

# Overview of East Flagler Mosquito Control District

District Expansion Workshop August 4,  
2021



# Overview

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How mosquito control districts came about

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District Expansion and Metrics

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History of saltmarsh mosquito control

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District Services

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# “Land of Mosquitoes”

- Florida territory ceded by Spain in 1821
- Mosquito County was split off from St. Johns on December 29, 1824
- Historically, mosquitoes were a major barrier to developing Florida
- In 1922 the Florida Anti-Mosquito Association was formed



Florida, 1844

## Organization of 'Skeeter Control Group Completed

At an organization meeting of the East Flagler Mosquito Control District last Saturday at Flagler Beach Ernest Buteux was named chairman, George Moody, vice chairman and Lyman Gage secretary-treasurer.

A resolution adopting a budget was prepared for presentation to the Board of County Commissioners Monday. Oath of office of the directors was administered by Attorney H. T. Cook, and surety bonds were prepared for presentation and approval of

# The East Flagler Mosquito Control District

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- The East Flagler Mosquito Control District was formed in 1952 specifically to combat saltmarsh mosquitoes so that the coastal area could be developed and made habitable year-round
- Since that time, the District has expanded to include Palm Coast and Bunnell, essentially serving the densely populated areas of Flagler County
- Most Mosquito Control Districts provide services in saltmarsh areas and adjoining densely populated areas

# District Expansion

## 1980 Expansion: "It's Definitely Going to Cost"

## 1996 Expansion – South of HWY 100

### 'It's Definitely Going To Cost'—Commissioners **Flagler Expands Mosquito Control District**

By DAN MAJORS  
From Our Flagler County Bureau

BUNNELL — The Flagler County Commissioners Monday expanded the East Flagler Mosquito Control District west to I-95 with the acknowledgement that "it's definitely going to cost (the residents involved) something."

But the commissioners could not tell concerned taxpayers how much the mosquito control service would cost or what type of services would be provided. Those decisions, they said, are in the hands of the Mosquito Control Board.

Herb Rogge, whose daughter lives in the expansion area, spearheaded the opposition at Monday's public hearing, demanding answers to questions the commissioners passed off to the Mosquito Control Board.

Rogge said the commissioners were moving too quickly on the expansion, thrusting the area's taxpayers into a situation "that isn't fair."

The commissioners, however, unanimously supported the expansion, although the reasons for the support varied.

Commissioner Albert Johnston called the change in the boundaries "beneficial," because the people living in the annexed area eventually would receive the same mosquito control services currently provided to those in the district—namely killing larvae, draining swamps and fogging.

"And the taxation won't be that much," Johnston said. "The members of the Mosquito Control Board are elected officials and they are responsible to the people. They'll have to answer for whatever they decide to do."

Commission Chairman Louis Steflik, on the other hand, attributed his support to the straw ballot the commission conducted with the general election Nov. 4. Steflik said the 1,300 votes for and 600 votes against the expansion "could not be ignored."

Commissioner Merhl Shoemaker agreed with Steflik saying, "We can't sit here and second guess the people after a vote of this kind. There's no better way for people to express themselves than in a vote."

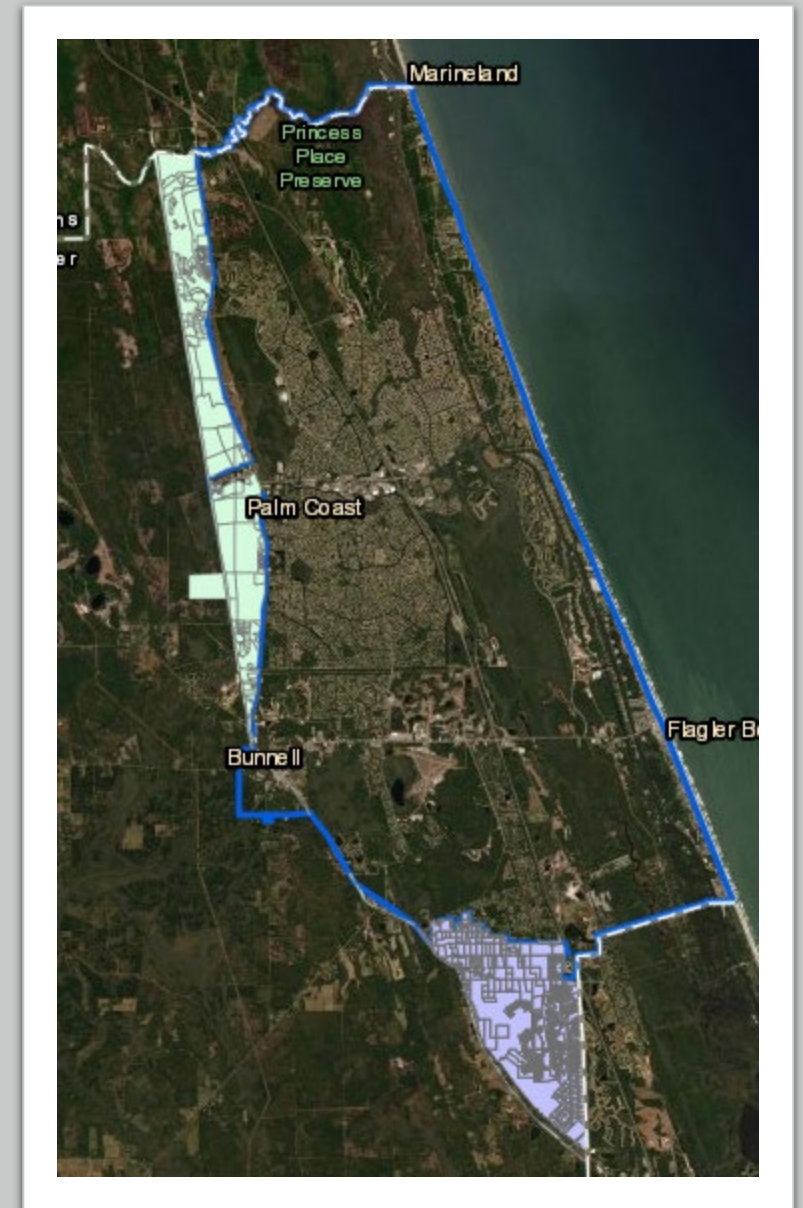
Rogge asked the commissioners to delay action on the expansion until some estimates of the tax structure could be made, but the group admitted a delay on the question would not alter the final outcome.

"It's definitely going to cost them something," Steflik said. "The residents aren't going to get something for nothing."



# Expansion Plans

- New facility was located at the airport in 2014 to be more centrally located for expansion
- Highlighted areas are a 13% increase in area served, add to District within the next year
- Continue to add areas with sufficient density
- If current growth and increase in taxable value continues, add all populated areas within 3–5-year time frame



# Geographic Area Served:

- According to the [U.S. Census Bureau](#), the county has a total area of 571 square miles (1,480 km<sup>2</sup>), of which 485 square miles (1,260 km<sup>2</sup>) is land and 85 square miles (220 km<sup>2</sup>) (15.0%) is water.
- The District encompasses 117 square miles and has a perimeter of 53.8 miles.
- **The District covers 117 sq. miles/571 Flagler County sq. miles = 20.49% of Flagler County**

# Proportion of Taxable Value within the District:

- 2020 estimate of Taxable values East Flagler Mosquito Control District  
\$9,200,000,000/Flagler County  
\$9,710,000,000 = **94.74% of Taxable Value in the County is currently served by the District.**





# Taxable Values Outside EFMCD

Area	Taxable Value	Revenue at 0.25 mills
West of US1 to CSX	\$ 77,264,996	\$ 19,316
Plantation Bay, etc.	\$ 378,360,032	\$ 94,590
Daytona North	\$ 60,956,153	\$ 15,239
Rima Ridge	\$ 15,559,836	\$ 3,890
Espanola	\$ 4,887,614	\$ 1,222
All Areas Outside	\$ 735,040,585	\$ 183,760

# Area Served with Expansion

Area	Acres
West of US1	4969
Plantation Bay etc.	5040
EFMCD	74880
<b>New Total Area</b>	<b>84889</b>
Increase in District Area	13.37%
Flagler County Total	365,440
New Proportion of Area Served	23.23%



Total Additional Revenue from expansion \$113,00



13% increase in area served



Assuming similar costs per area based on current District Ad Valorem \$2,120,000 a 13% increase in area:



Additional cost for new area \$283,374



Any deficit in operating expenses will be made up by existing tax base and new development

# Summary of Expansion Metrics

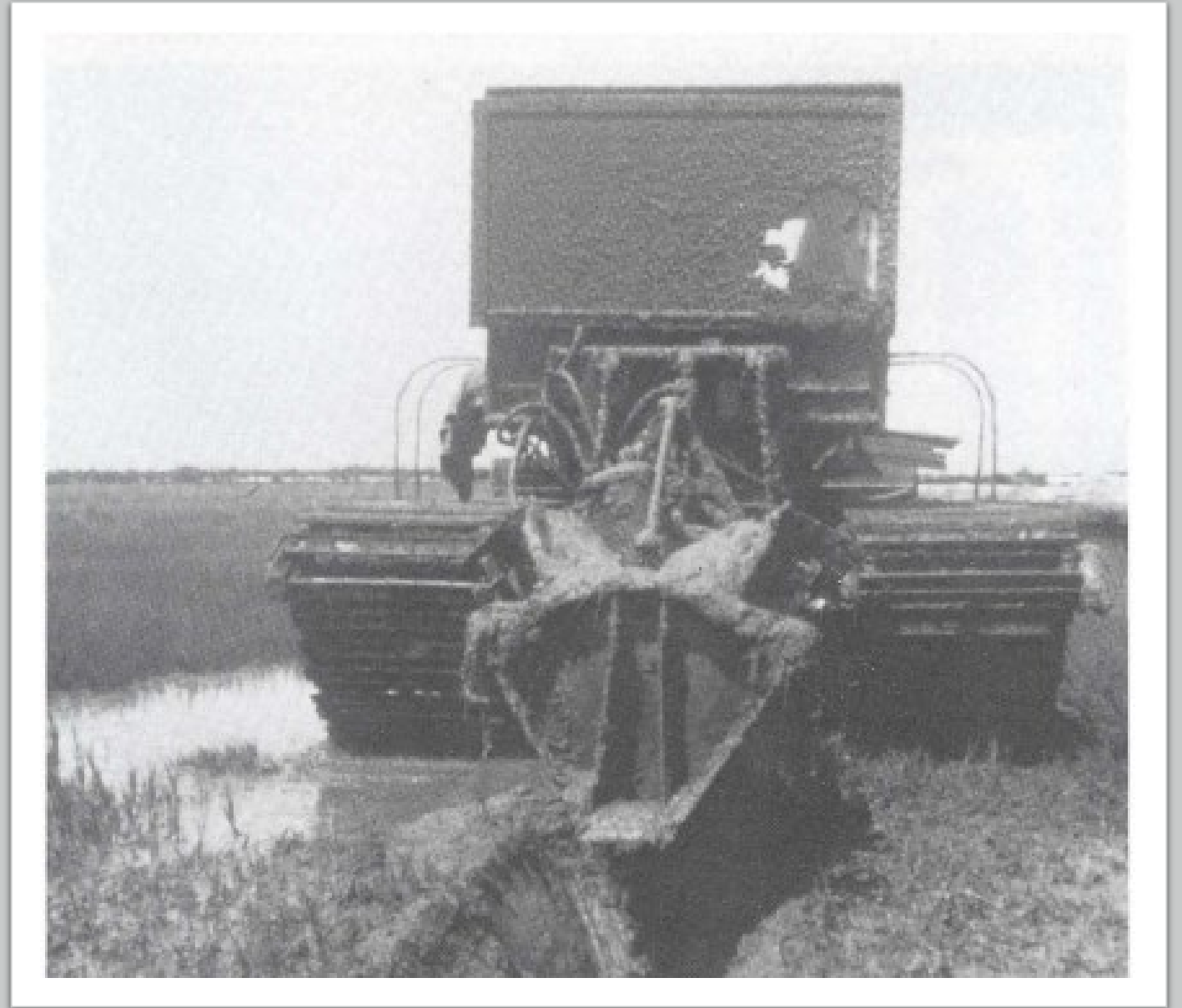
# Saltmarsh Mosquitoes

- A salt marsh or saltmarsh, also known as a coastal salt marsh or a tidal marsh, is a coastal ecosystem in the upper coastal intertidal zone between land and open saltwater or brackish water that is regularly flooded by the tides.
- Because these areas are nutrient rich and flood intermittently, they are a perfect breeding ground for mosquito species adapted to this habitat
- Operational focus in and around the saltmarsh is to apply larvicides to prevent the emergence of mosquitoes



# Mosquito Ditches

- The original control method
- Mosquito ditching was the main focus of mosquito control districts when most were first formed in the 1940's and 1950's
- Since Salt Marsh Mosquitoes need intermittently flooded areas to reproduce, low lying areas were connected with ditches and allowed to drain in an attempt to prevent flooding





## District Helicopter Patrolling the Saltmarsh

# Controlling Saltmarsh Mosquitoes

- Beginning in the 1980s helicopters became more widely available commercially but also as military surplus
- Because of the vastness of the saltmarsh, helicopters were added to most mosquito control programs with saltmarsh habitats
- This is the District's Third helicopter, a 2005 Bell Jet Ranger

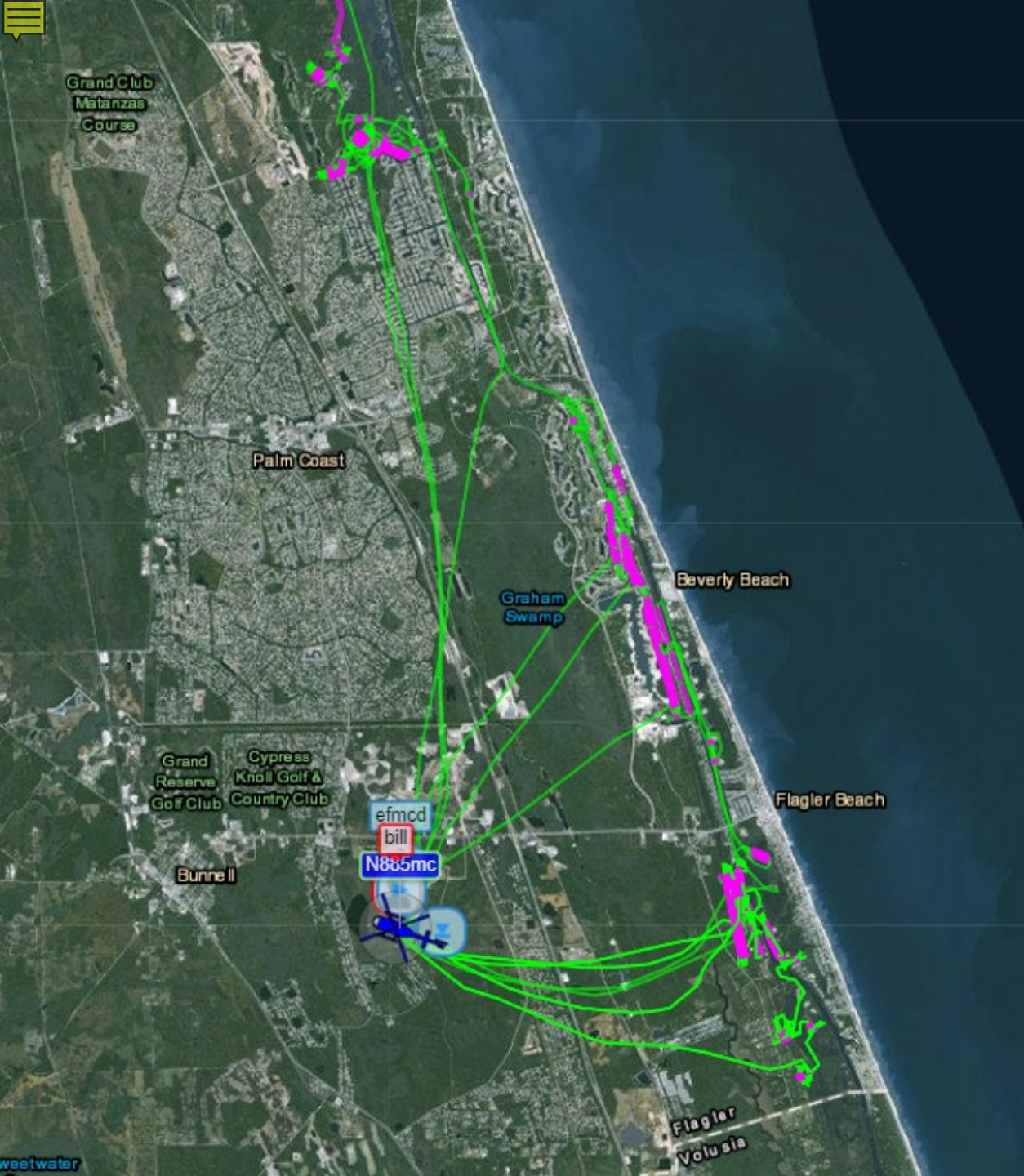


# Controlling Saltmarsh Mosquitoes

- Specially formulated pesticides are applied to predetermined mosquito breeding areas
- The products prevent the emergence of biting adult mosquitoes
- The helicopter is equipped with dual broadcast spreaders
- The product shown being loaded into the helicopter is organically certified







# Controlling Saltmarsh Mosquitoes

Areas larvicided by helicopter



# Helicopter Larviciding

Larvicide granules being dispersed

# Treatment sUAS

- “small” Unmanned Aerial System
- Lift capacity 35 pounds
- East Flagler is the only program in Central Florida with a treatment sUAS
- Run successfully in 2020
- Expanded treatment areas in 2021



# Treatment sUAS

- FAA and State regulations to pilot and apply pesticides
- Requires the use of spotters to maintain line of sight
- Good tool in areas with development
- Fills the gap for areas that are too large or remote to be treated on foot, but smaller than would require the helicopter.



# What about mosquitoes other than in the saltmarsh?

- 48 species of mosquitoes in Flagler County
- Flood water
- Permanent water
- Container/backyard species i.e. *Aedes albopictus* & *aegypti*



# Fog Trucks

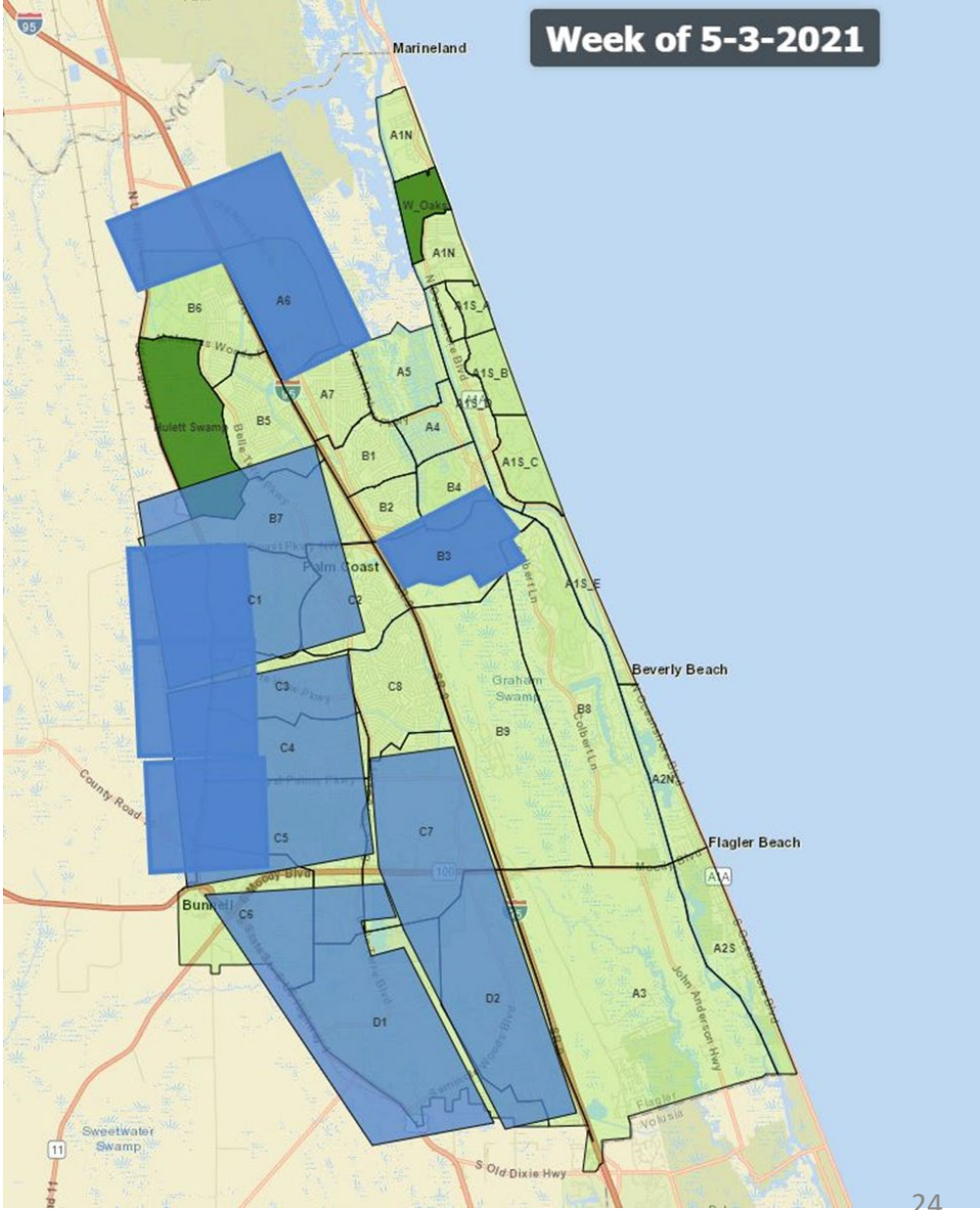
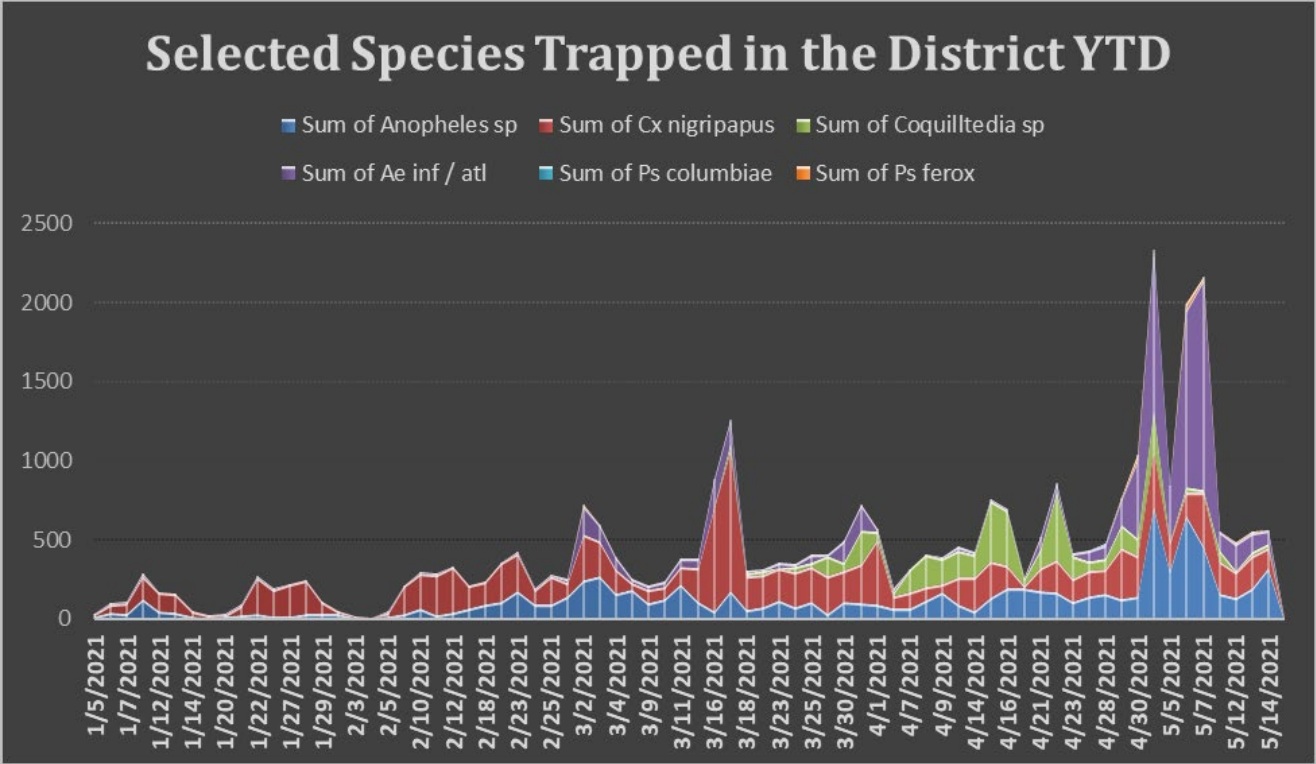




# Helo Nightshift

- The helicopter can switch payloads and treat for adult mosquitoes
- The helicopter extends our reach beyond the neighborhoods with paved roads that the fog truck can reach
- Prevents mosquitoes from flying into populated areas

# Monitor and Treat





# Services Outside the District

- Since 2003 Flagler County has had an agreement with East Flagler Mosquito Control District in place for emergency mosquito control spraying in Espanola, Rima Ridge, and Daytona North
  - Residents pay special assessment fees to the County for the procurement of emergency mosquito control spraying
  - Once the County receives enough calls, the District is authorized to spray
- The same scenario exists in Western portions of Volusia County, where spraying is by cooperative agreement with their mosquito control district

