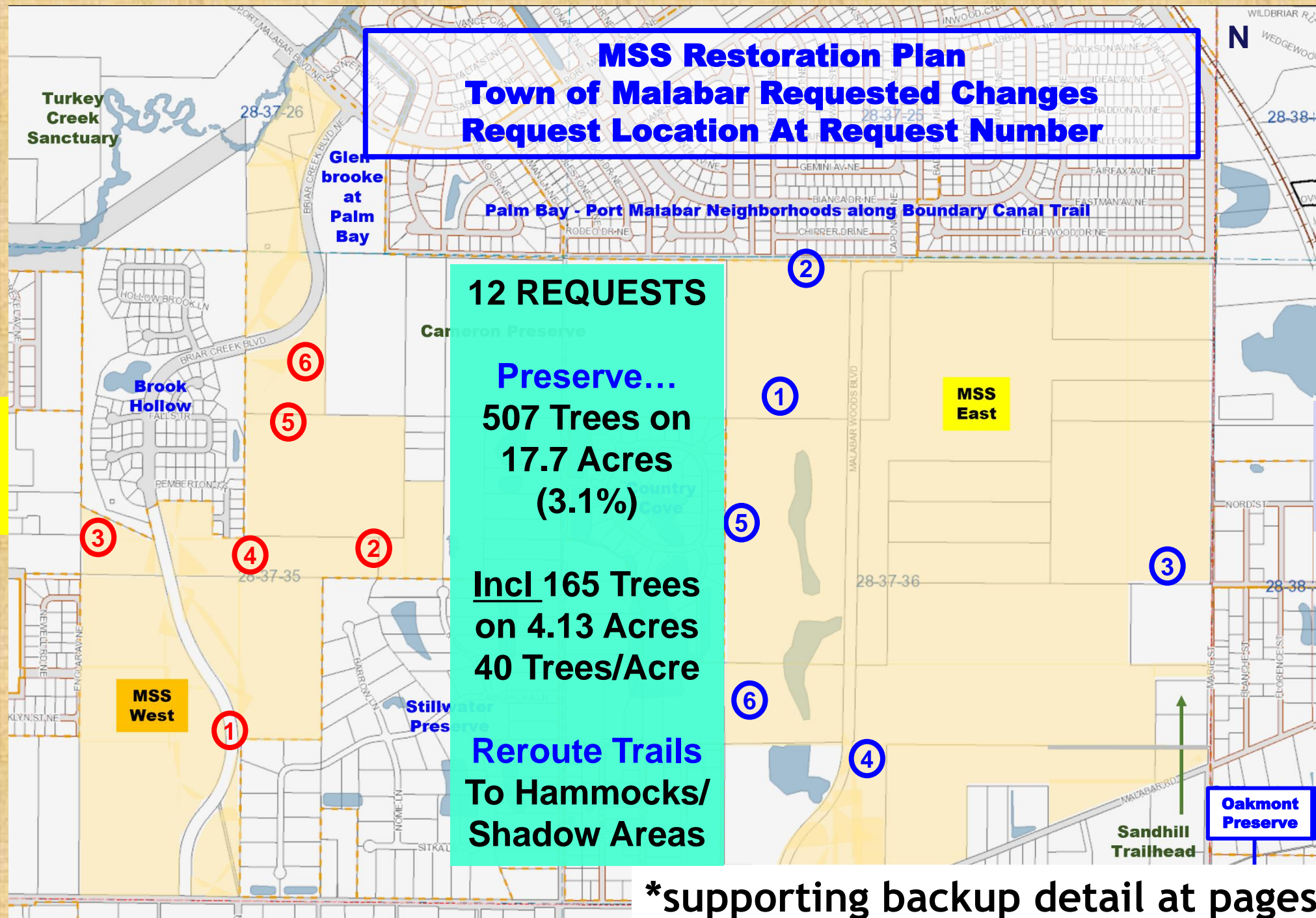
MALABAR SCRUB SANCTUARY EAST

12 REQUESTS

**Preserve...
507 Trees on
17.7 Acres
(3.1%)**

**Incl 165 Trees
on 4.13 Acres
40 Trees/Acre**

**Reroute Trails
To Hammocks/
Shadow Areas**



*supporting backup detail at pages: 32 - 52

Circled Numbers Only Indicate Location and are Not To Scale

Circled Numbers Only Indicate Location and are Not To Scale

Thank You.
Questions?

As noted by Dr. Breininger, in the 2021 Scrub-jay PVA for Brevard County, FL, (pg. 92)



“All the local populations are projected to decline to **extinction**, although at varying rates due to different amounts of Strong habitat available for breeding groups.”



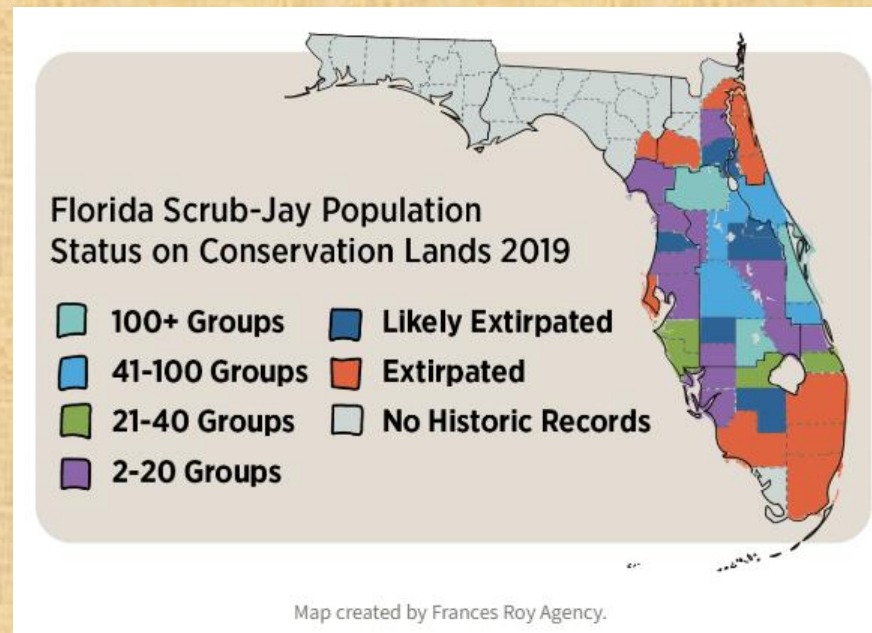
Town of Malabar Learned That Future Survival of the Florida Scrub-jay in Brevard County is Dependent on a Recognition that Scrub-jays...

- **Are** endemic to (only exist) in Florida - with largest populations in Ocala and at Kennedy Space Center (KSC)
- **Have** decreasing optimal scrub habitat due to development (22 - 24 acres needed per breeding pair family)
- **Utilize** a complex family structure - breeder pair and up to 5 helpers
- **Monitor** for hawk predation (hawks hunting from tall trees, power lines, buildings)
- **Take** turns functioning as a hawk sentinel for the family - signaling to all when a threat is detected
- **Need** increased genetic diversity - isolated scrub-jay populations need external area birds
- **Depend** on scrub oak acorns as a primary food source
- **Occupy** habitat that is considered varying percentages of “strong”, “weak”, or “sink” depending on scrub-jay breeding pair capacity, genetic diversity and most importantly habitat quality relative to potential of population increase
- **Require** tall tree-free (hawk) buffers between scrub-jay territory and forest lines
(1,000’ minimum for optimal habitat or 300’ minimum for suitable habitat - FL FWCC 2019)
- **Require** low vegetation habitat with empty areas to cache food
shrub height: (4’-5.5’ tall) for optimal habitat or (3.5’<8’ tall) for suitable habitat - FL FWCC 2019)

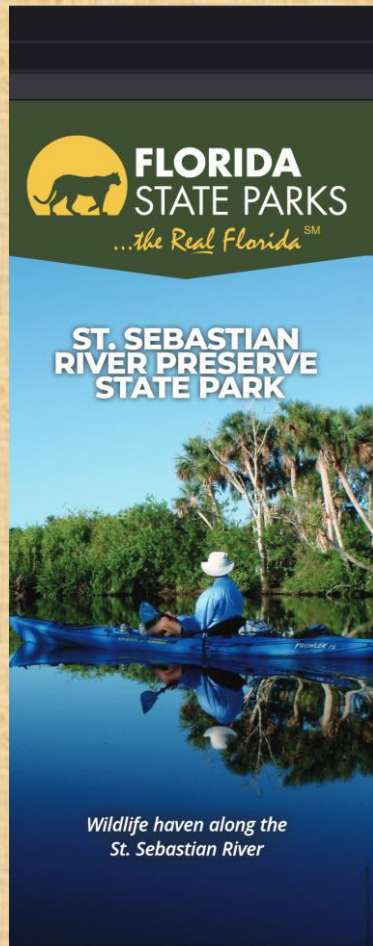
The three largest remaining populations of jays on conservation lands can be found at Ocala National Forest in Marion County, on federal and county lands in Brevard County, and across a broad patchwork of state, federal, and NGO-managed lands in Highlands County located close enough together that jays can fly from site to site to find mates and establish new territories.

(Audubon Florida - Florida Scrub-Jays: 2019 By The Numbers)

Town of Malabar Learned that Brevard County is an important location for scrub-jay survival but MSS is certainly not the best location in Brevard County for building stronger scrub-jay habitat



Town of Malabar Learned About Alternative Sites Such as St. Sebastian River Preserve State Park... A Much More Viable Place for Scrub-Jay Habitat



“Today, the preserve totals almost **22,000 acres.**” - pg 1 -
https://www.floridastateparks.org/sites/default/files/media/file/St.%20Sebastian%20River%20OSP_PROOF_2.07.19.pdf

“Major efforts have been put into restoring this community type for the benefit of the Florida scrub-jay since St. Sebastian River Preserve comprises the largest portion of the south Brevard-Indian River-St. Lucie metapopulation, which is the fourth largest metapopulation in the state.” This is per St. Sebastian River Preserve State Park - Advisory Group Draft Unit Management Plan - FL DEP June 2018 (pg 32).

“Using new data, the south Brevard-Indian River-St. Lucie metapopulation meets the criteria that once defined core populations; core status will be designated in the new draft recovery plan soon to be released. The Florida scrub-jay recovery plan is likely to recommend a population increase at the St. Sebastian River Preserve. The large amount of scrub and flatwoods at the park probably make it the most important area for Florida scrub-jay recovery along the mainland of Florida’s Atlantic Coast (Breininger 2004).” This is per St. Sebastian River Preserve State Park - Advisory Group Draft Unit Management Plan - FL DEP June 2018 (pg 51).

“... realistically it is estimated that St. Sebastian could support up to **75-85 (scrub-jay) territories.**” This is per St. Sebastian River Preserve State Park - Advisory Group Draft Unit Management Plan - FL DEP June 2018 (pg 52).

Town of Malabar Learned that the EEL Pgm Restoration Plan For MSS Was Based on Large Site Interpretations

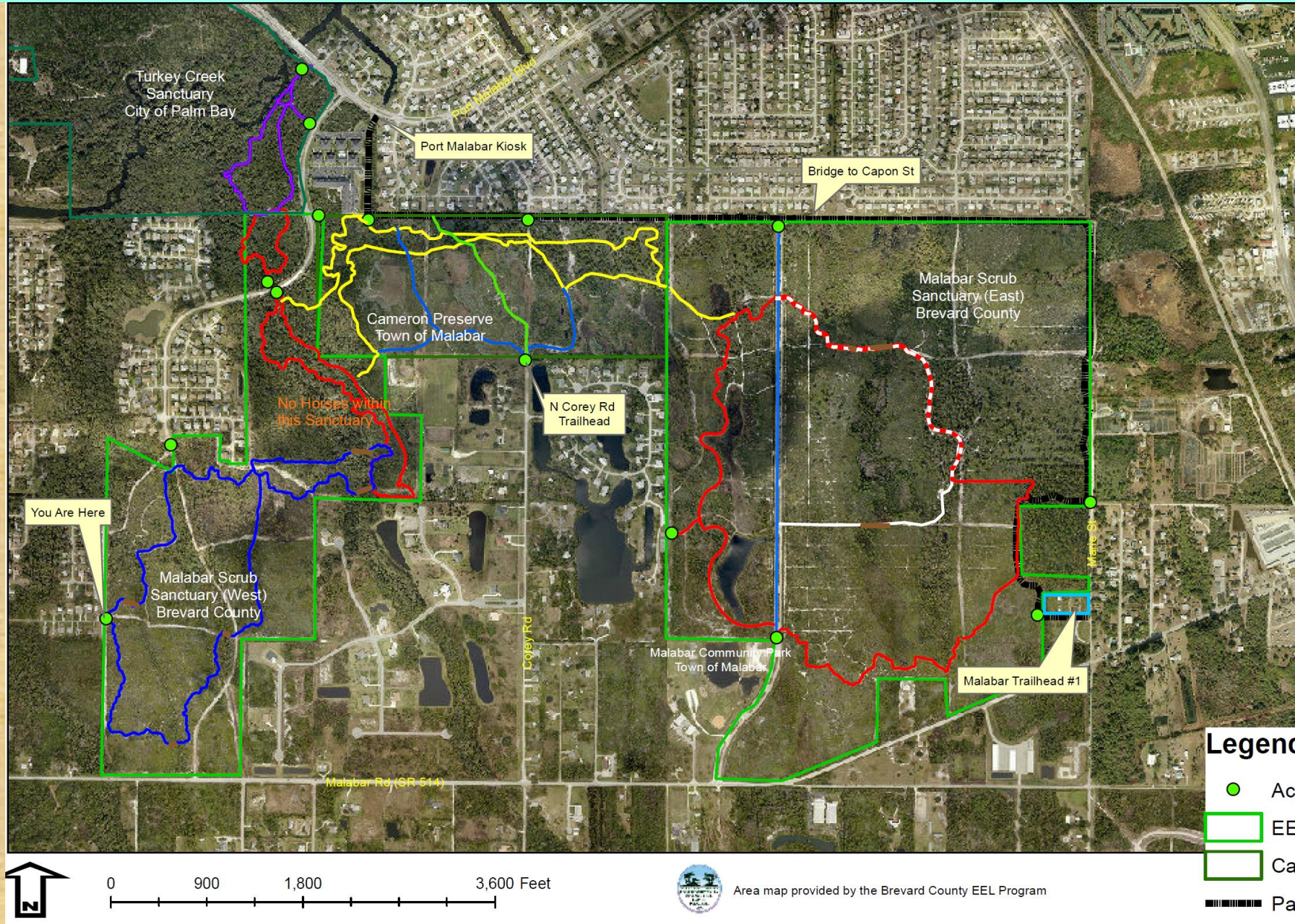
The Town Then Interpreted that When Large Scale Metrics Are Applied to Too Small a Sanctuary, Adjustments to The Plan May be Necessary

- **Project quality metrics were based on an aggregation of **2,631** acres, the acreage sum of 3 sanctuaries to be restored to scrub habitat:**
 - **MSS (577)**
 - **JSS (732)**
 - **Micco SS (1,322)**
- **Plan implied little recognition of Town of Malabar ROW (right-of-way)**
- **Plan distances of 1,000' tall tree-free buffers are too small to result in remaining territory for scrub-jay habitat in MSS West**
- **70% strong is directly associated with “Optimal Habitat” and is an objective of the plan – yet optimal habitat requires a 1,000' buffer**

Town of Malabar Learned that the Scrub-Jay Science Used by Brevard County to Base the Restoration Plan On a PVA (Population Viability Analysis) Was From Data On Numerous, Widely Located Scrub-jay Populations, with an Emphasis on the South and Central (SC) Mainland Brevard Metapopulations

The main populations comprising the South and Central Mainland Brevard metapopulation are Viera (including Viera mitigation area, Capron Ridge, and Cruickshank scrub sanctuaries) and Wickham Park (WICK) in Central Mainland; Malabar scrub sanctuary (MALA), Liberty Park (LIBE), Jordan Scrub Sanctuary (JORD), Valkaria scrub sanctuary and megaparcels (VALK), Babcock (BABC), Micco scrub (WMIC, including northern Sebastian Buffer Reserve), Palm Bay (PBAY), Corrigan Sebastian Buffer Reserve (CORR), Coracii Sebastian Buffer Reserve (CORA, including N Sebastian Conservation Area), North Fork Sebastian Buffer Reserve (NFOR), Carson Platt Sebastian Buffer Reserve (CP), Wabasso scrub (WABA, including Pelican Elementary School). The last 12 populations listed above are all within the South Mainland Brevard region. As noted in the 2021 Scrub-jay PVA for Brevard County, FL, (pg. 73)

Town of Malabar Learned More About MSS the Best Trail System in Brevard County

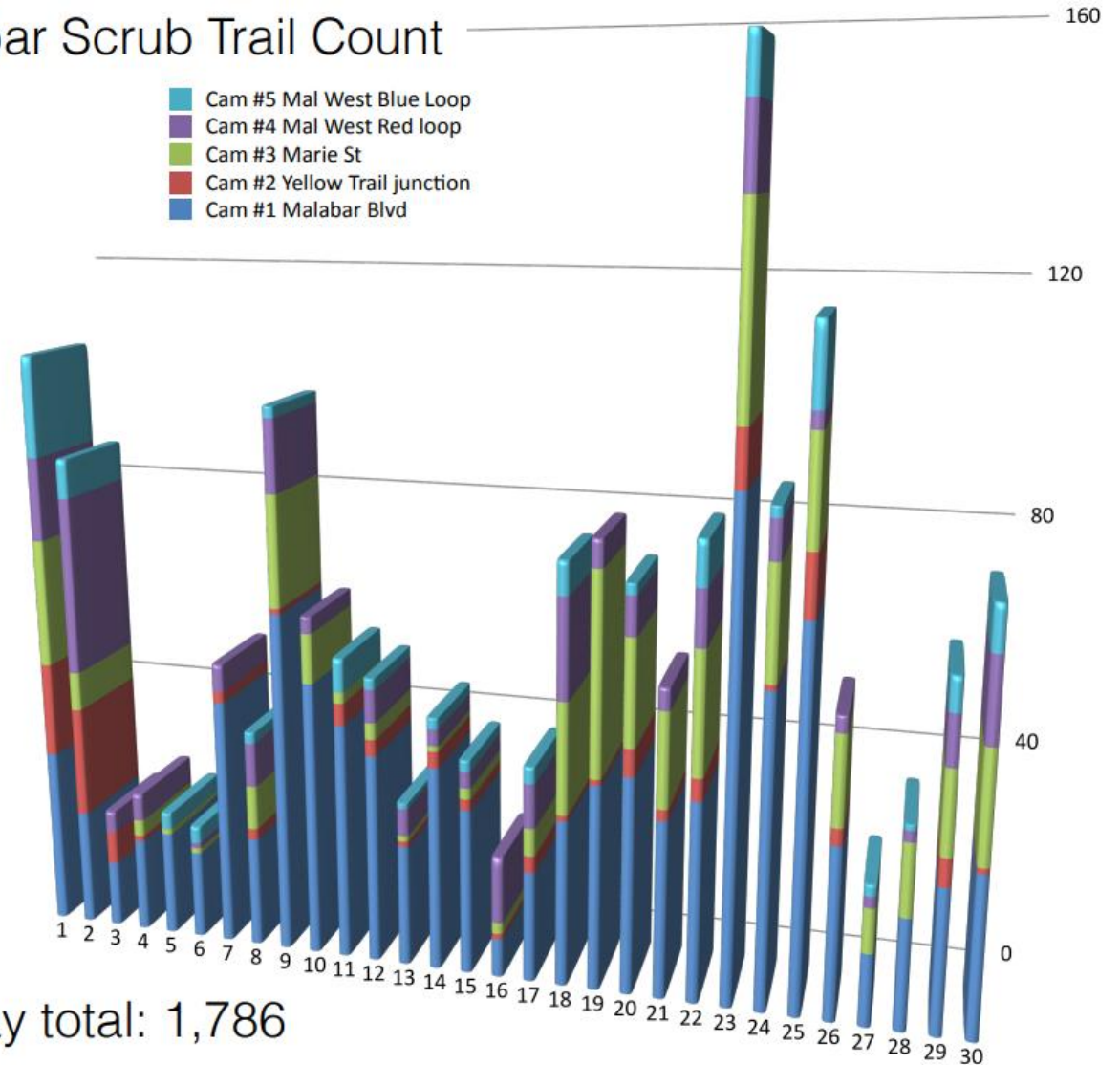


EEL Program Trail Count for Malabar Scrub Sanctuary from June 2016

- Recorded visitation over 30 days - 1,786
- Average daily visitation - 59.53
- Projected average annual visitation - 21,728
- (Dogs: 39 with many repeats)
- Assuming Malabar Scrub visitation followed the same pattern as South Beaches, Malabar Scrub could expect to see nearly 32,000 visitations annually.
- Conservative estimates suggest County-wide sanctuary trails may have 170,000 annual visitors.

MSS is one of the Most Visited Sanctuaries in Brevard County

Malabar Scrub Trail Count



Turkey Creek Sanctuary estimates trail use has doubled since 2016

Environmentally Endangered Lands (EEL) Program

Mission Statement

Protecting and Preserving Biological Diversity Through Responsible Stewardship of Brevard County's Natural Resources

Vision Statement

- The Environmentally Endangered Lands (EEL) Program acquires, protects and maintains environmentally endangered lands guided by scientific principles for conservation and the best available practices for resources, stewardship and ecosystem management.
- The EEL Program protects the rich biological diversity of Brevard County for future generations.
- The EEL Program provides passive recreation and environmental education opportunities to Brevard's citizens and visitors without detracting from the primary conservation goals of the program.
- The EEL Program encourages active citizen participation and community involvement.

Guiding Directives

- Conserving and managing natural resources
- Providing opportunities for environmental education
- Providing opportunities for passive recreation such as hiking and wildlife observation

While it is recognized that support of biological diversity is the primary purpose of this property – and Passive Recreation is secondary ...

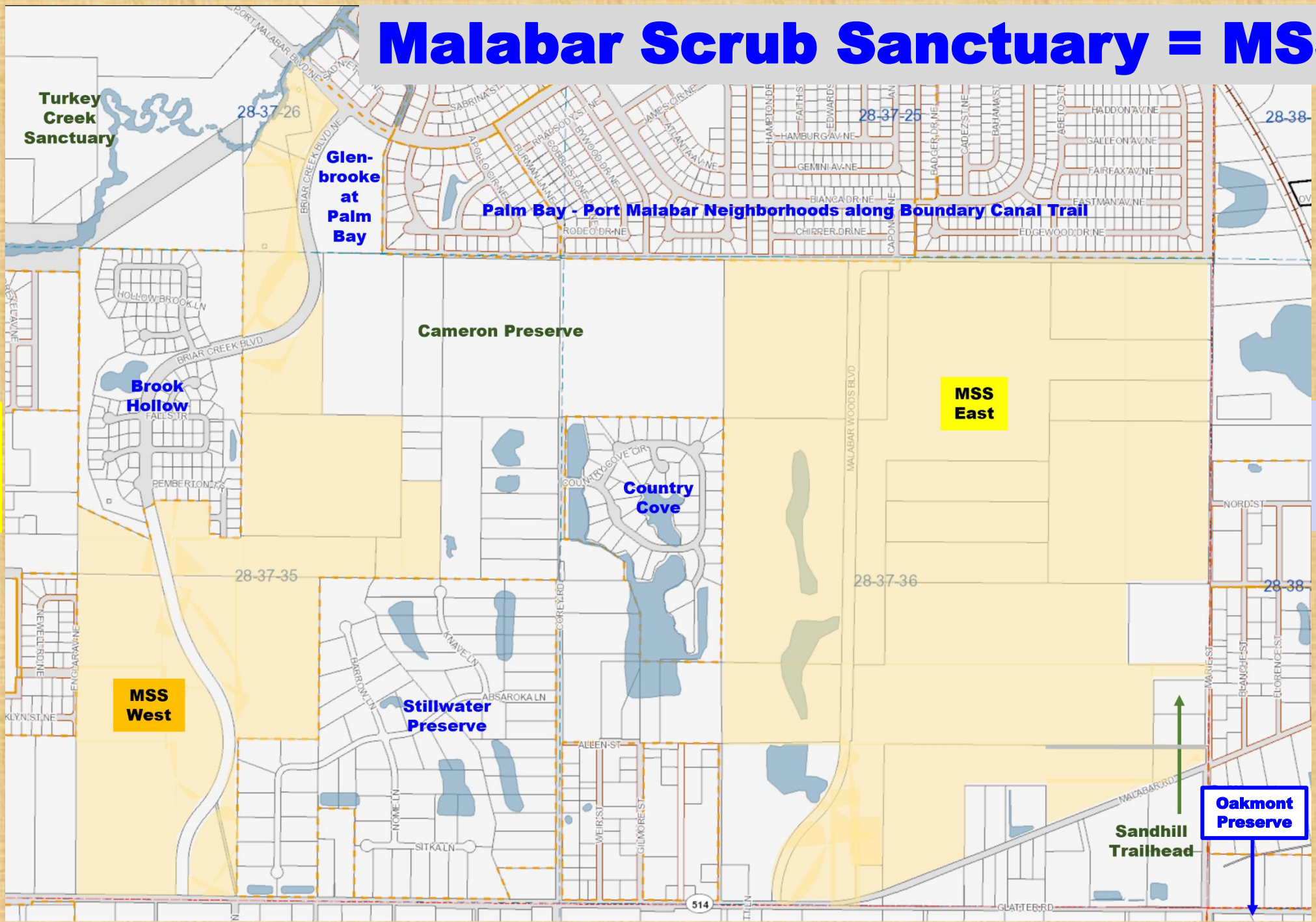
367.3

Secondary does not mean Zero

As Per Voter Mandate, Passive Recreation MUST be Supported

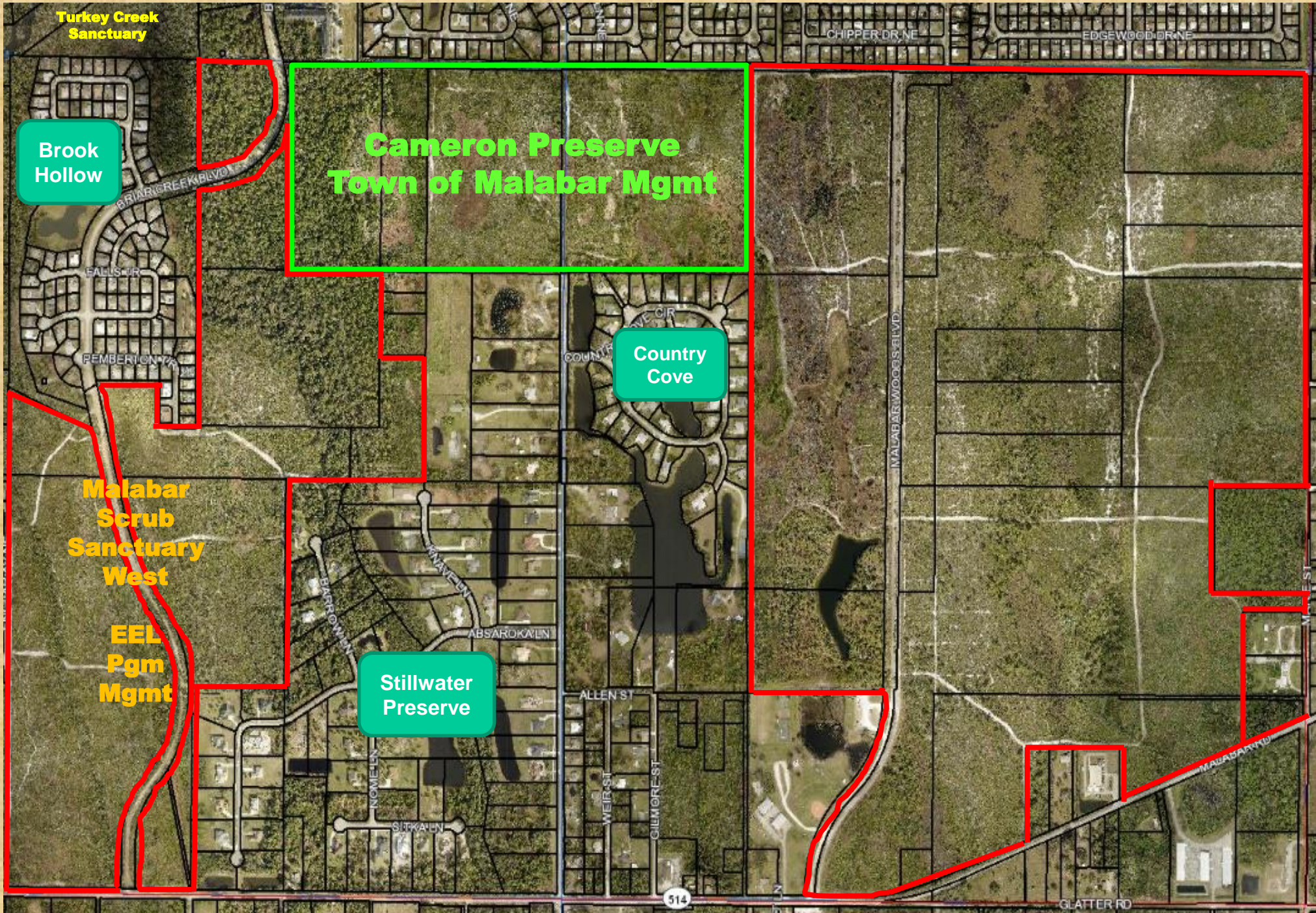
<https://www.brevardfl.gov/EELProgram/home>
As of January 3, 2022

Malabar Scrub Sanctuary = MSS



MALABAR SCRUB SANCTUARY WEST

MALABAR SCRUB SANCTUARY EAST



Brook Hollow

Cameron Preserve
Town of Malabar Mgmt

Country Cove

Malabar Scrub Sanctuary West

EEL Pgm Mgmt

Stillwater Preserve

MALABAR SCRUB SANCTUARY EAST

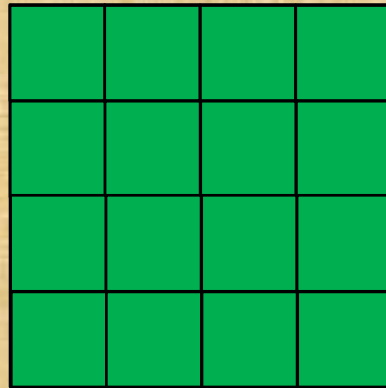
1000' Buffers to Forest Edge Reduce Area of Scrub-jay Habitat on Smaller Properties

Tall Tree-Free Buffer Distance in a Small Sanctuary

1,000' tree-free buffers, as associated with optimal scrub-jay habitat (per FL FWCC 2019), require large areas



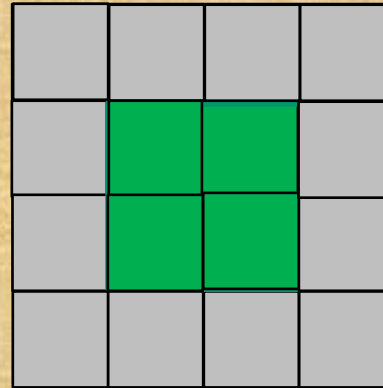
1,000' Tree-Free Buffer



4,000' x 4,000' Square Sanctuary

16,000,000 sq ft (~ 367.3 acres)

=



2,000' x 2,000' = 4,000,000 sq ft Optimal Scrub-jay Habitat *After 1,000' Tree-Free Buffer

UnitConverters.net
Home / Area Conversion / Convert square feet to acres
Convert square feet to acres
Please provide values below to convert square foot [ft^2] to acre [ac], or *vice versa*.
From: 4,000,000 square foot
To: 91.827364555 acre
Convert Clear
Result: 4000000 square foot = 91.827364555 acre

4,000,000 sq ft (~ 91.8 acres)
ONLY 25% can potentially be “strong” habitat

At 22 – 24 acres needed for each scrub-jay breeder pair, applying the planned 1,000' buffer to MSS East with 92 acres of optimal scrub-jay habitat, MSS East will only support 4 families of scrub-jays

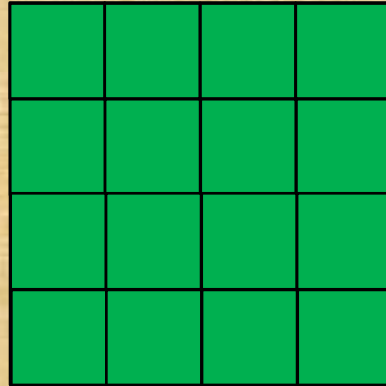
300' Buffers to Forest Edge Result in More Area of Scrub-jay Habitat on Smaller Properties

Tall Tree-Free Buffer Distance in a Small Sanctuary

300' tree-free buffers, as associated with suitable scrub-jay habitat (per FL FWCC 2019), require large areas



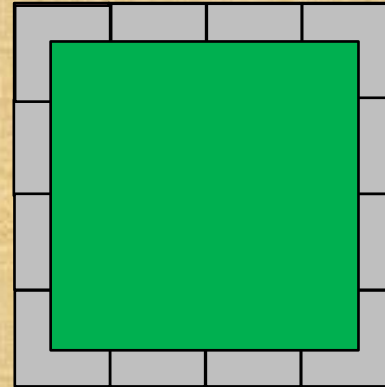
1,000' Tree-Free Buffer



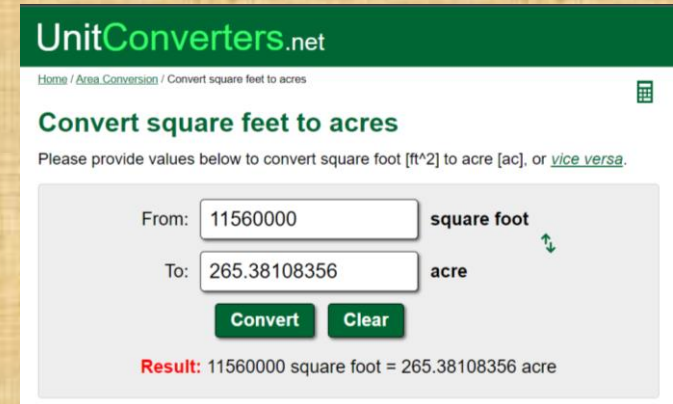
4,000' x 4,000' Square Sanctuary

16,000,000 sq ft (~ 367.3 acres)

=



3,400' x 3,400' = 11,560,000 sq ft Suitable Scrub-jay Habitat *After 300' Tree-Free Buffer



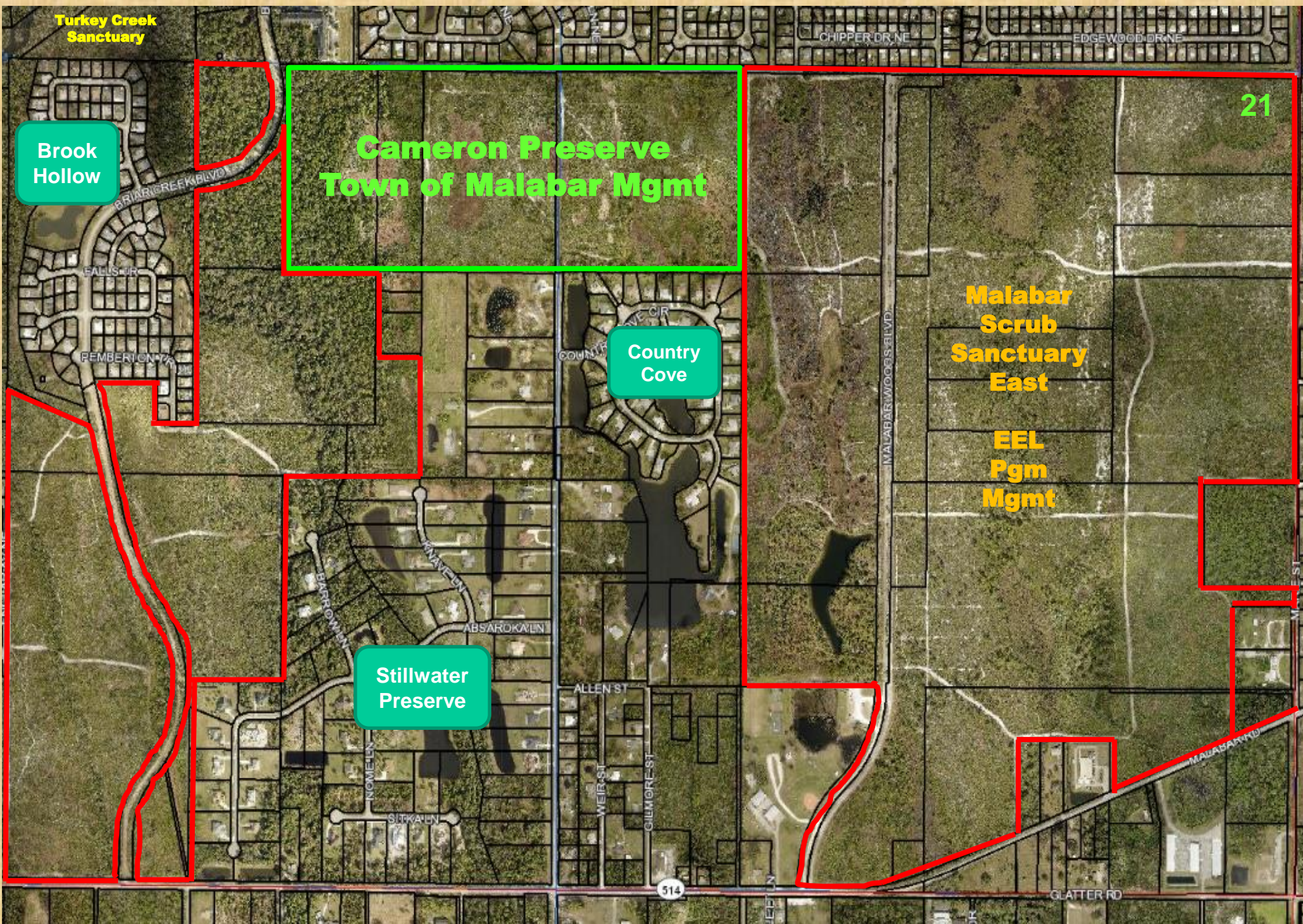
Rectangle Acreage calculations courtesy of <https://www.unitconverters.net/area/square-feet-to-acres.htm>

11,560,000 sq ft
(~ 265.4 acres)

OVER 72% can potentially be "suitable" habitat

At 22 – 24 (23 avg) acres needed for each scrub-jay breeder pair, applying the FL FWCC minimal 300' buffer to MSS East with 265 acres of optimal scrub-jay habitat, MSS East would be able to support 11.5 families of scrub-jays

**MALABAR
SCRUB
SANCTUARY
WEST**

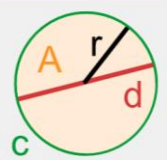


In a perfect case scenario for optimal scrub-jay habitat, applying the 1,000' tall tree-free buffer to an area of 181.5 acres, (the total of the three separate sections of MSS West), would probably be circular in shape and have nothing higher than 15' within 1,000' of the perimeter. In that case, the optimal scrub habitat would be immediate and would equal the full circle of 181.5 acres.

If the 1,000' tall tree-free buffer were applied to a circular area of 181.5 acres, that was bordered by tall trees, power lines, and/or buildings, for optimal scrub-jay habitat (per FL FWCC 2019), the habitat territory would start after the 1,000' point inward from the property edge.

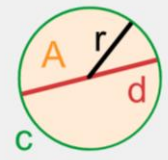
If the 300' tall tree-free buffer were applied to a circular area of 181.5 acres, that was bordered by tall trees, power lines, and/or buildings, for suitable scrub-jay habitat (per FL FWCC 2019), the habitat territory would start after the 300' point inward from the property edge.

$$\begin{array}{r} 3172.76 \\ -0000.00 \\ \hline 3172.76 \end{array}$$



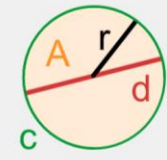
Radius (r)	1,586.38 ft
Diameter (d)	3,172.76 ft
Circumference (c)	9,967.5 ft
$c = 2\pi r = 38073.12 * \pi \text{ [inch]} \approx 119610 \text{ [inch]}$	
Area (A)	181.5 ac
$A = \pi r^2 = 362390616.6336 * \pi \text{ [inch}^2] \approx 181.5 \text{ [acre]}$	

$$\begin{array}{r} 3172.76 \\ -2000.00 \\ \hline 1172.76 \end{array}$$



Radius (r)	586.38 ft
Diameter (d)	1172.76 ft
Circumference (c)	3,684.3 ft
$c = 2\pi r = 1172.76 * \pi \text{ [ft]} \approx 3684.3 \text{ [ft]}$	
Area (A)	24.798 ac
$A = \pi r^2 = 343841.5044 * \pi \text{ [ft}^2] \approx 24.798 \text{ [acre]}$	

$$\begin{array}{r} 3172.76 \\ -600.00 \\ \hline 2572.76 \end{array}$$



Radius (r)	1,286.38 ft
Diameter (d)	2572.76 ft
Circumference (c)	8,082.6 ft
$c = 2\pi r = 2572.76 * \pi \text{ [ft]} \approx 8082.6 \text{ [ft]}$	
Area (A)	119.344 ac
$A = \pi r^2 = 1654773.5044 * \pi \text{ [ft}^2] \approx 119.344 \text{ [acre]}$	

181.5 acres of habitat

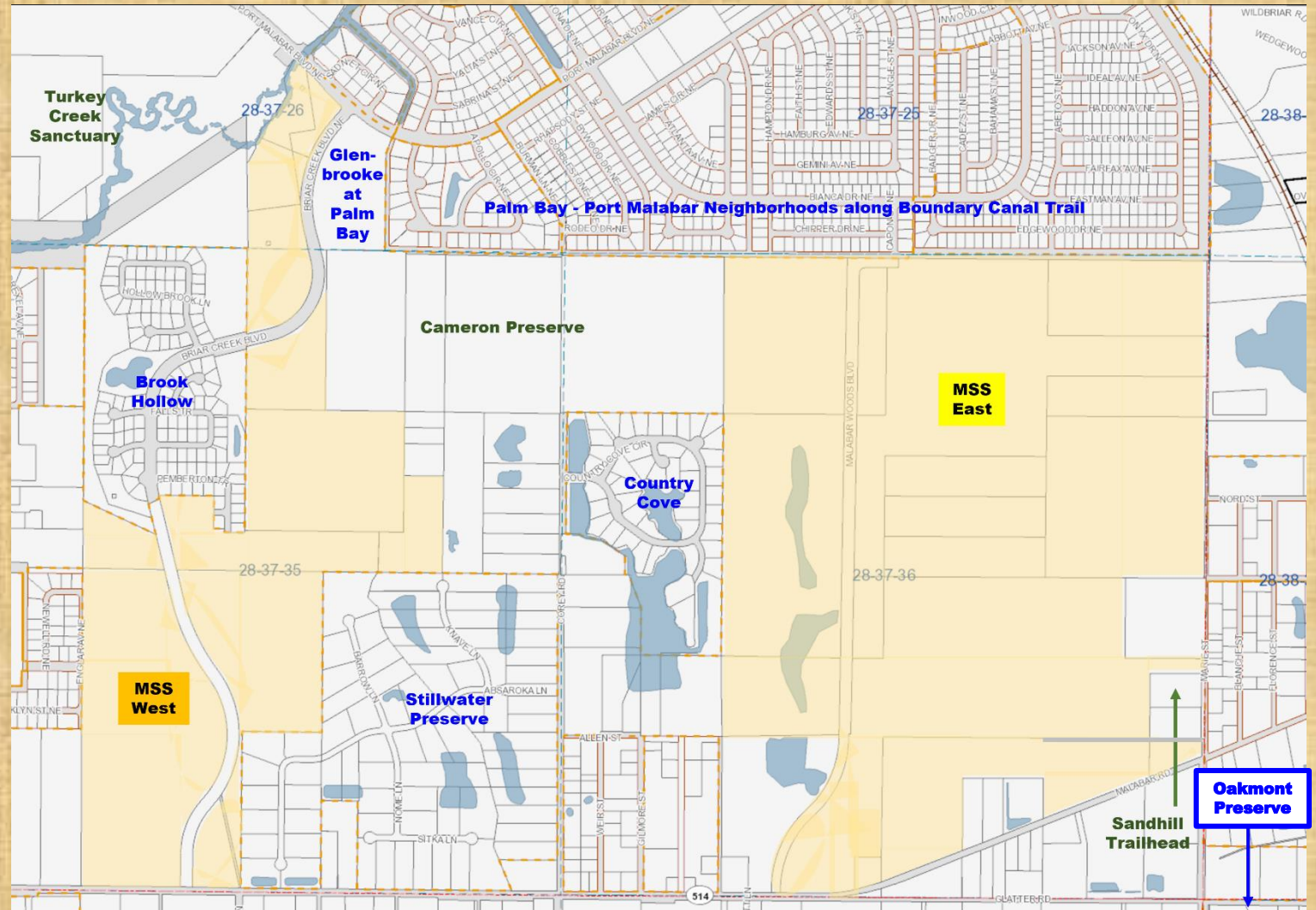
24.7 acres of habitat

119.3 acres of habitat

MSS East and MSS West are completely different properties that must be treated differently...

MSS West is...

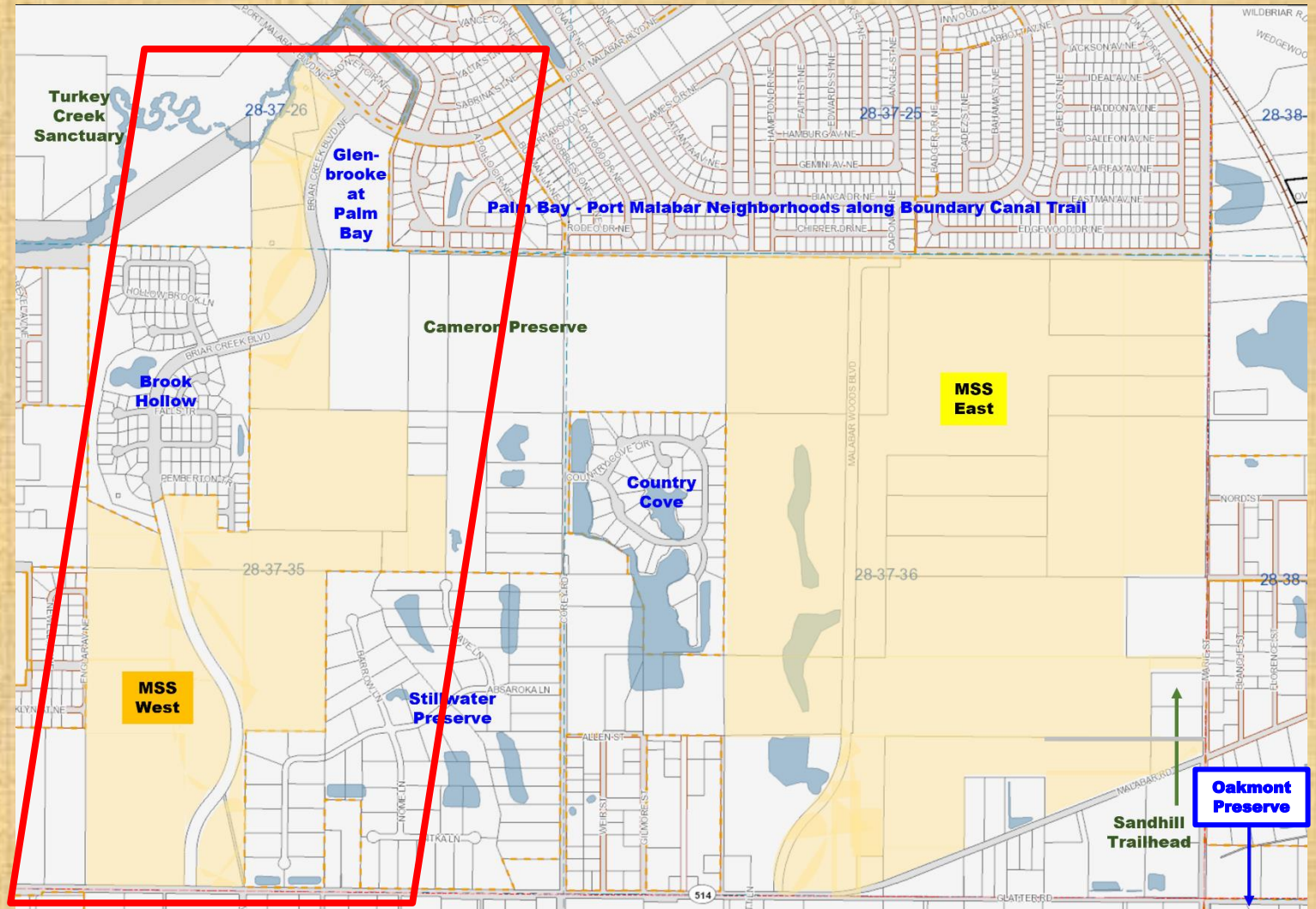
- **NOT** square nor circular
- a complex site that would be difficult to achieve optimal scrub-jay habitat
- smaller than MSS East (< half the acreage)
- far less suited for restoration to scrub habitat
- non-contiguous property...
3 areas split by ROW
- diagonal - yet asymmetrical
variable widths and
diagonal length 1 Mile+



MSS East and MSS West are completely different properties that must be treated differently...

MSS **West** is...

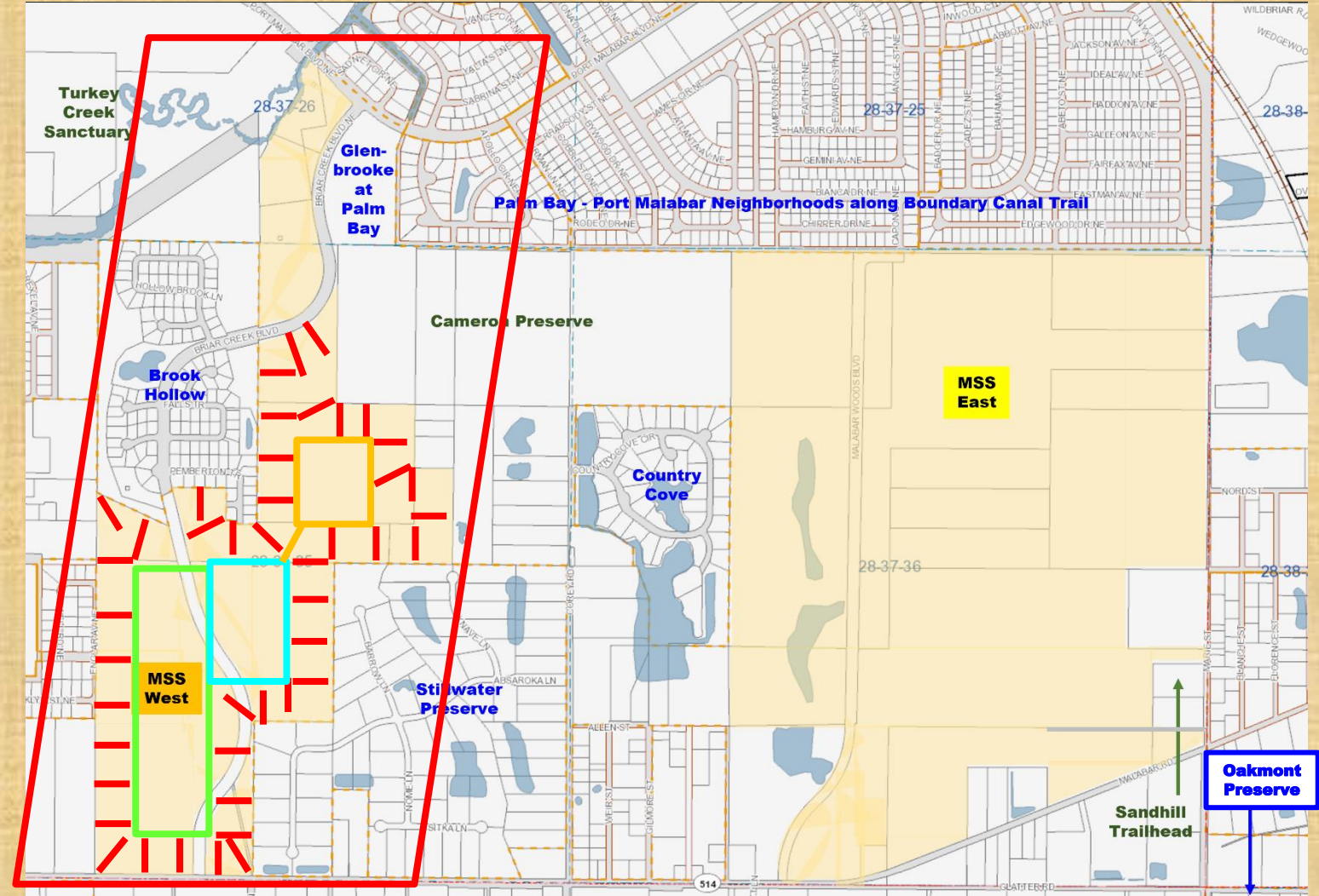
- **NOT** square nor circular
- a complex site that would be difficult to achieve optimal scrub-jay habitat
- smaller than MSS East (< half the acreage)
- far less suited for restoration to scrub habitat
- non-contiguous property...
3 areas split by ROW
- diagonal - yet asymmetrical
variable widths and
diagonal length 1 Mile+



MSS East and MSS West are completely different properties that must be treated differently...

MSS **West** is...

- **NOT** square nor circular
- a complex site that would be difficult to achieve optimal scrub-jay habitat
- smaller than MSS East (< half the acreage)
- far less suited for restoration to scrub habitat
- non-contiguous property...
3 areas split by ROW
- diagonal - yet asymmetrical
variable widths and
diagonal length 1 Mile+



When recognizing that vegetation removal is not an option for EEL Pgm in ROW of Town of Malabar, total acreage of MSS West without ROW, adds up to 3 separated areas of **181.5 acres**

UnitConverters.net

Convert square feet to acres

From: 975,883.3 square foot

To: 22.403197888 acre

22.4

Result: 975883.3 square foot = 22.403197888 acre

UnitConverters.net

Convert square feet to acres

From: 4,218,215.8 square foot

To: 96.836910009 acre

96.8

Result: 4218215.8 square foot = 96.836910009 acre

UnitConverters.net

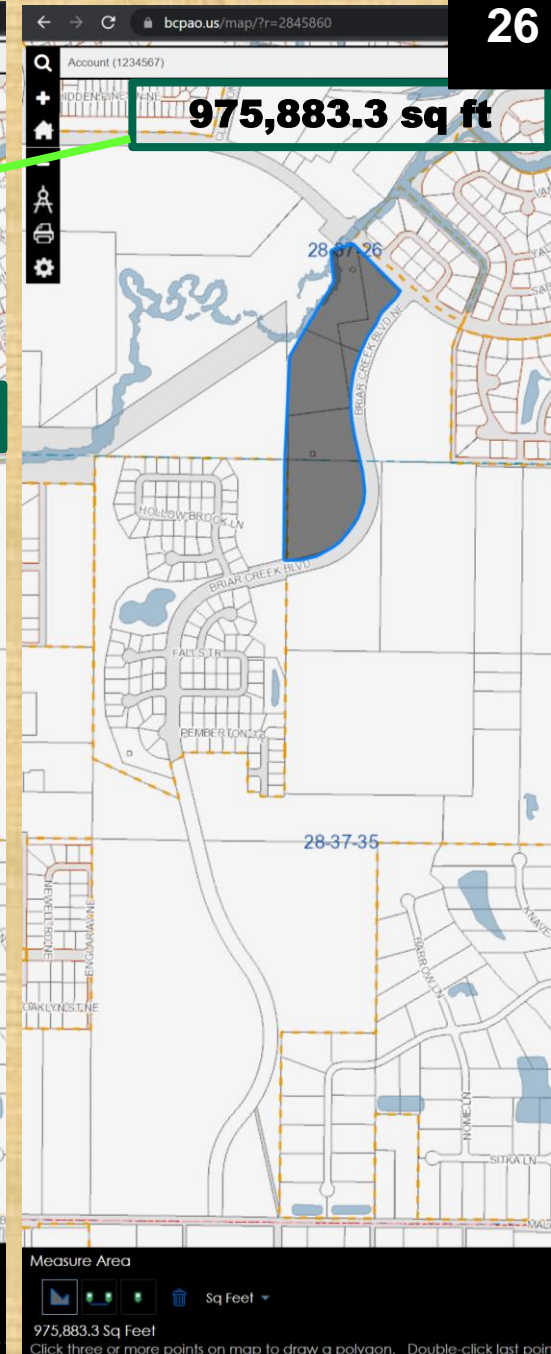
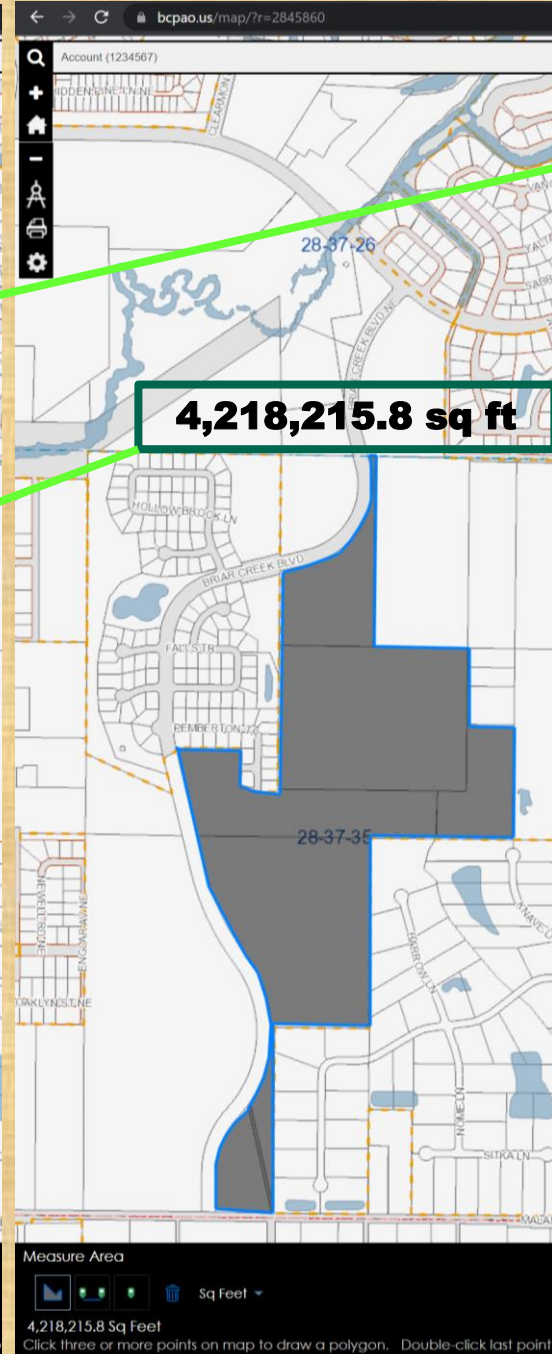
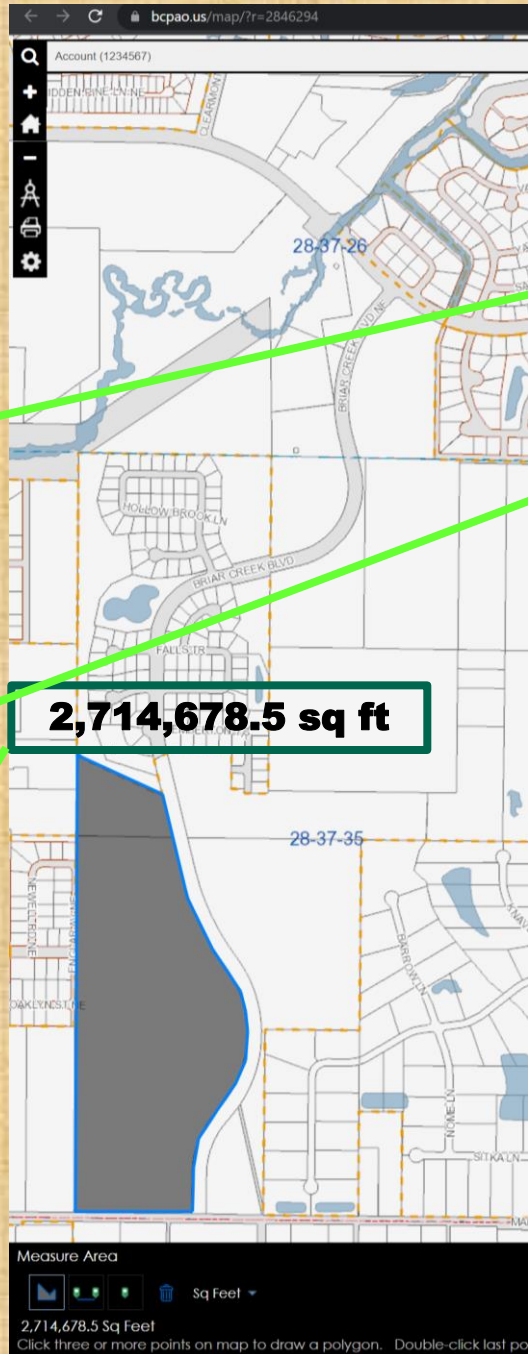
Convert square feet to acres

From: 2,714,678.5 square foot

To: 62.320443067 acre

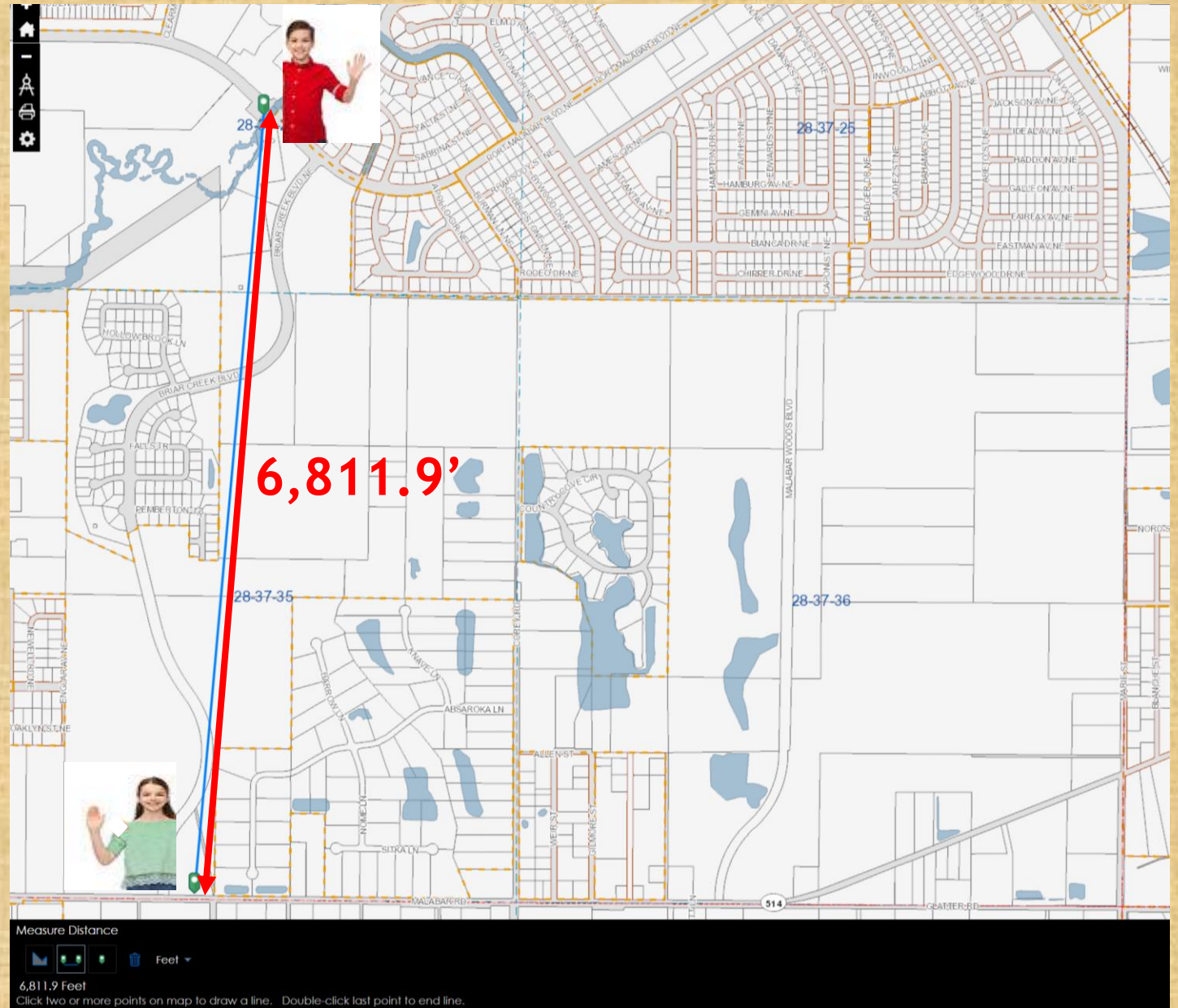
62.3

Result: 2714678.5 square foot = 62.320443067 acre

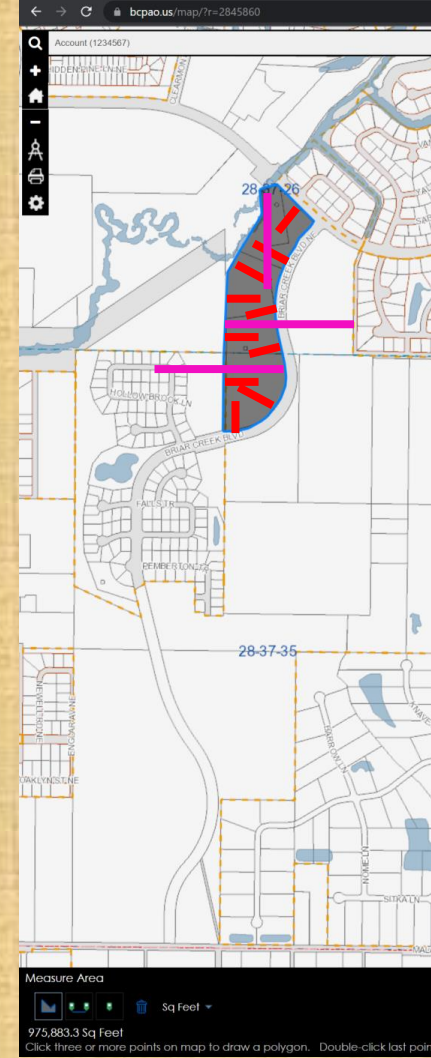
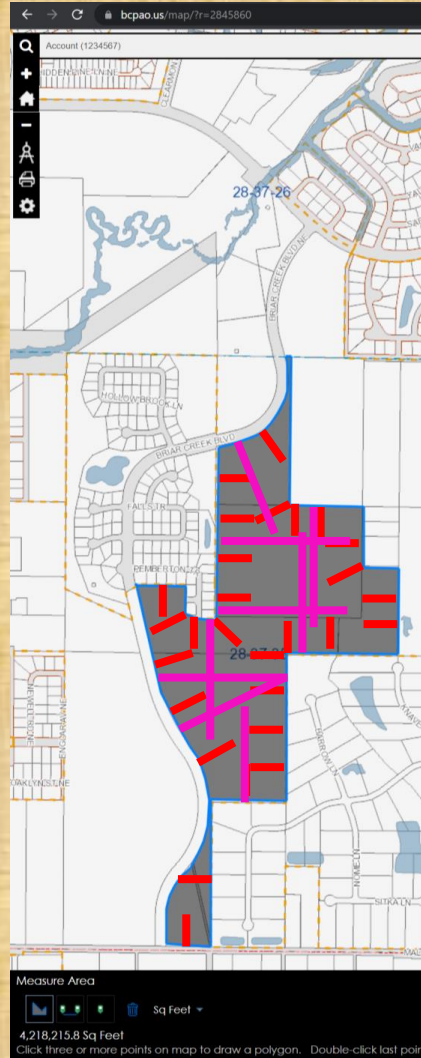
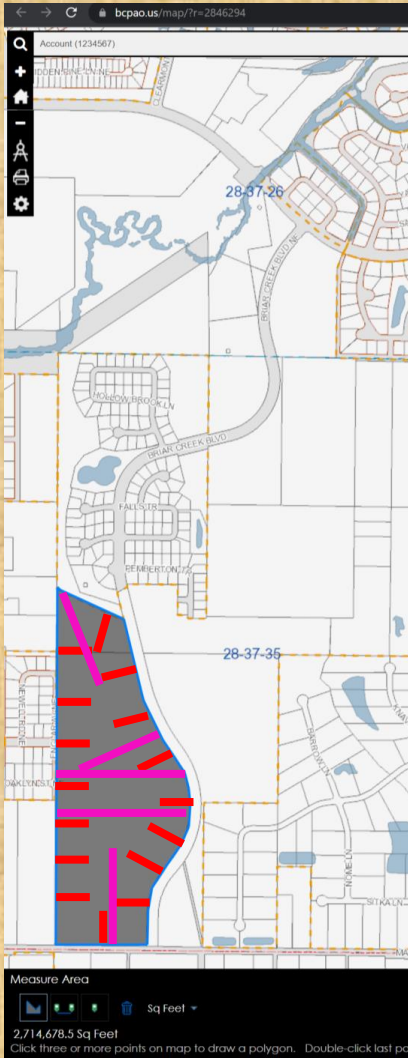


The EEL Pgm Restoration Plan Would Change The Local Perspective...

Under an EEL Pgm plan to eventually remove vegetation from MSS West property, except perhaps for trees located within the Briar Creek ROW, a person standing on the edge of Malabar Rd, just N of Briar Creek Blvd, could see another person who was standing on the bridge over Turkey Creek, on Port Malabar Blvd. over a mile away. (1.3 miles)



MSS West Tall Tree-Free Buffers at 300' & 1,000'



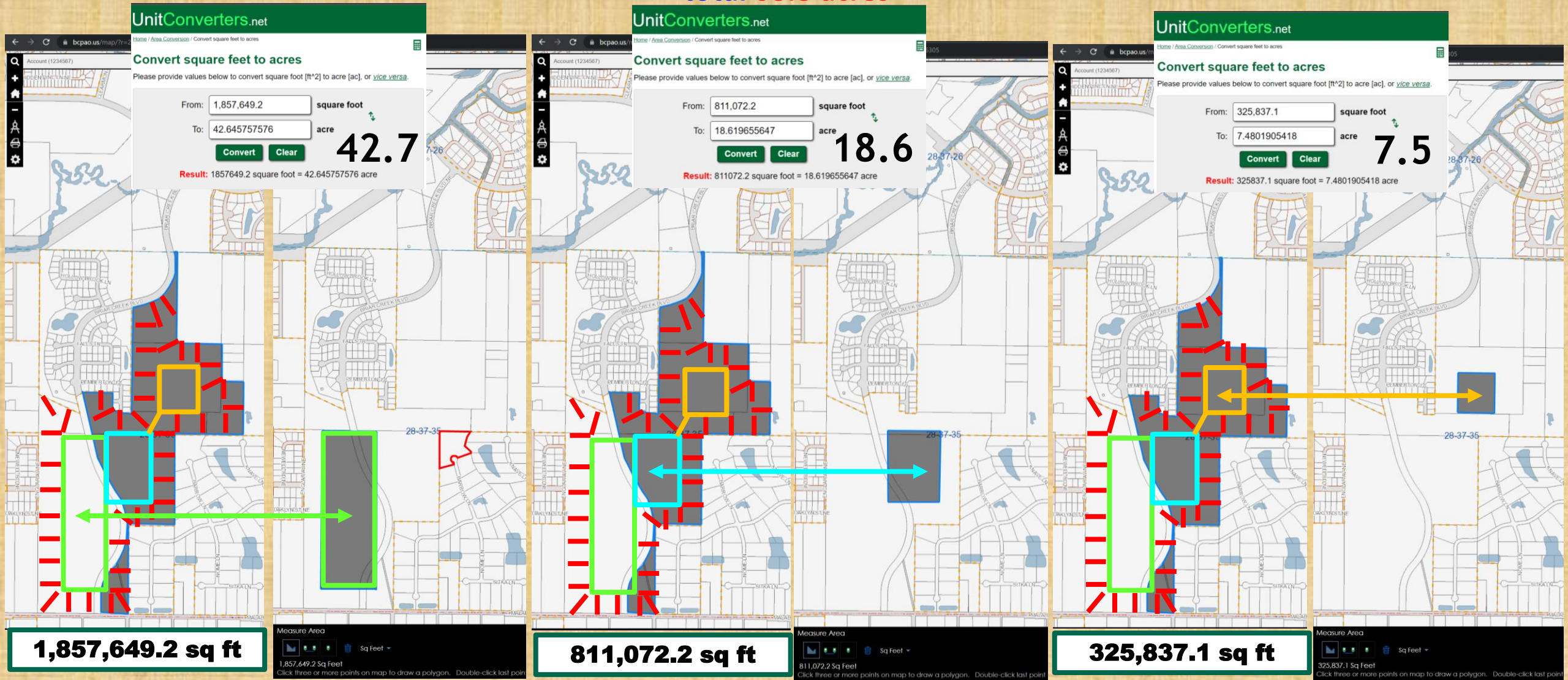
— Red Bars Indicate 300' Tall Tree-Free Buffer from Property Borders and Briar Creek Blvd (Town of Malabar ROW)

— Magenta Bars Indicate 1,000' Tall Tree-Free Buffer from Property Borders and Briar Creek Blvd (Town of Malabar ROW)

In MSS West, site size limitations prohibit application of the 1,000' Buffer or any optimal habitat

Only if both sides of unpaved Briar Creek Blvd ROW were to be considered as one area, and the minimum 300' Tall Tree Free Buffer were applied, the three connected rectangles of suitable scrub-jay habitat would

total 68.8 acres



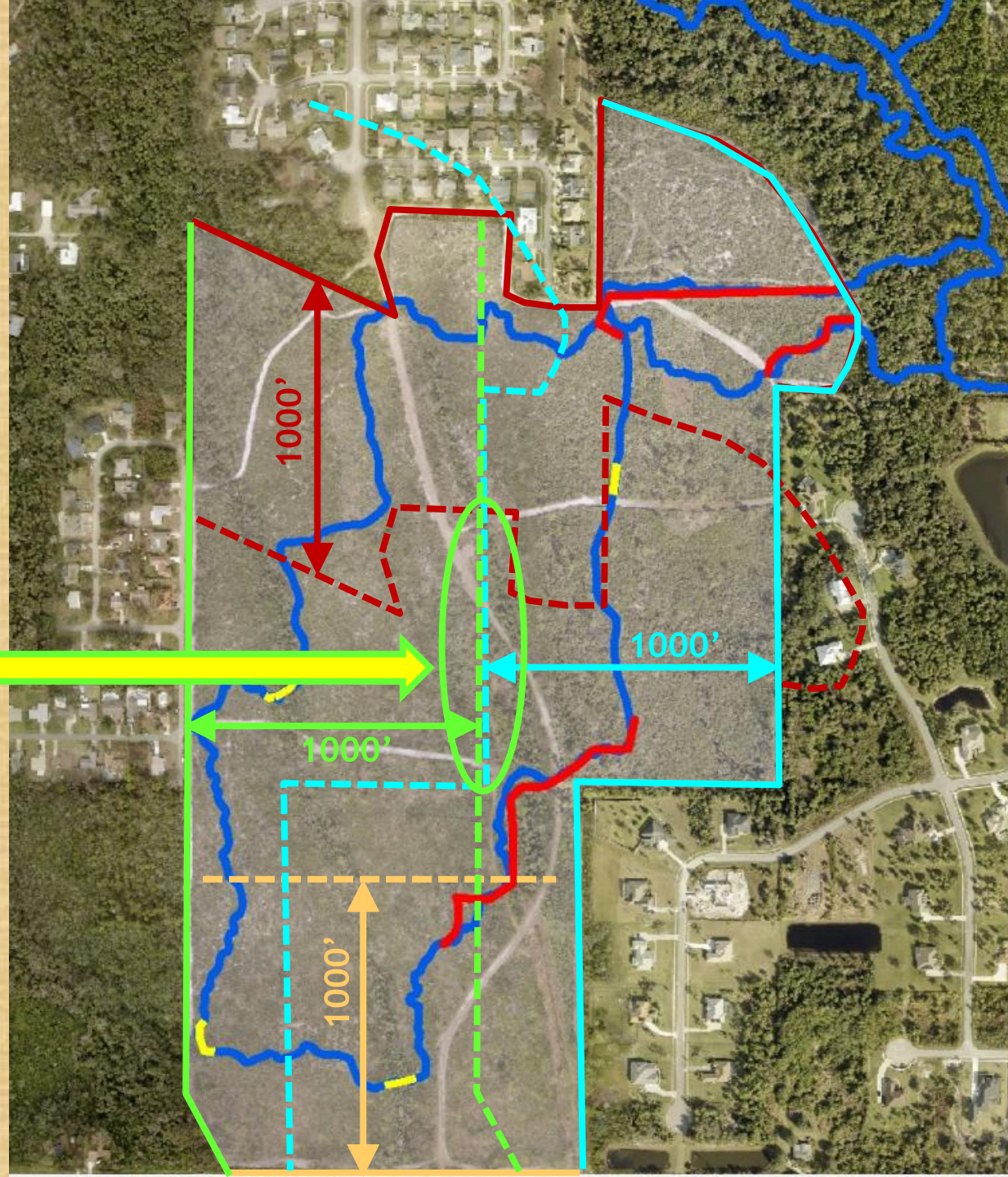
— Red Bars Indicate 300' Tall Tree-Free Buffer from Property Borders

Rectangle Acreage calculations courtesy of <https://www.unitconverters.net/area/square-feet-to-acres.htm>

Malabar West “1000’ to Screening Trees” Analysis With Current Trails Shown

Arrow on Map offsets
“forest edge” at property
edge 1000’ into property
to show resulting,
potential “strong” habitat

This property has 0 area
that meets the “optimal”
condition. Property is too
small, and its shape is too
complex, to ever be
optimal scrub property.

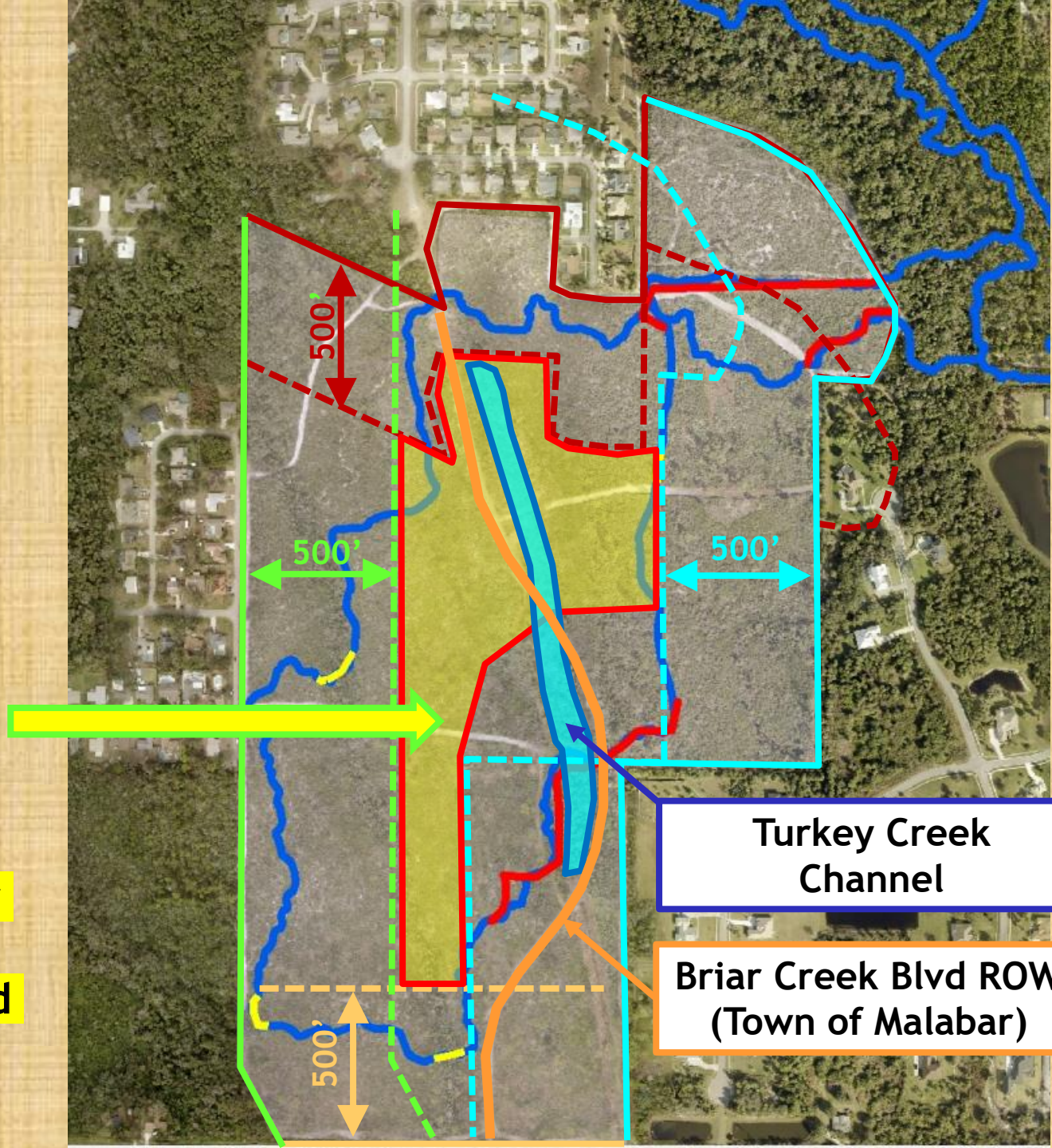


Malabar West "500' to Screening Trees" Analysis With Current Trails Shown

Green arrow on map represents 500' to property boundaries and/or tall trees & power lines



Projection from each property boundary by 500' shows a small area in the property center remaining (18.6 acres). However, it is dominated by a drainage creek that feeds Turkey Creek Channel D, and the Malabar ROW for Briar Creek Blvd (100' wide, property of Town of Malabar).



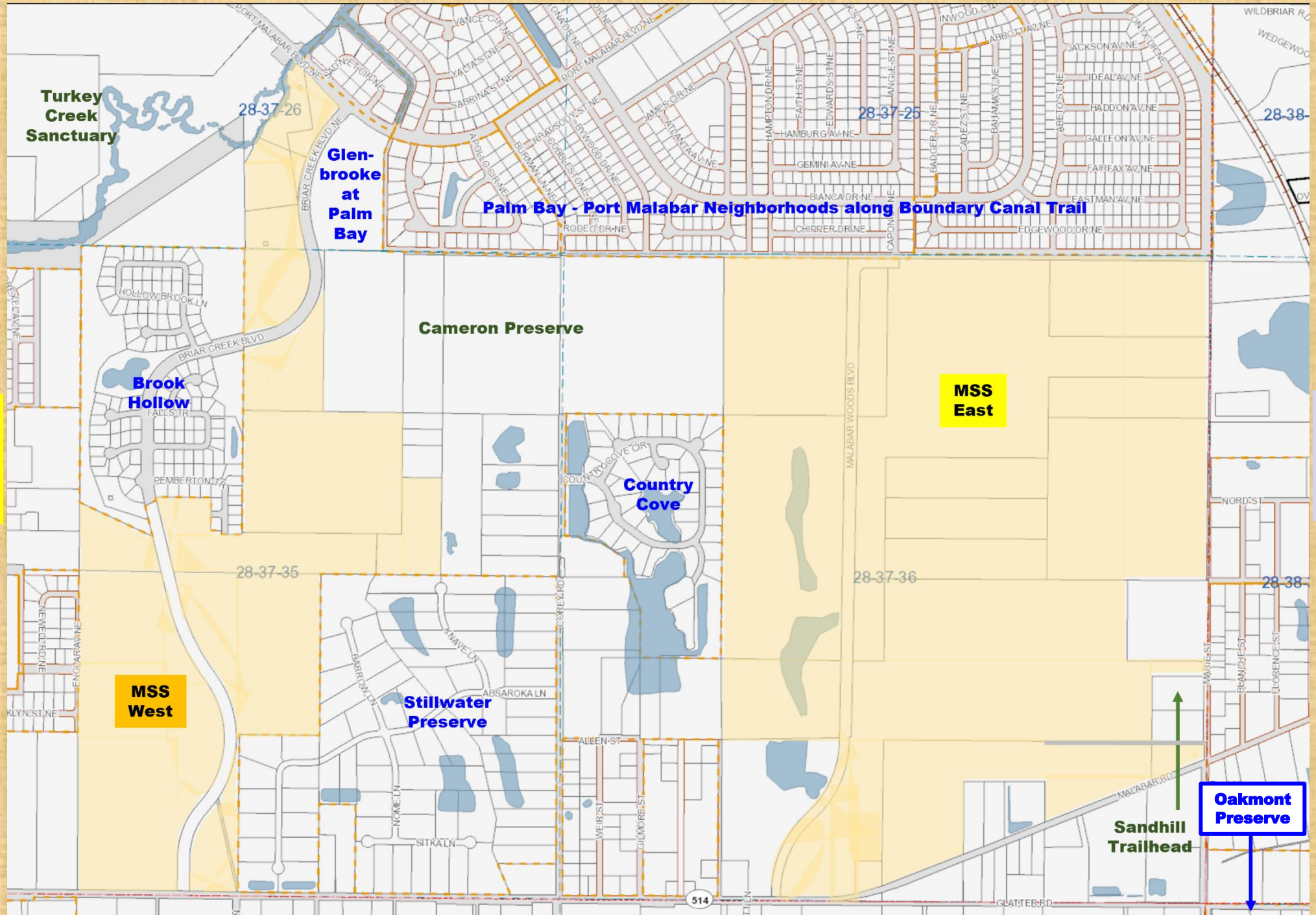
Turkey Creek Channel

Briar Creek Blvd ROW (Town of Malabar)

Summary of Town of Malabar Requests

12 itemized requests all pertain to the MSS. Most pertain to its periphery. All fit into one of three categories:

- 1. Preserve vegetation in a specified location of a specified number of acres with a specified number of trees protected from scrub restoration work. Of the total 577-acre MSS, these requests impact a total of 17.7 acres with preservation of 507 trees, impacting about 3% of MSS.**
- 2. Restore vegetation in a specified location, not to scrub habitat but to optimal specifications for woodpecker habitat, at about 40 trees per acre – to recognize other current avian species now residing in the specified area of MSS. This tree density change will impact less than 1% of the MSS.**
- 3. Relocate or maintain existing trails as identified in specified locations so that trail users are routed more through forest shadow (corner areas) along sanctuary – resulting in more inhabitable scrub-jay habitat.**



Turkey Creek Sanctuary

28-37-26

Glen-brooke at Palm Bay

Palm Bay - Port Malabar Neighborhoods along Boundary Canal Trail

28-37-25

28-38

Cameron Preserve

MALABAR SCRUB SANCTUARY WEST

Brook Hollow Falls

MSS East

MALABAR SCRUB SANCTUARY EAST

Country Cove

28-37-35

28-37-36

28-38

MSS West

Stillwater Preserve

Sandhill Trailhead

Oakmont Preserve

514

The EEL Pgm Restoration Plan primarily involves the destruction of vegetation within the MSS.

Unless otherwise specified, all Town of Malabar requests to “Preserve” are to be interpreted as to comply with the criteria identified for a “VPB” – here redefined as: “Vegetative Preservation Buffer” and with the following characteristics.

A Vegetative Preservation Buffer (VPB) is defined as being a located and maintained area within the sanctuary and unless otherwise specified, is situated along property borders, at a minimum 25’ width. Within the VPB, all oak trees and all native palm trees **may not be killed, cut, grinded, damaged, treated with herbicides, removed, exposed to excessive heat, or reduced in height.** Any Sand Pines (regardless of DBH), and any other Pine trees less than 5” DBH, and any invasive species, may be removed. Any other reduction of vegetation within the VPB is limited to a height no lower than 15’. There will be no roller chopping or prescribed burning within the VPB.

Defined TOM T&GC_20220324 Adopted TOM RTCM_20220404

Town of Malabar Summary of Requests			Requested to be Preserved	
MSS Side	Area	Request	Trees	Acres
MSS EAST & WEST All Areas			507	17.67
MSS EAST All Areas			347	13.891
MSS WEST All Areas			160	3.783

**MSS Restoration Issue
Town of Malabar Requested Changes - Summary Pages 3**

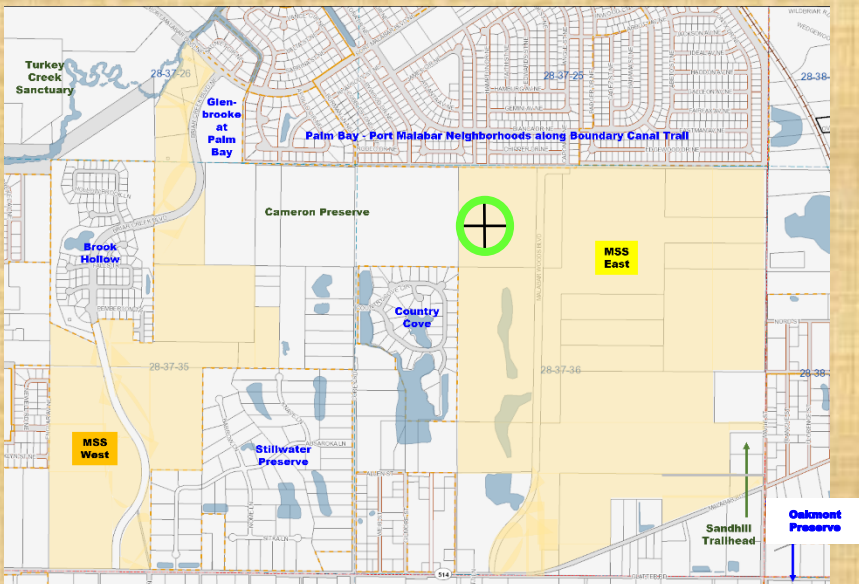
Town of Malabar Summary of Requests			Requested to be Preserved	
MSS Side	Area	Request	Trees	Acres
MSS EAST & WEST All Areas			507	17.67
EAST	MSS East- Area 1 - Located in NW - Small oak hammock "historic woods", part of 2001 restoration compromise - scrub-jays frequently observed in understory	Preserve this small oak hammock. Although it is near optimal habitat shown (dashed aqua lines, per EEL Pgm Mgmt plan), scrub-jays have been seen frequenting this area. (EEL Pgm inset, right, Fig. 5).	30	0.517
	MSS East- Area 2 - Located in N - Live oaks on far north property border	Preserve these oak trees along the north border since: North edge of MSS East already has a forest edge - back property power lines and trees are 30' to the N. Consistent with how it has been managed for 30 years. Many trees in this area are outside EEL Pgm fence - on City of Palm Bay property. Boundary Canal Trail is considered a Brevard County Signature project.	12	0.2
	MSS East- Area 3 - Located in NE - Palm and Live Oak Hammock along Al Tuttle Trail corner, very near edge of sanctuary	Preserve this diverse and wet hammock with only removal of sand pines and preservation of trees around which Al Tuttle Trail was routed. It is acknowledged that this area may be appropriate for restoration efforts if the private property immediately to the south is acquired by EEL Pgm.	50	1.225
	MSS East- Area 4 - Located in S - Mature scrub oak hammock, part of 2001 restoration compromise - sanctuary entrance focal point 1	Preserve this hammock with only removal of sand pines and any tall pines. As being at the entrance to MSS East, preservation would enhance the appearance of the sanctuary. This area is known to be a great area to view various species of woodpeckers, and cardinals.	30	2.411
	MSS East- Area 5 - Located in W - Basin marsh tree clusters (3) along east of Country Cove development	Preserve this area "as is." Because it is dominated by wetlands, EEL Pgm likely choose to move the fire break away from the property boundary. The area has never been burned, due to wetland status, and functions as an effective buffer to Country Cove.	60	5.405
	MSS East- Area 6 - Located in SW - Pond and wet area, woodpeckers frequently observed in tree surrounding pond - sanctuary focal point 2	Restore this area to 40 trees per acre as done in other similar EEL Pgm sanctuaries (such as Micco Scrub Sanctuary), to best support above tree-dependent species. A trail added to top of spoil ridge on E bank as shown would further enhance Malabar Community Park and further EEL Pgm goals for Passive Recreation - a win win scenario.	165	4.133
MSS EAST All Areas			347	13.891

MSS Restoration Issue Town of Malabar Requested Changes - Summary Pages

3

Town of Malabar Summary of Requests			Requested to be Preserved	
MSS Side	Area	Request	Trees	Acres
MSS EAST & WEST All Areas			507	17.67
MSS EAST All Areas			347	13.891
WEST	MSS West- Area 1 - Located in SE - Mature scrub oak overstory with Briar Creek Blvd. ROW crossing area center - very close to tall tree border of Stillwater Preserve development	Minimize tree overstory removal in this area. Remove sand pines and/or particularly tall pines, but there should be no removal of scrub oak and palm tree overstory as about half of this area is wetland and not appropriate for restoration to scrub habitat.	60	1.658
	MSS West- Area 2 - Located in E - Habitat transition zone, very close to tall tree oak hammock of Turkey Creek channel D - very near sanctuary property border	Preserve area via minimal tree overstory removal. Remove only sand pines, because the area transitions to live oaks and palms, and then descends to the channel and wetland habitat. An additional reason to preserve this area is that the adjacent creek channel oak hammock would likely result in a "tree shadow" zone avoided by scrub-jays.	40	0.689
	MSS West- Area 3 - Located in NW - Habitat transition zone, very near property border, located at deep concave corner of sanctuary - forms potential "tree shadow" condition subjecting scrub-jays to greater threat of predation.	Preserve this forested corner as forest with relocation of the trail that is currently in scrub area to new location deeper into forested corner. Only perform minimal restoration of tree overstory. Only remove sand pines as necessary, taper edge down to fire break, remove tall pines on fire break, and relocate trail via a more flowing trail leading into the remaining woods. The result of this would be a larger area of scrub habitat and improved trail conditions - a win win scenario.	50	1.378
	MSS West- Area 4 - Located in N - Mature oaks at border corner of Brook Hollow development - point of numerous trail connections	Preserve this area with minimal tree overstory removal. Only remove sand pines as this is the only part of MSS West where users have reported seeing scrub-jays frequenting this area.	10	0.058
	MSS West- Area 5 - Located in NE - Opportunity area for trail relocation to deeper woods along Turkey Creek channel D along transition to oak hammock	Locate new bridge and new trail segment in the deep woods south of the creek, connecting to the existing system. This would have minimal, if any, negative impact on restoration goals. Further, the new bridge would demonstrate EEL Pgm support for voter desired passive recreation.	0	0
	MSS West- Area 6 - Located in - Oak hammock over / near Turkey Creek Channel D	Exclude this area from restoration and preserve it to be dedicated for trail use. Build the trail S of the creek to show EEL Pgm recognition that the mission continues to include support of passive recreation.	0	0
MSS WEST All Areas			160	3.783

MSS East Area 1



This area with a small oak hammock is known as “historic woods.” Past preservation was by agreement with Zack Prusak, EEL Pgm Manager, Circa 2001. A trail was rerouted to this location to take advantage of this rare oak hammock.

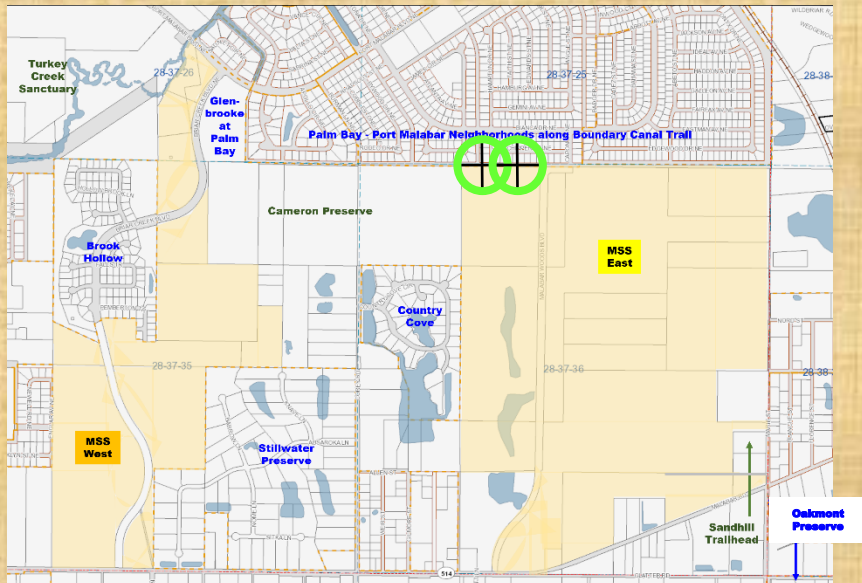
Part 1: length 150’ x width 150’ = 0.51 acres w/30 trees

Request: Preserve this small oak hammock. Although it is near optimal habitat shown (dashed aqua lines, per EEL Pgm Mgmt plan), scrub-jays have been seen frequenting this area. (EEL Pgm inset, right, Fig. 5).

Note: Any restoration of the 660 foot buffer around the eagle nest area will require a letter / permit from Florida FWCC to be attached to the Malabar permit.



MSS East Area 2

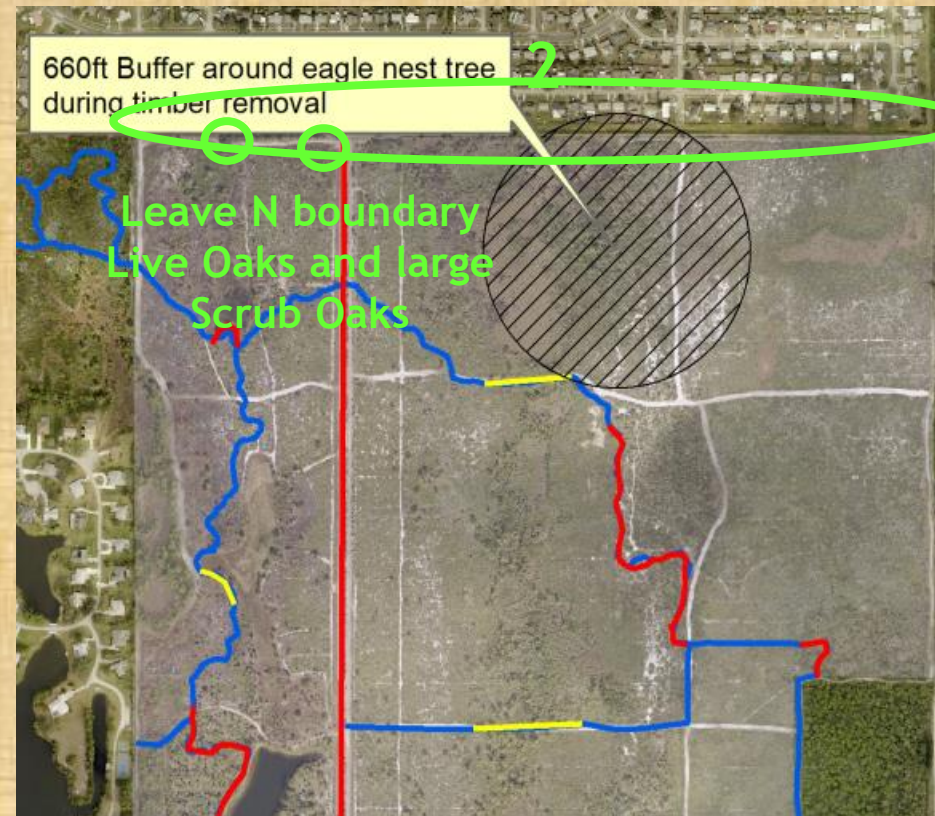


This area has several very large, mature oak trees located along the far north property boundary. Most are N of the current fire break and would have minimal, if any, negative impact on restoration goals.

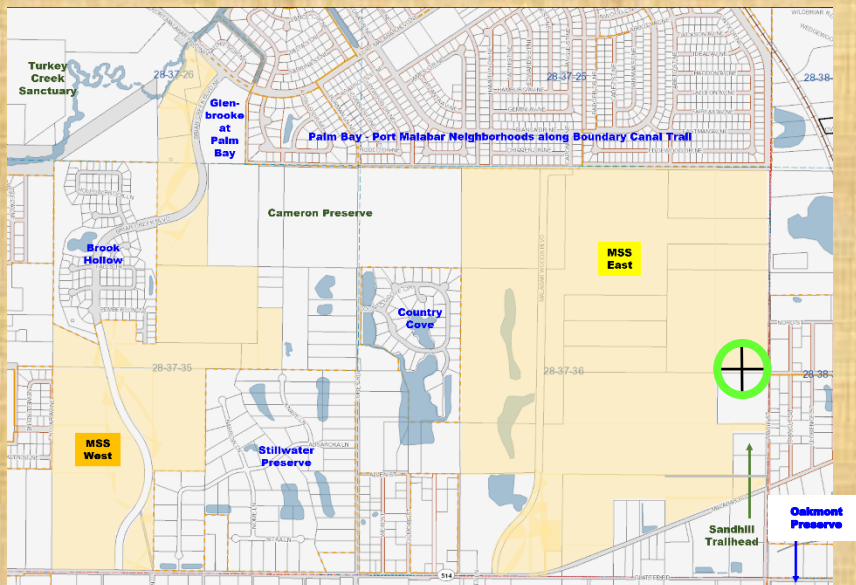
Part 1: length 580' x width 15' = 0.2 acres w/12 trees

Request: Preserve these oak trees along the north border since:

- North edge of MSS East already has a forest edge - back property power lines and trees are 30' to the N
- Consistent with how it has been managed for 30 years
- Many trees in this area are outside EEL Pgm fence - on City of Palm Bay property
- Boundary Canal Trail is considered a Brevard County Signature project



MSS East Area 3



This area could be described as a palm, Turkey Oak, and Live Oak hammock. It was probably left over from an old farm. It is a very wet area that will never be scrub habitat. The area has a close proximity to a private parcel forest tree line. It is near an abrupt turn in the Al Tuttle Trail (A Brevard County Showcase Trail). As it is a location where the trail runs along the forest tree line of private bordering properties, preservation of this hammock would have minimal, if any, negative impact on restoration goals.

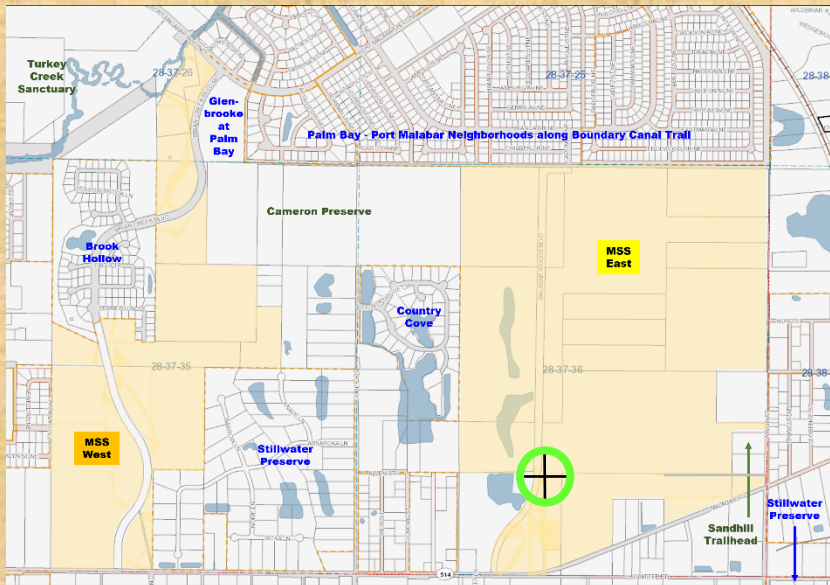
Part 1: length 180' x width 150' = 0.62 acres w/20 trees

Part 2: length 85' x width 310' = 0.61 acres w/30 trees

Request: Preserve this diverse and wet hammock with only removal of sand pines and preservation of trees around which Al Tuttle Trail was routed. It is acknowledged that this area may be appropriate for restoration efforts if the private property immediately to the south is acquired by EEL Pgm.



MSS East Area 4



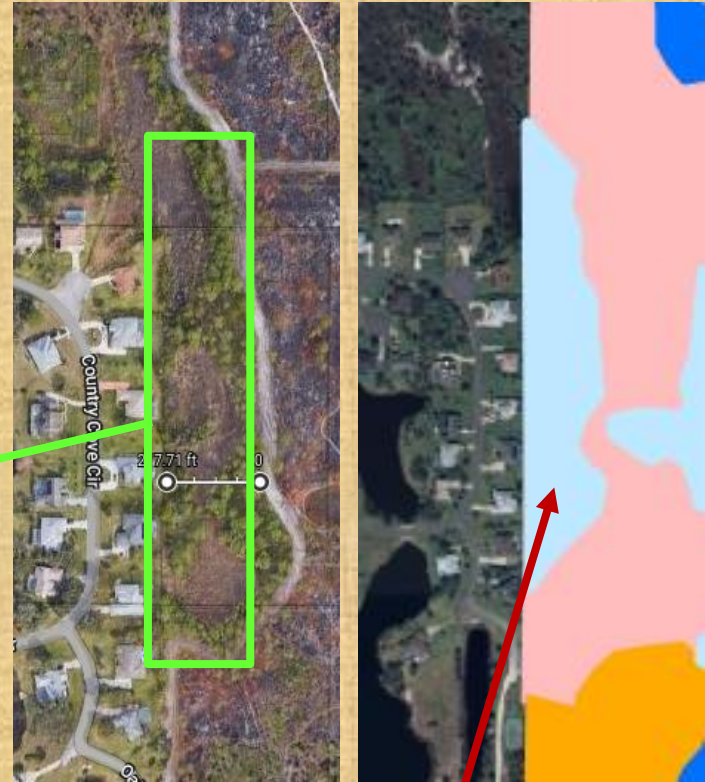
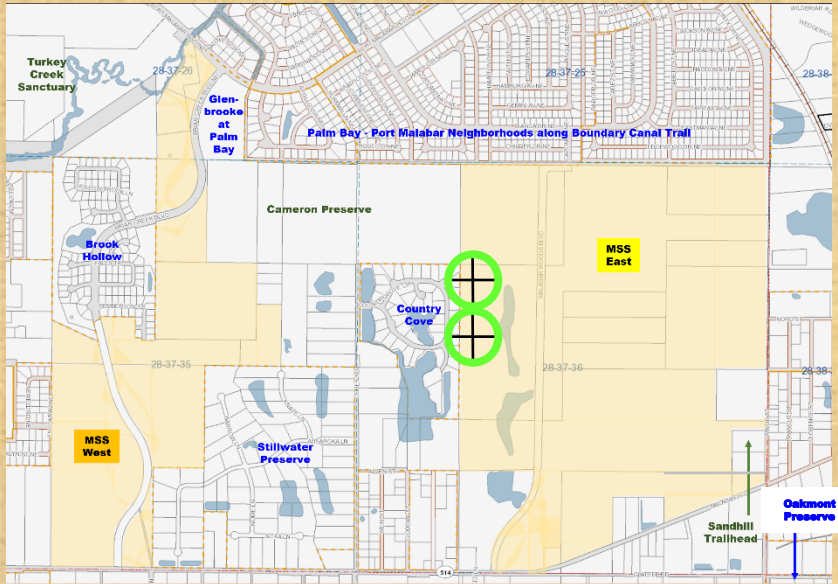
This area is a very large Scrub Oak hammock that was preserved during the original 2001 restoration. It was specifically left not just for trail users, but as a focal point of the main entrance to MSS East. The area is popular as a photography backdrop and provides a rare sample of mature scrub oaks. As this area is located near a property boundary, hammock preservation would have minimal, if any, negative impact on restoration goals.

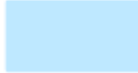
Part 1: length 350' x width 300' = 2.41 acres w/30 trees

Request: Preserve this hammock with only removal of sand pines and any tall pines. As being at the entrance to MSS East, preservation would enhance the appearance of the sanctuary. This area is known to be a great area to view various species of woodpeckers, and cardinals.



MSS East Area 5



 Basin marsh

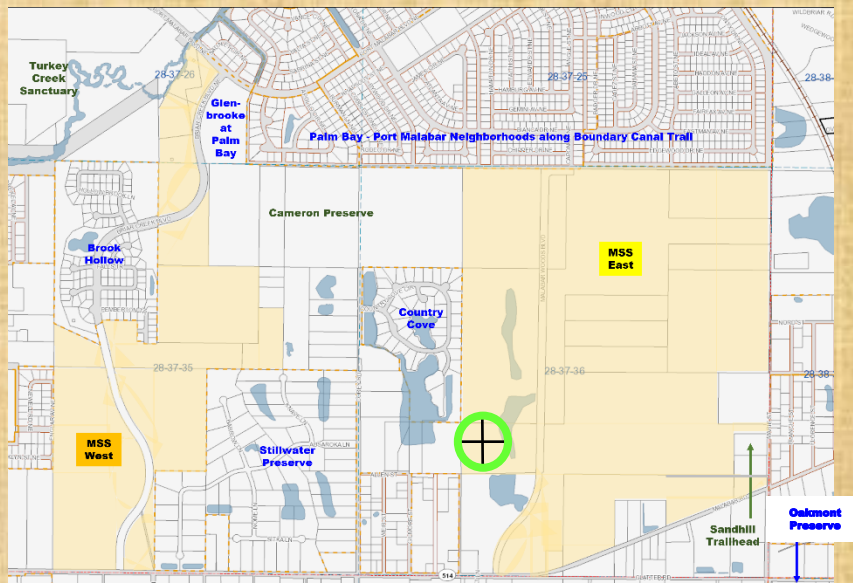
Per EEL Pgm Natural Communities map

This area is between an MSS East fire break that parallels most of Country Cove, to the east. It is inside the property boundary due to this area being dominated by 3 different basin marshes. This area is a narrow edge of a property boundary and would have minimal, if any, negative impact on restoration goals.

Part 1: length 1080' x width 218' = 5.4 acres w/60 trees

Request: Preserve this area "as is." Because it is dominated by wetlands, EEL Pgm likely choose to move the fire break away from the property boundary. The area has never been burned, due to wetland status, and functions as an effective buffer to Country Cove.

MSS East Area 6



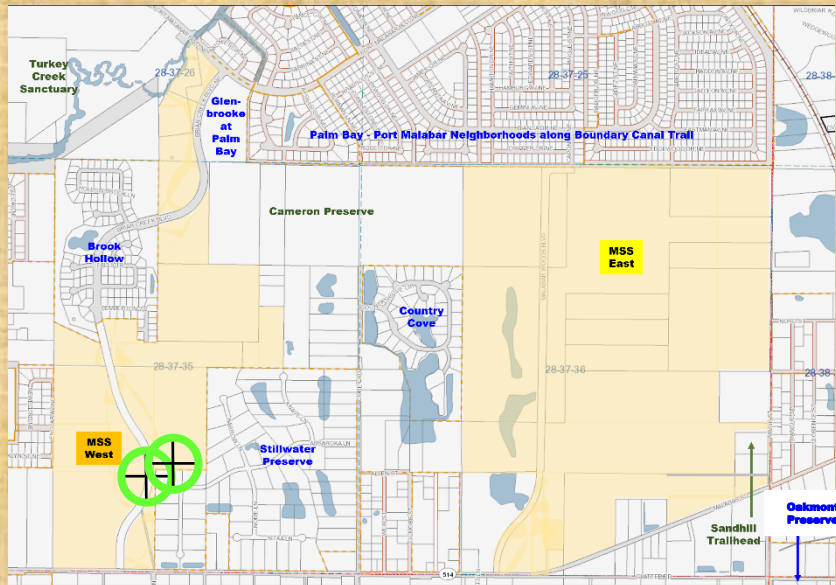
This is an unusual area which EEL Pgm Mgmt Plan identifies as a “Disturbed Area.” It is very wet, with many small pines and sparse palmetto, it will never be scrub habitat. This area supports many tree-dependent avian species (Red-Cockaded and other woodpeckers, cardinals, owls, etc.) This picturesque area, a buffer to Country Cove and near MSS East entrance, is stranded from rest of sanctuary by high disturbed ridge on E.

Part 1: length 900’ x width 200’ = 4.13 acres w/165 trees

Request: Restore this area to 40 trees per acre as done in other similar EEL Pgm sanctuaries (such as Micco Scrub Sanctuary), to best support above tree-dependent species. A trail added to top of spoil ridge on E bank as shown would further enhance Malabar Community Park and further EEL Pgm goals for Passive Recreation - a *win win scenario*.



MSS West Area 1



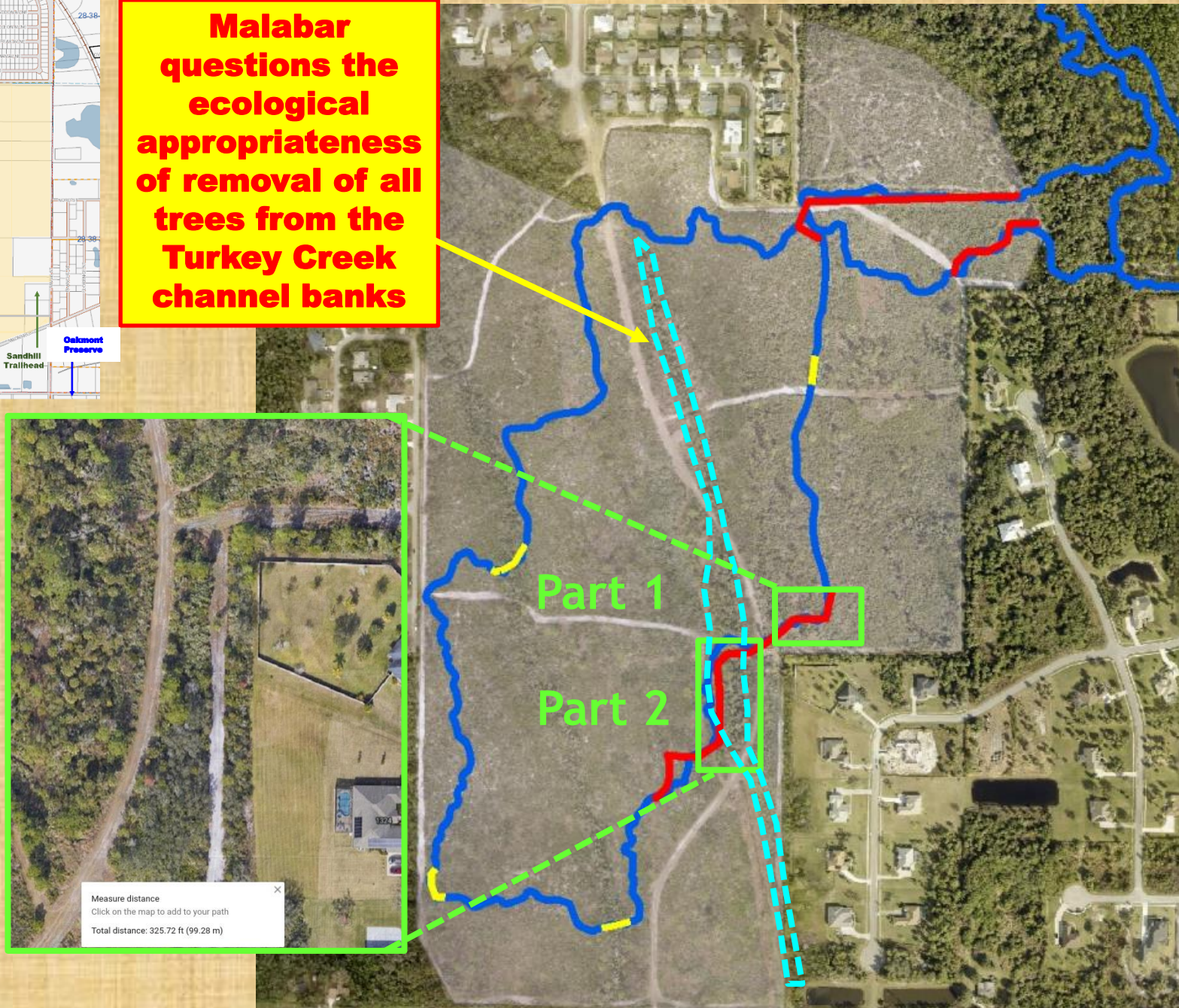
Malabar questions the ecological appropriateness of removal of all trees from the Turkey Creek channel banks

This area is located immediately N and W of Stillwater Preserve's SW-most section. A tall tree forest line on private property borders this "corner" area which is crossed by both Briar Creek Blvd ROW and Turkey Creek Channel C .

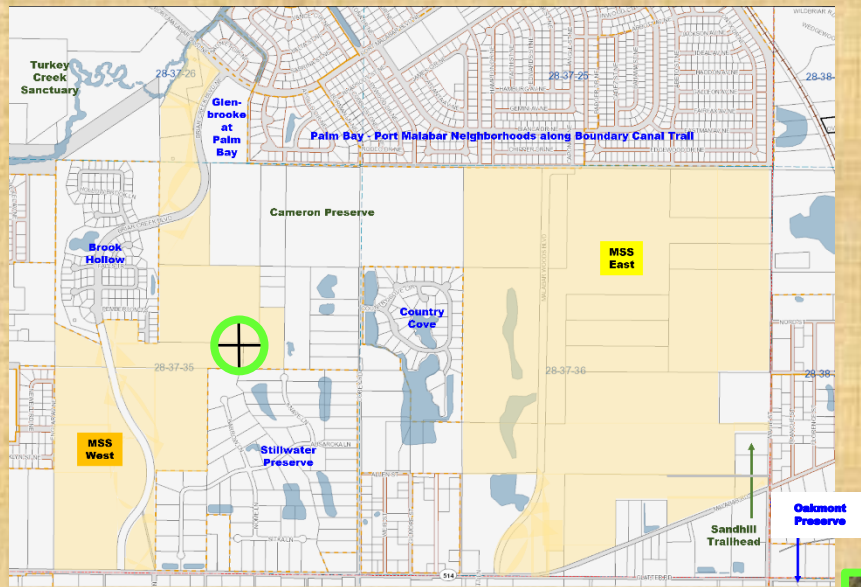
Part 1: length 100' x width 200' = 0.46 acres w/20 trees

Part 2: length 326' x width 160' = 1.2 acres w/40 trees

Request: Minimize tree overstory removal in this area. Remove sand pines and/or particularly tall pines, but there should be no removal of scrub oak and palm tree overstory as about half of this area is wetland and not appropriate for restoration to scrub habitat.



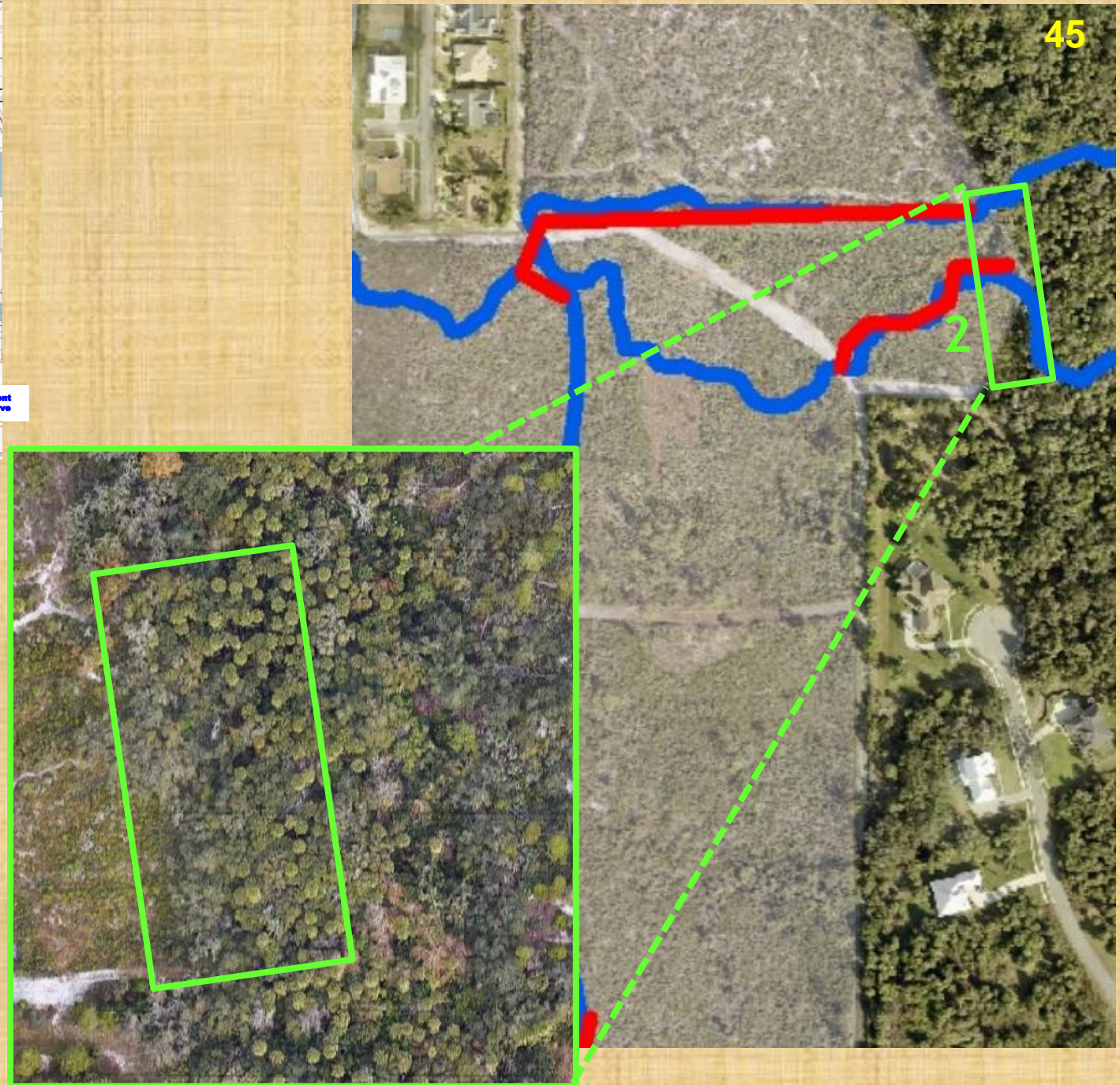
MSS West Area 2



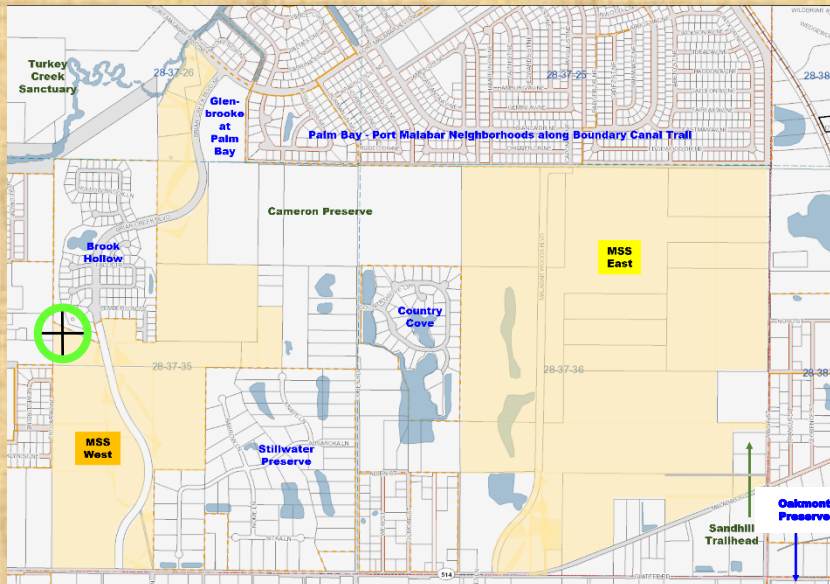
This area is a habitat transitioning point to the Turkey Creek Channel D area (see Zoom in below) “deep woods” with a very broad floodplain. It is not very tall scrub (15’ or lower), and there are tall screening trees on all sides. Already restored scrub stops just prior to descending into Turkey Creek Channel D habitat. Further restoration into the wetland habitat would be destructive.

Part 1: length 300’ x width 100’ = 0.69 acres w/40 trees

Request: Preserve area via minimal tree overstory removal. Remove only sand pines, because the area transitions to live oaks and palms, and then descends to the channel and wetland habitat. An additional reason to preserve this area is that the adjacent creek channel oak hammock would likely result in a “tree shadow” zone avoided by scrub-jays.



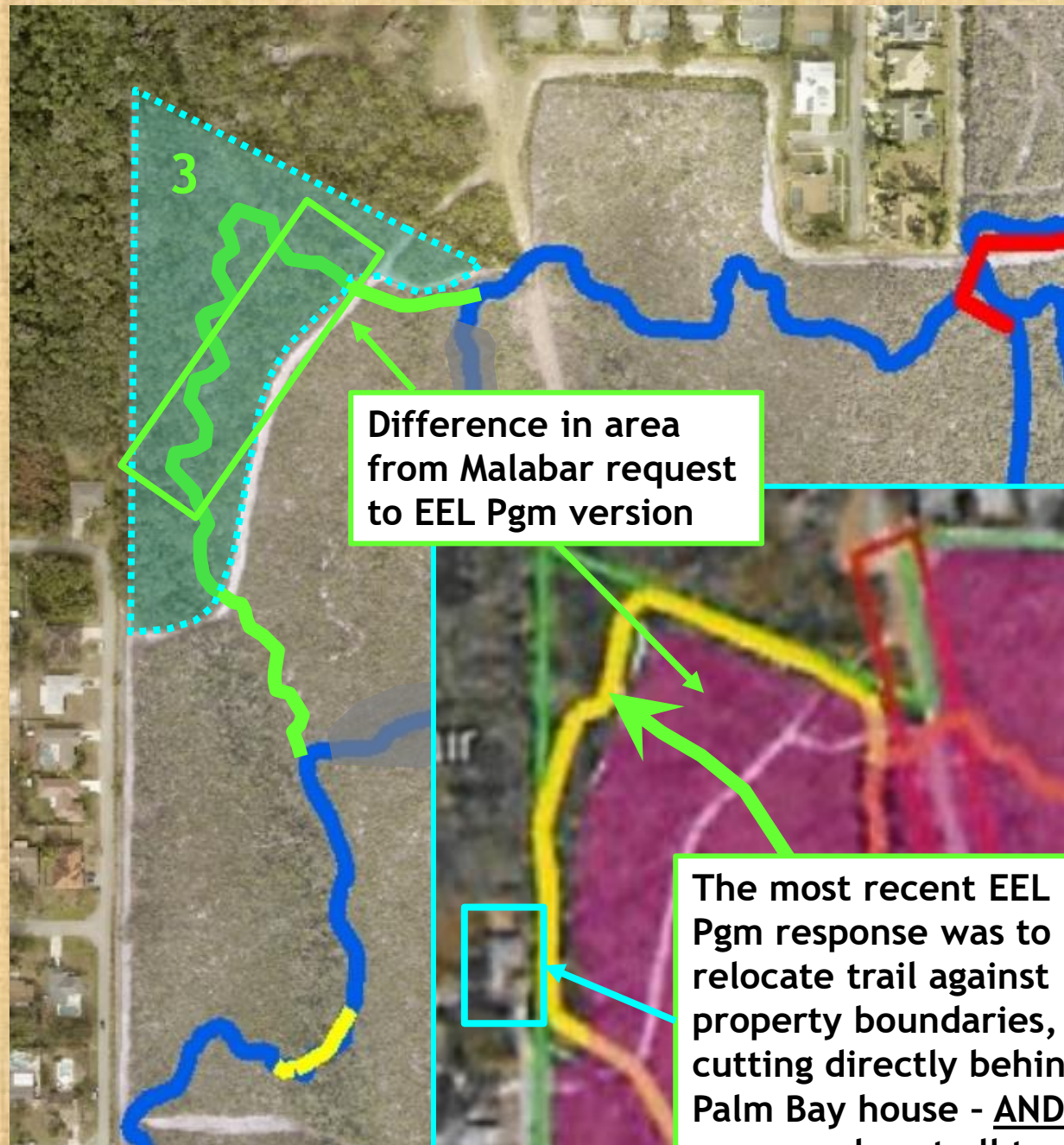
MSS West Area 3



This area is at the NW-most corner of MSS West and is an acute corner with a tall tree forest line all along the corner property boundary. The area functions as a wildlife corridor to the Turkey Creek Sanctuary. An additional reason to preserve this area is that the adjacent forest would likely result in a “tree shadow” zone avoided by scrub-jays.

Part 1: length 400' x width 150' = 1.38 acres w/50 trees

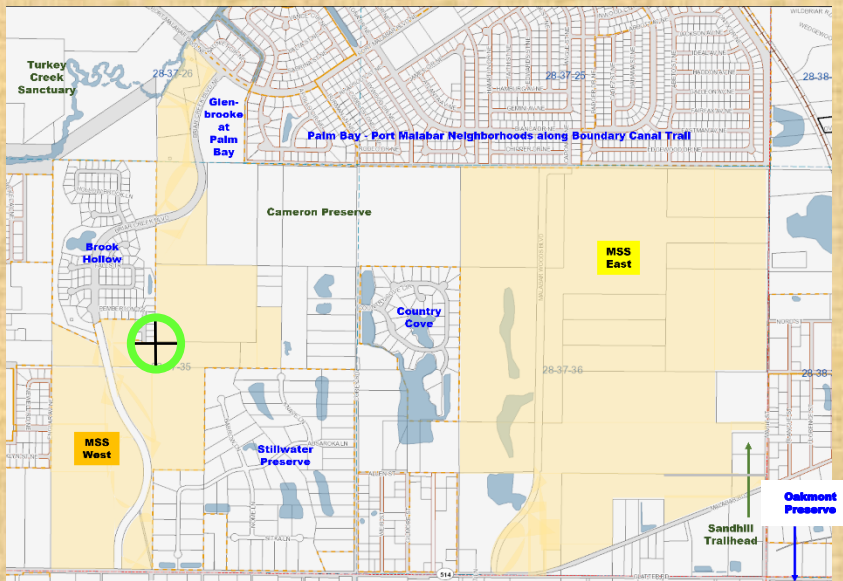
Request: Preserve this forested corner as forest with relocation of the trail that is currently in scrub area to new location deeper into forested corner. Only perform minimal restoration of tree overstory. Only remove sand pines as necessary, taper edge down to fire break, remove tall pines on fire break, and relocate trail via a more flowing trail leading into the remaining woods. The result of this would be a larger area of scrub habitat and improved trail conditions - a *win win scenario*.



Difference in area from Malabar request to EEL Pgm version

The most recent EEL Pgm response was to relocate trail against property boundaries, cutting directly behind a Palm Bay house - AND to remove almost all trees

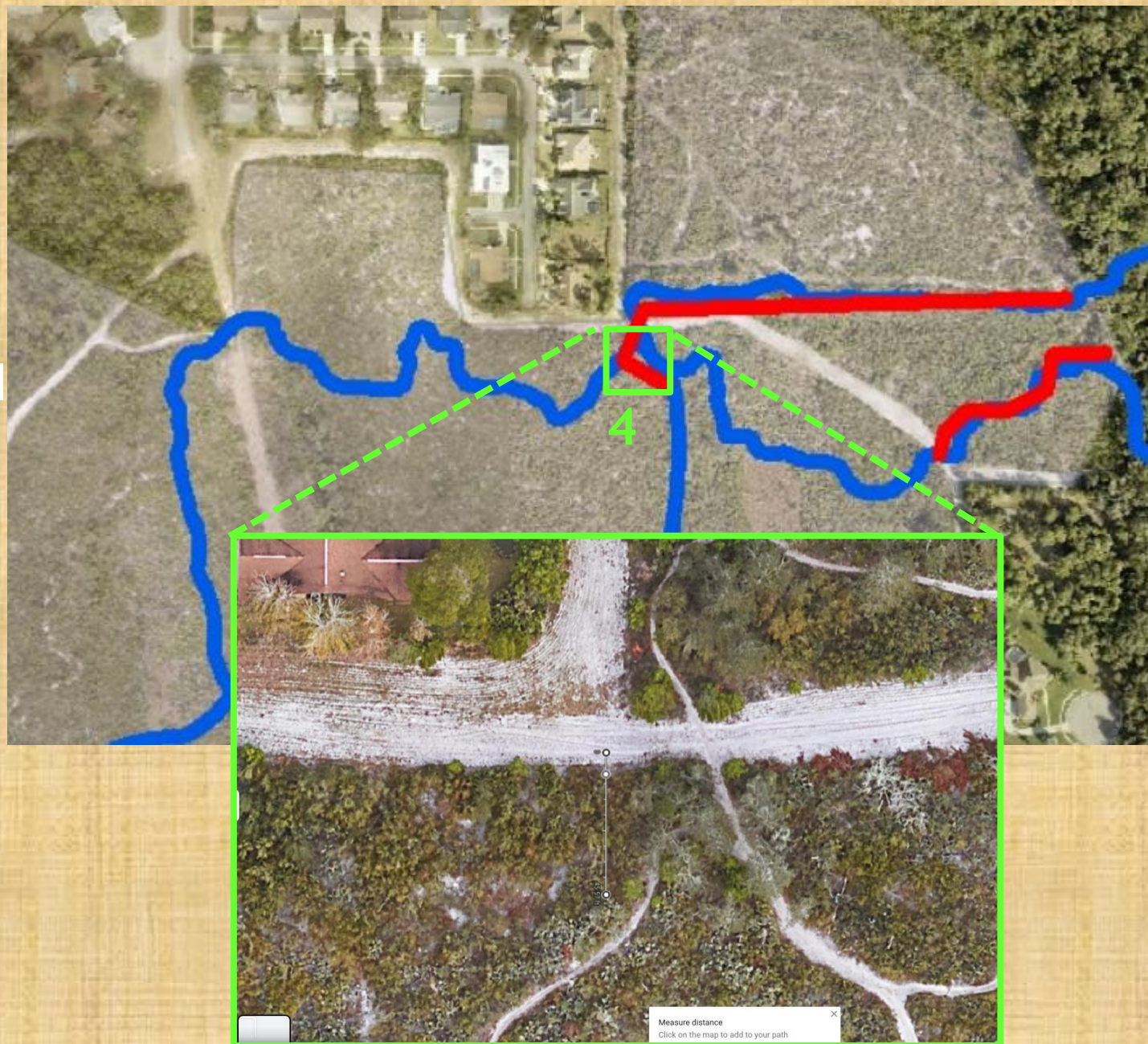
MSS West Area 4



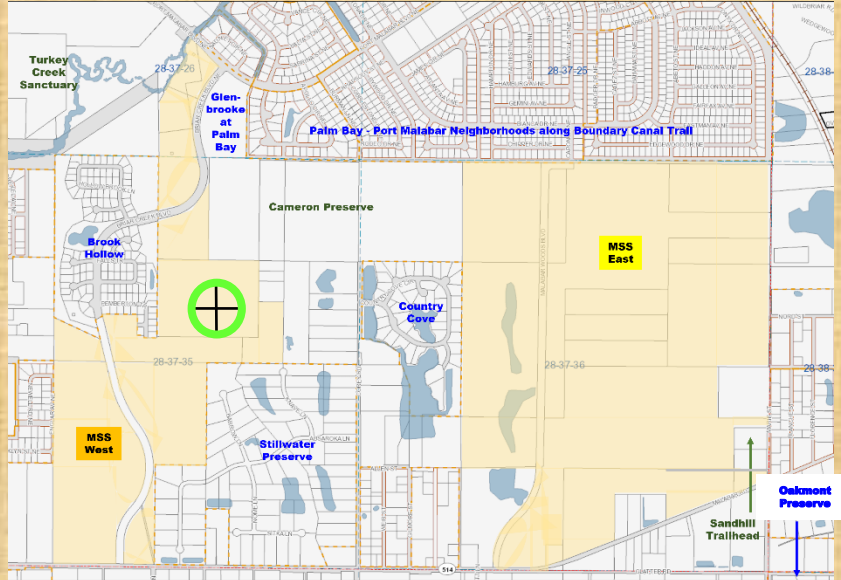
This very small area has a few beautiful mature scrub oaks that serve as a shade break for trail users in largely shade-free sections of trail traversing the area from S. Though very close to the property boundary with Brook Hollow, this area provides a small tree buffer (via some of the only remaining scrub oaks which once dominated the area but were preserved in the 2016 restoration effort). This is the only location where trail users have shade for a long distance.

Part 1: length 50' x width 50' = 0.06 acres w/10 trees

Request: Preserve this area with minimal tree overstory removal. Only remove sand pines as this is the only part of MSS West where users have reported seeing scrub-jays frequenting this area.



MSS West Area 5



This area involves the dramatic trail relocation proposed N on Turkey Creek Channel D, affecting the historic trails that largely pre-date mgmt by EEL Pgm. This trail existed up until the 2004 hurricanes, and trail users were told by EEL Pgm that it would be reopened, but it remained closed.

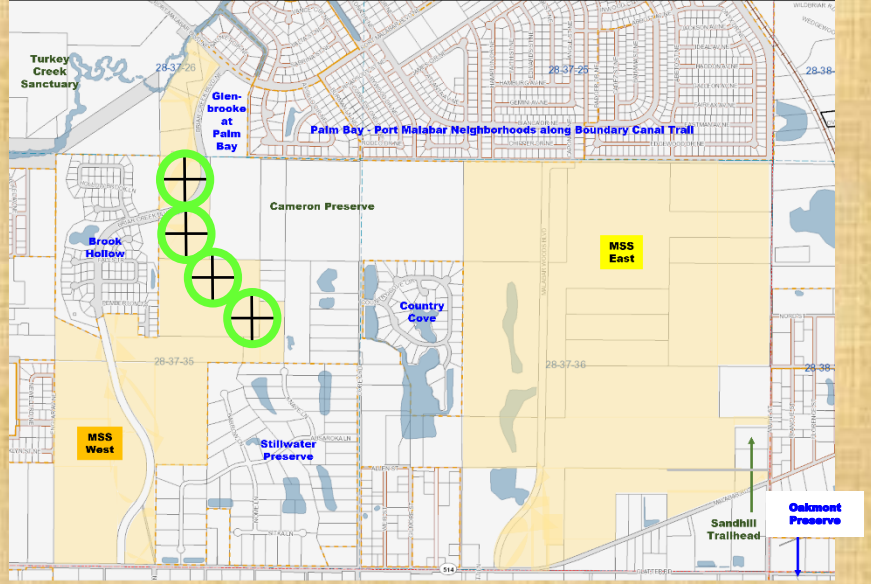
Part 1: length 0' x width 0' = 0.0 acres w/0 trees

Request: Locate new bridge and new trail segment in the deep woods south of the creek, connecting to the existing system. This would have minimal, if any, negative impact on restoration goals. Further, the new bridge would demonstrate EEL Pgm support for voter desired passive recreation.



EEL Pgm Proposed Closure and/or Relocation of the Majority of Trails North & East of Turkey Creek Channel D

MSS West Area 6



This area starts on the NW side of Briar Creek Blvd, just prior to a Turkey Creek Channel D roadway bridge, located just before entering Brook Hollow. The area runs SE, along the oak hammock surrounding the channel.

This area is the location for an EEL Pgm proposed dramatic trail relocation leading to Turkey Creek, which would affect the historic trails that largely pre-date mgmt by EEL Pgm. Recognized as some of the best cross-country trails in eastern Florida, the existing trails are well designed, environmentally stable, and are representative of how beautiful Florida nature can be.

CONTINUED ON NEXT PAGE...

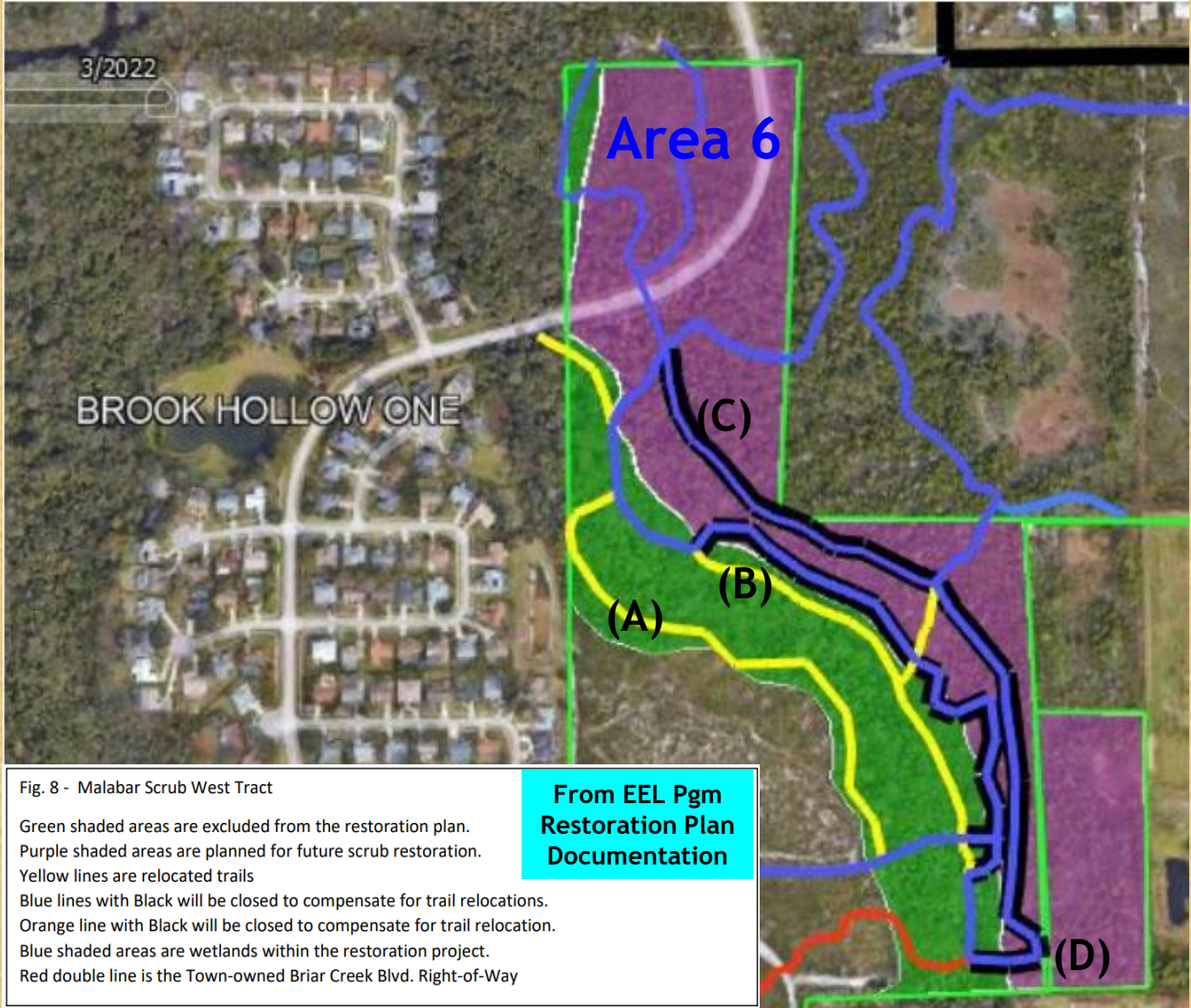
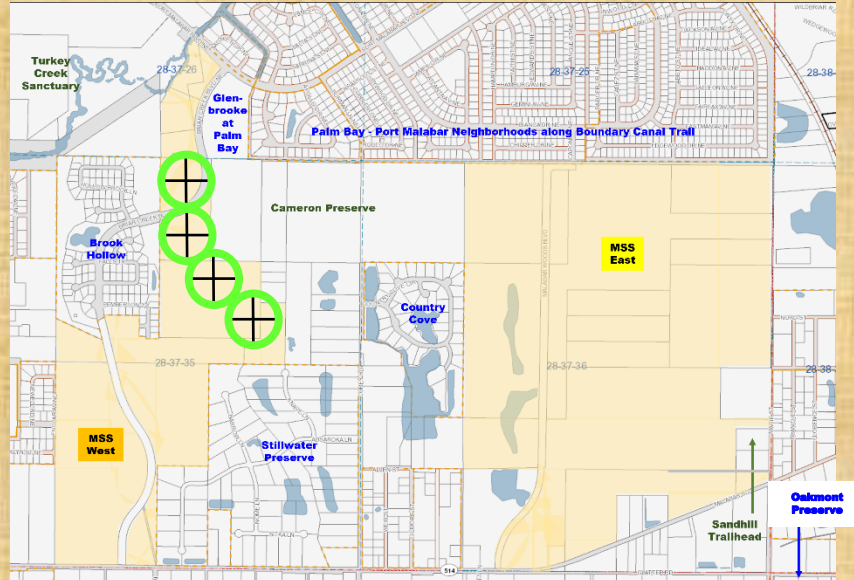


Fig. 8 - Malabar Scrub West Tract

From EEL Pgm Restoration Plan Documentation

- Green shaded areas are excluded from the restoration plan.
- Purple shaded areas are planned for future scrub restoration.
- Yellow lines are relocated trails
- Blue lines with Black will be closed to compensate for trail relocations.
- Orange line with Black will be closed to compensate for trail relocation.
- Blue shaded areas are wetlands within the restoration project.
- Red double line is the Town-owned Briar Creek Blvd. Right-of-Way

**MSS
West
Area
6**



Concerns With Closure and/or Relocation (Continued)

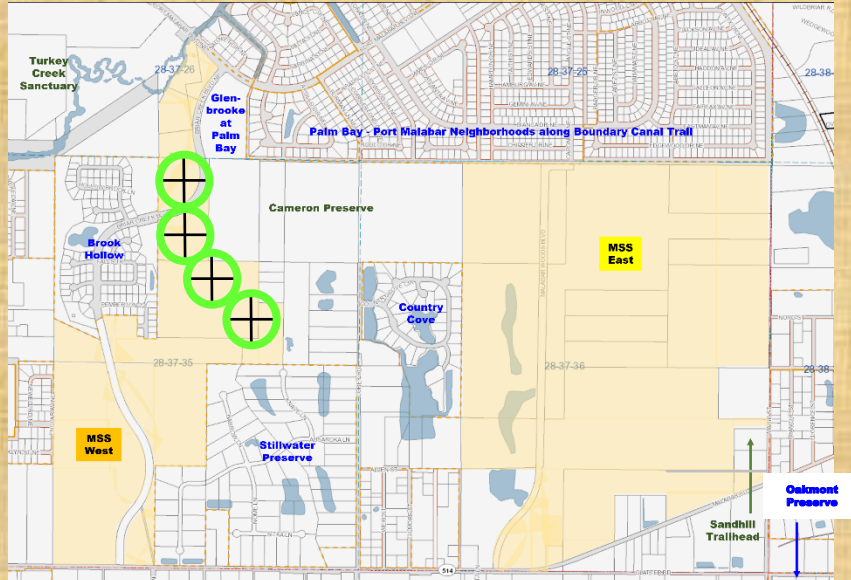
1. The trail on the S side of the creek (A) is desirable and has merit.
2. Inclusion now in the restoration plan for closure and/or relocation of trails N & E of Turkey Creek Channel D, after the original permit submission (since expired) with a reference of “work at TBD time in the future,” is outside of the specified time frame of a permit.
3. EEL Pgm provided information on closure and/or relocation of trails N & E of Turkey Creek Channel D. It is inadequate in detail and definition.

4. Proposed relocation of the creekside trail (aka “Dead Bike,” or B) by 30 to 100 feet to the S appears to be an unrealistic objective. The channel is often very close - not where it is shown on most maps.
5. Closure of the central red trail (aka “3 pole” or “jeep trail,” C). This is the only easy trail in the system and is used extensively by walkers. Closure also cuts off the south end of the trail system entirely (D).
6. The proposed changes are likely to cause massive erosion very near Turkey Creek, flowing directly into the Indian River Lagoon (IRL), an estuary of national significance. In the past, Town of Malabar has observed instances where EEL Pgm has not complied with the normally required silt fencing, and in some cases, the SJRWMD required vegetative setback requirements. Significant erosion mitigation efforts would be necessary to invoke proposed changes.
7. Due to the proximity of tall tree forest edges of EEL Pgm managed property, this area cannot accommodate the minimum of 300’ tall tree-free buffer specified by FL FWCC as necessary for suitable scrub-jay habitat.

**CONTINUED ON
NEXT PAGE...**



**MSS
West
Area
6**



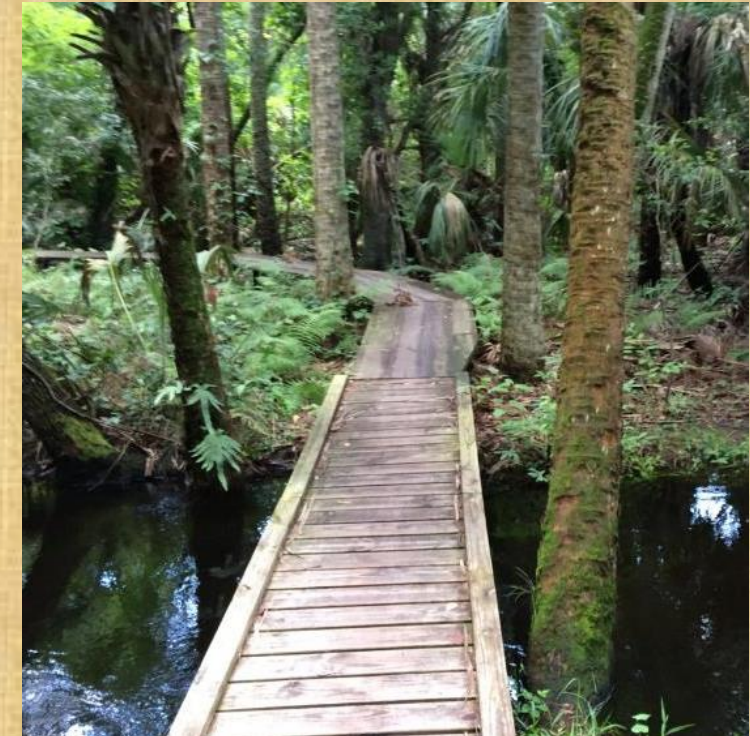
Concerns With Closure and/or Relocation (Continued)

8. Additionally, due to the proximity of tall tree forest edges and power lines on the ROW of Briar Creek Blvd, this area cannot accommodate the minimum of 300' tall tree-free buffer specified by FL FWCC as necessary for suitable scrub-jay habitat. The existing tall trees on Briar Creek Blvd ROW (paved or unpaved sections) are not within the scope of any permit for work outside of said ROW and therefore cannot be removed.
9. Further, due to the proximity of tall tree forest edges along the bordering property of the 100-acre Cameron Preserve (managed by Town of Malabar), at times as close as 50', this area cannot accommodate the minimum of 300' tall tree-free buffer specified by FL FWCC as necessary for Suitable scrub-jay habitat.

10. There have been comments during MSS Restoration Plan Meetings presented by EEL Pgm, that “there are too many trails on the property now.” However, the reality of the Cross Florida Greenway property suggests that trail frequency does not harm scrub-jay habitat. That location has a thriving scrub-jay population and is only 0.5 miles in width for most of its length. It incorporates 5 to 7 trails throughout the length of the Greenway. It reports **NO** detrimental impact from those trails.

Part 1: length 0' x width 0' = 0.0 acres w/0 trees

Request: Exclude this area from restoration and preserve it to be dedicated for trail use. Build the trail S of the creek to show EEL Pgm recognition that the mission continues to include support of passive recreation.



The intent of this package is to convey to Brevard County (BC), Town of Malabar (TOM) itemized requests for BC adoption of respective changes to the proposed Environmentally Endangered Lands Program (EEL Pgm) Malabar Scrub Sanctuary (MSS) Restoration Plan.

It is the desire of Town of Malabar that a balance will be achieved which adds scrub-jay habitat while preserving key tree areas in MSS, a much treasured urban forest.