Public Purpose Statement

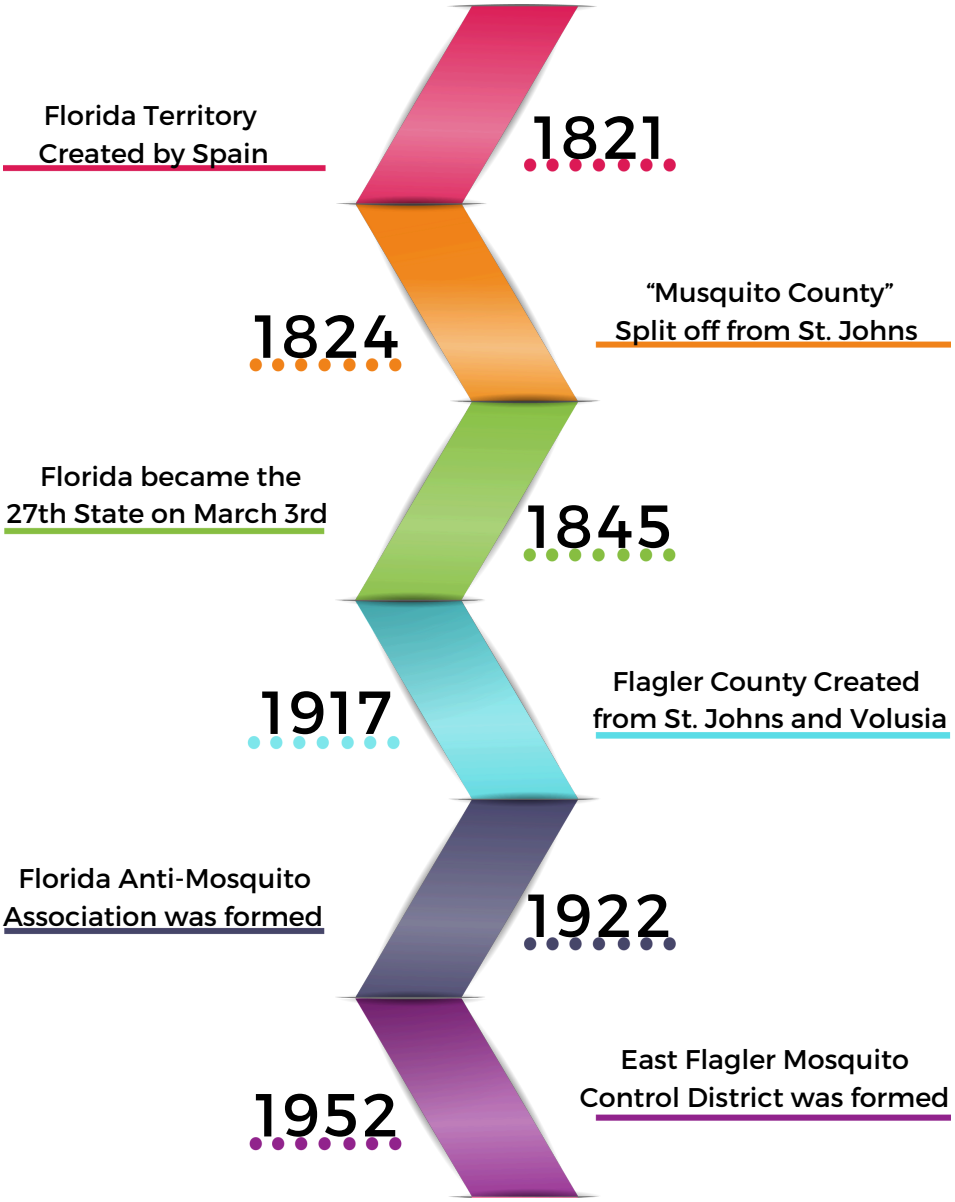
The mission of the East Flagler Mosquito Control District is the suppression of those mosquito species that may cause illness or significant discomfort, within a specific control area and with minimal environmental impact.

Background

District exists to control mosquito populations in order to protect public health of residents and visitors. The control of mosquitoes and the diseases they transmit adds value to the community by providing for a quality of life to residents and visitors which in turn increases property values and aids in economic development of the County.

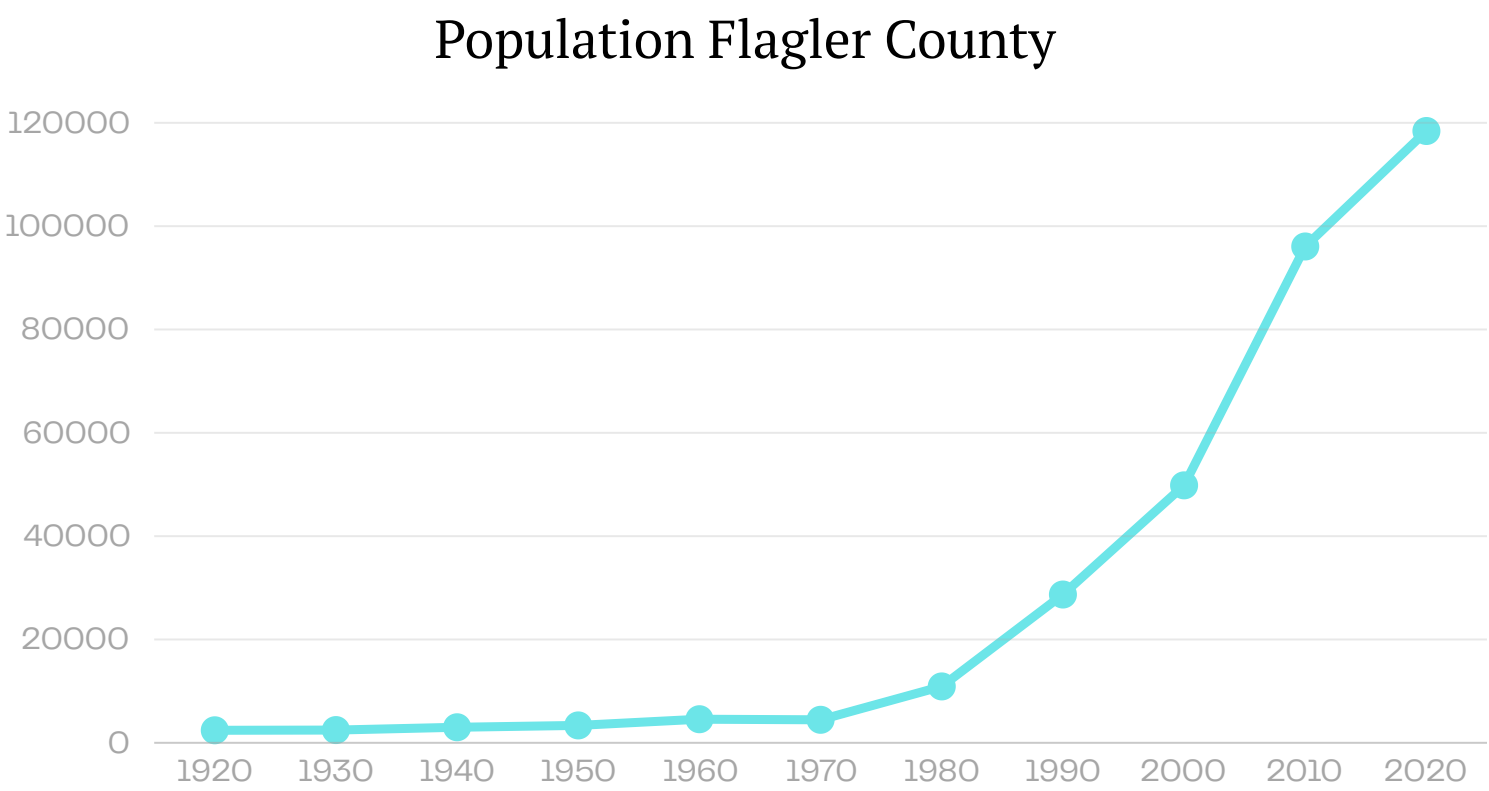
The District was formed in 1952 to suppress populations of saltmarsh mosquitoes so that the area could be habitable year-round and allow for development of the area.

Historical Events



Growth

Population growth was initially slow in Flagler County, but much of the surrounding area is now being developed quickly. The District is expanding its boundaries and attempting to provide additional service area without overtaxing existing residents to pay for services in newly expanded areas.



*Source US Census Bureau

• According to the U.S. Census Bureau, the county has a total area of 571 square miles (1,480 km2), of which 485 square miles (1,260 km2) is land and 85 square miles (220 km2) (15.0%) is water.

Population Density

- Most of the population is along the Coast
- The interior of the County West of US1 is only lightly populated
- **The District in 2022 Covered** 117 sq. miles/571 Flagler County sq. miles = **20.49% of Flagler County**
- 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 was currently served by the District.**

Expansion

- New facility was located at the airport in 2014 to be more centrally located for expansion and was completed in 2017
- Expansion areas for 2023 are a 13% increase in area served
- Estimated Additional Taxable Value of 2-4%
- The District encompasses 129.73 square miles and has a perimeter of 59.57 miles.
- **After Expansion the District Covers** 129.73 sq. miles/571 Flagler County sq. miles = **22.72% of Flagler County**

- Any deficit in operating expenses will have to made up by existing taxpayers and new development.

The way Flagler County is developing does not lend itself to dense urban areas and hence large ad valorem revenue. Because of this suburban development and antecedent tax base, the District has developed a "lean and mean" mindset utilizing few staff but are highly skilled and have multiple roles for efficiency, making use of the equipment and technology for maximum impact and cost effectiveness, while minimizing accessory roles by outsourcing functions that are not core to our mission such as maintenance, accounting, legal, and janitorial. Almost all positions are to support field operations and control measures.

A strategic vision statement supports the mission statement but is more tangible. It describes an achievable future state of an organization. This statement should help visualize where the organization is headed. Our mission statement is our public purpose statement.

The vision statement and mission statement are both equally important and they complement each other and guide the direction of our agency. The main difference between them is that the mission statement describes what we currently do, and the vision statement explains what the District will look like in the future.

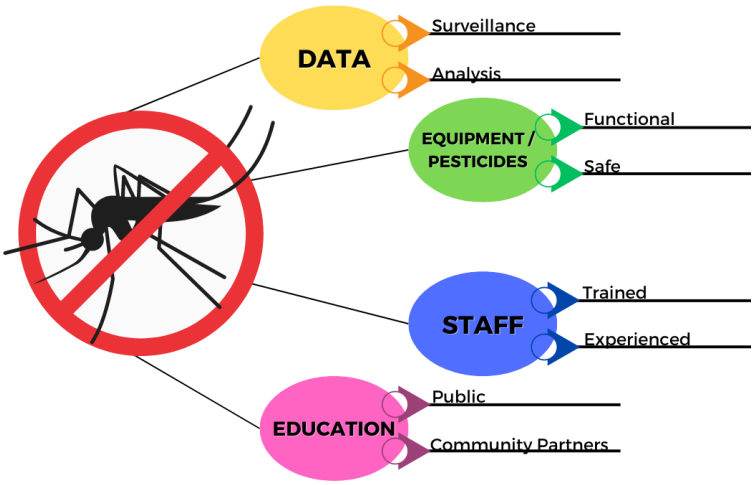
Vision Statement

The District seeks to provide a very-high level of service to its residents to maximize quality of life and facilitate economic development. To accomplish our mission, we have adapted new technology for monitoring mosquito populations in real-time, treating by drone (sUAS), robust field data collection to increase response time and efficiency, continue to develop and enhance operations. Informing the public about community-wide mosquito control measures and individual involvement in controlling peridomestic mosquito species on private property.

Our Vision is informed by our daily tasks in support of our mission

Day-to-day decisions and long-term planning overlap in that operational improvement is an iterative process. The District seeks to constantly be developing new techniques, utilize better and safer pesticides and control measures, adopting new technology that is more efficient and/or effective, and to have the best data with which to make the most prudent operational decisions.

The below diagram illustrates the key objectives of the District's vision.



Priorities

Priorities for the District are to utilize technology to enhance monitoring mosquito breeding sites for maximum efficiency and improved outcomes, have reliable and sufficient equipment and personnel to quickly respond to surges in mosquito population, and the situational awareness to minimize the response time. Additionally, informing the public about mosquito control through outreach via social media, community events, school interactions and in person visits to homes submitting mosquito tips is essential to supporting operations. A properly informed public that understands what mosquito control measures are implemented, when they are done but also the critical understanding of why certain control measures is undertaken at specific times facilitates public support of community-wide mosquito control measures and involvement in controlling peridomestic mosquito species on their own private property

Goals, Objectives, & Strategies

A ROADMAP SHOWING HOW WE GET THERE

Strategic *Goals*

1. Monitor and control the population of pestiferous mosquitoes to baseline levels to prevent disease and enhance quality of life.
2. Provide quality Public Outreach and Education.
3. Effectively suppress the spread of human infection of mosquito borne diseases.
4. Maintain State Approved Status as a mosquito control program.
5. Comply with all Federal and State Regulations regarding the dispensing of pesticides.
6. Respond to Citizen Concerns of Mosquito Activity within the District.
7. Quality Control and Assurance through analysis.

Goal 1

Monitor and control the population of pestiferous mosquitoes to baseline levels to prevent disease and enhance quality of life.

Objective 1.1: Map saltmarsh mosquito breeding sites and monitor the most efficient way.

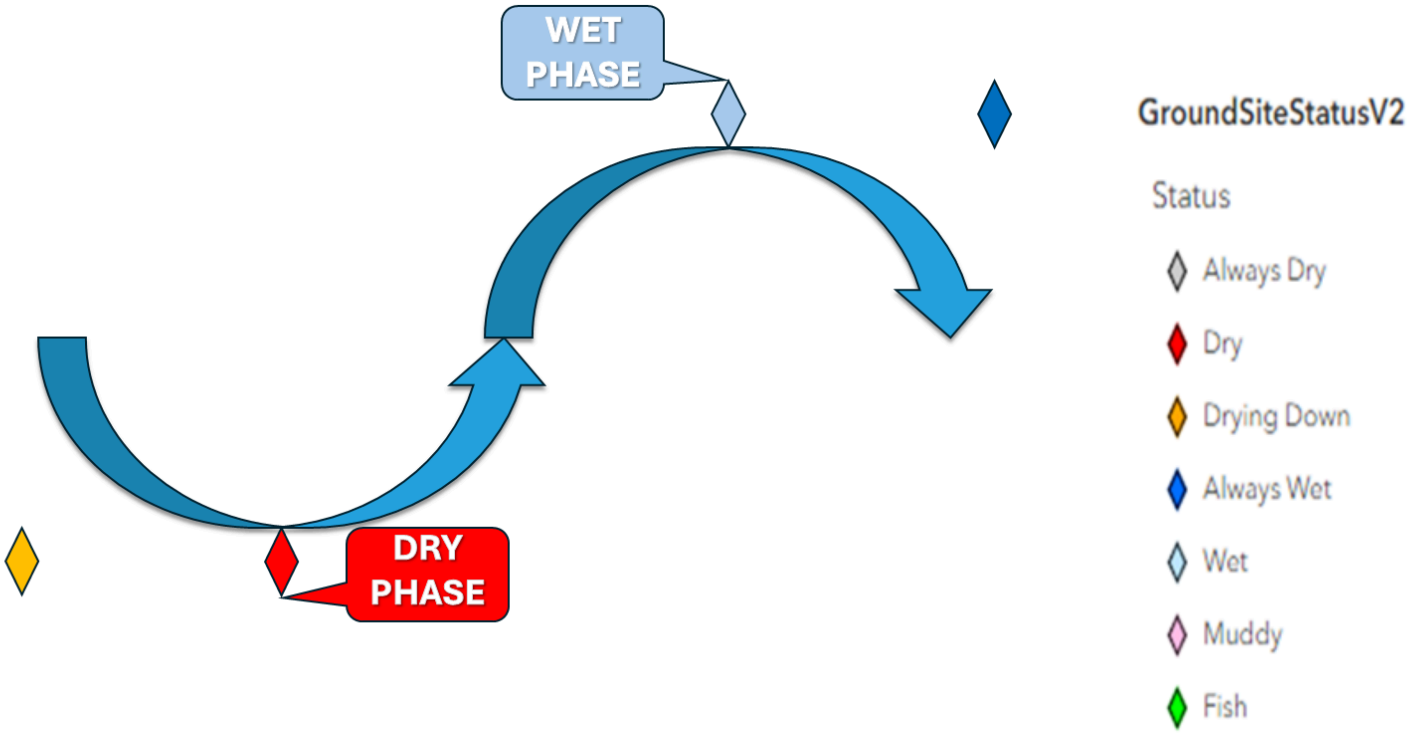
Strategy 1.1.1 Maintain a geographic information system of all known breeding sites, prioritize areas to be pre-treated

Measure – # of new breeding locations are added to the database, # areas that have been developed are removed, total number of breeding sites

Strategy 1.1.2 Monitor wet/dry status of breeding sites using GIS in real-time, allowing us to track the water cycle and apply larvicide at the optimal time

Measure- report on each week the number of sites checked and percentage of change to wet or dry

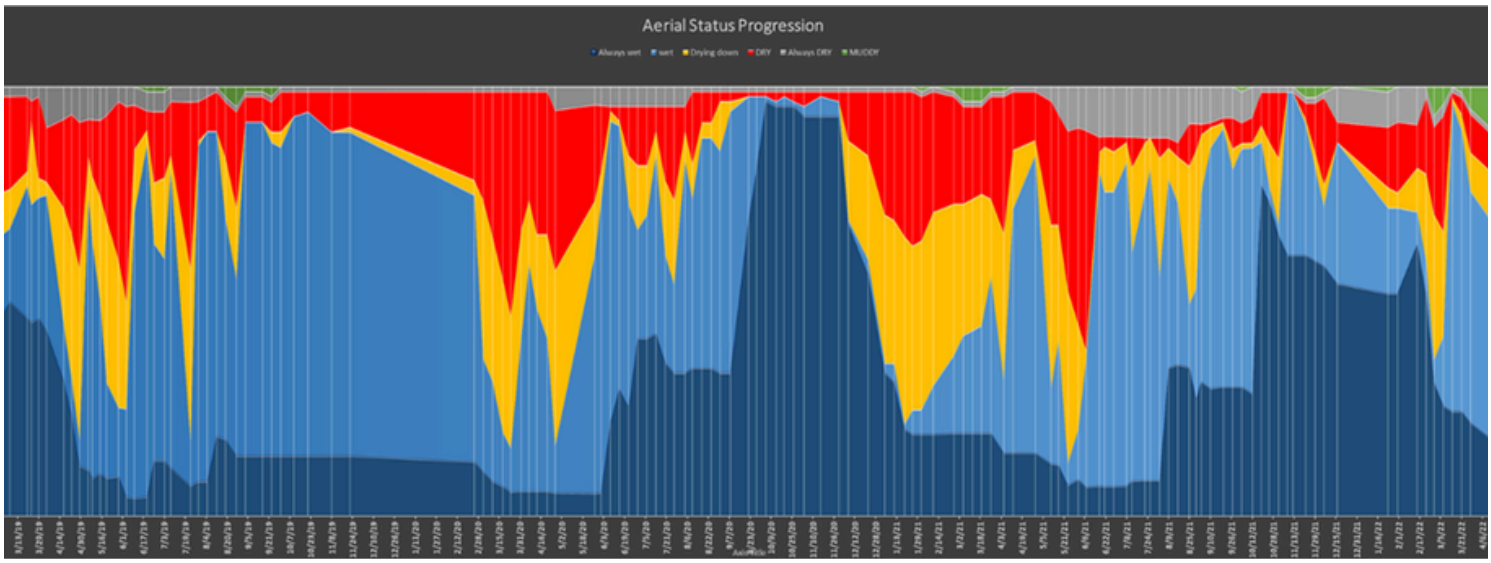
Tracking these sites graphically gives you an overall understanding of the conditions in the saltmarsh and, importantly, when to take action



Strategy 1.1.3 Utilize the helicopter for surveillance flights in conjunction with proactive as well as reactive treatments

Measure– produce report of surveillance status observations to aid in decision making for timing of larvicide applications

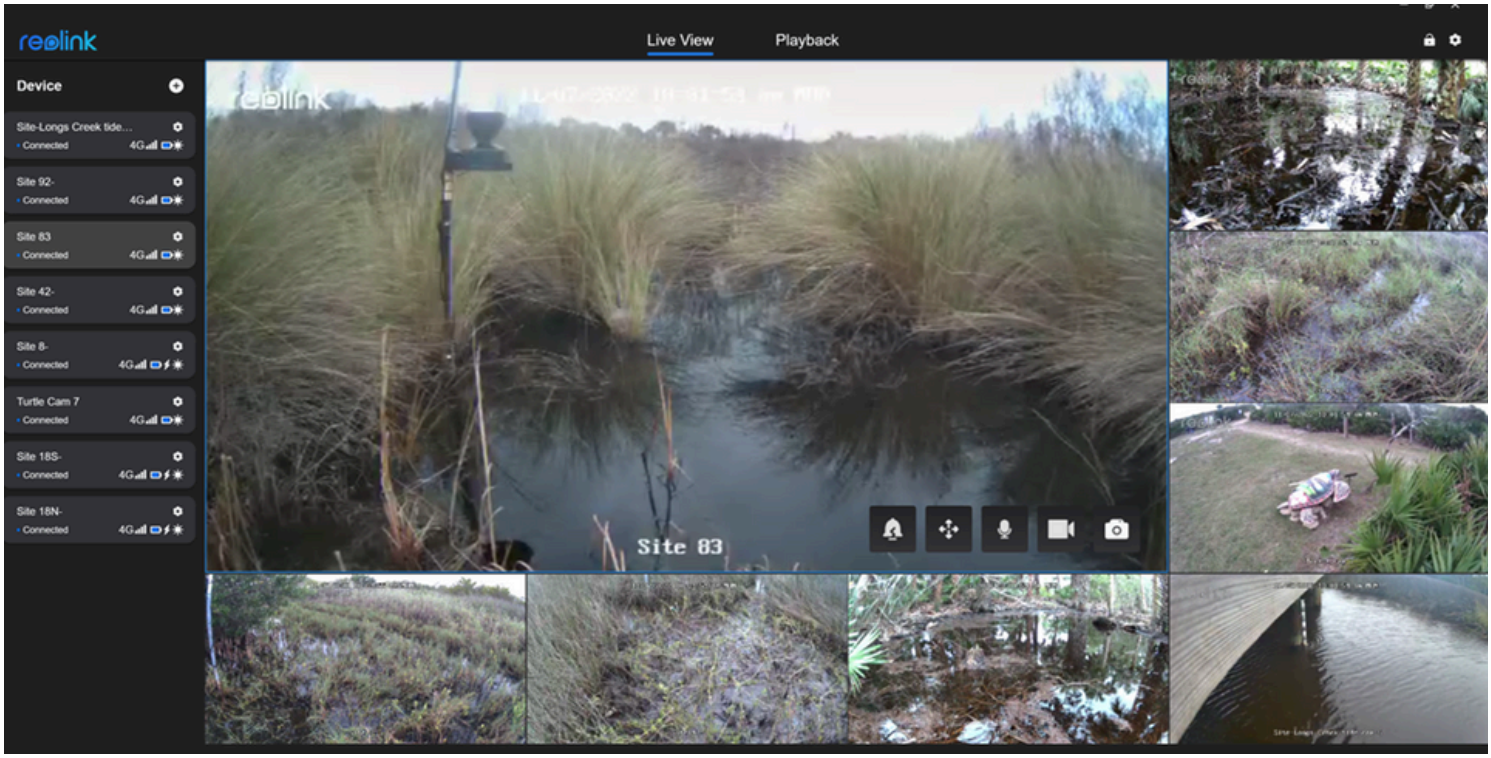
The saltmarsh can be surveyed quickly by helicopter checking on the larger sites treated by air



Strategy 1.1.4 Remote monitoring technology for constant surveillance of breeding sites

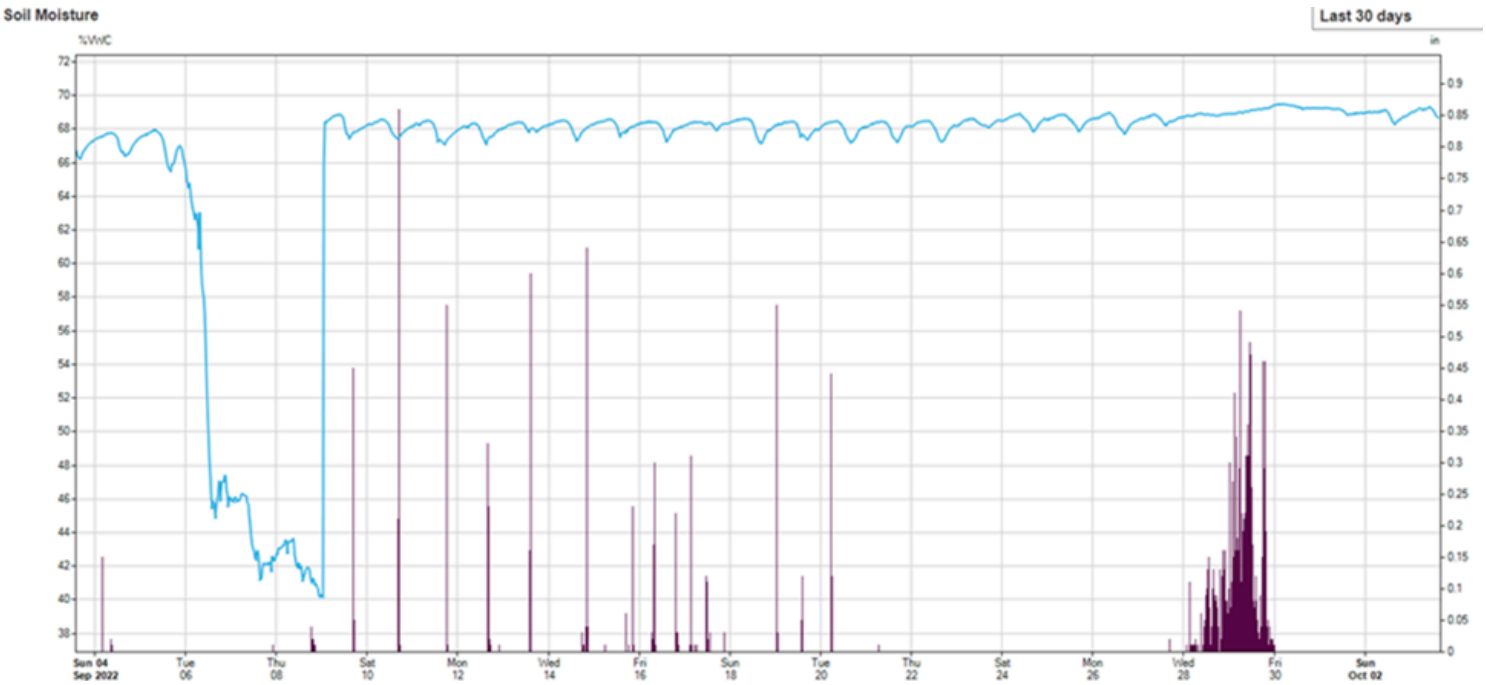
Measure– produce report of surveillance status observations to aid in decision making for timing of larvicide applications

Camera Array



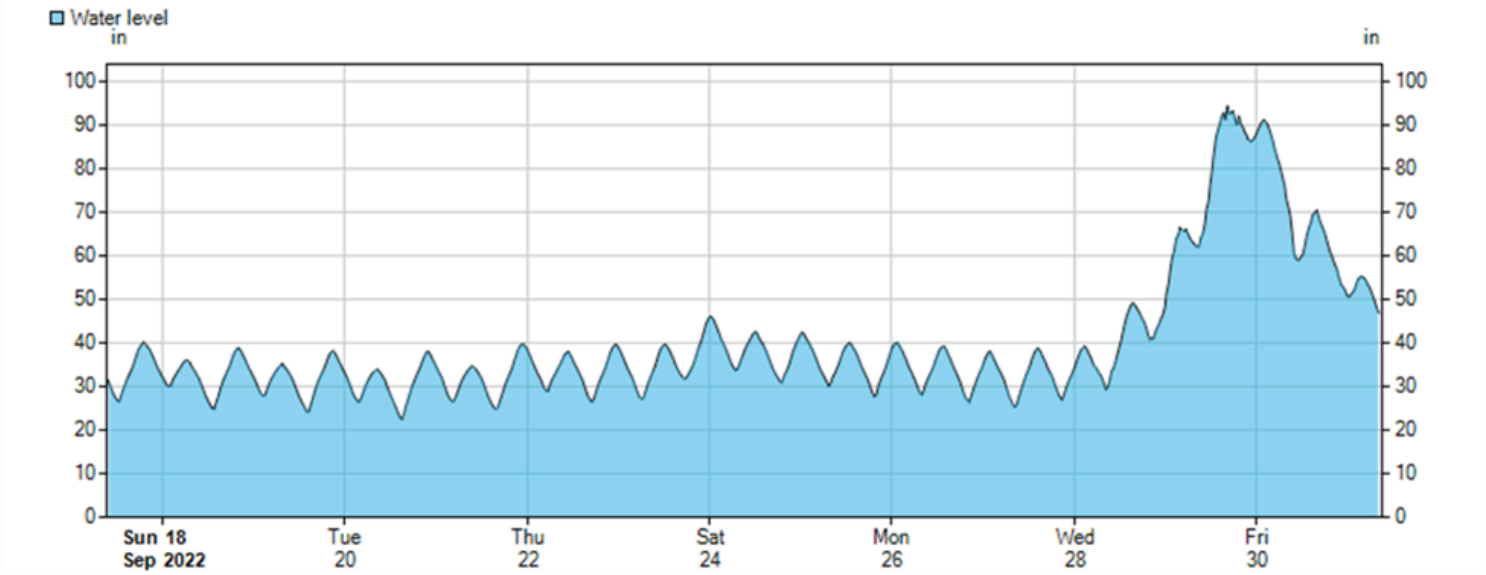
Soil Moisture Probes

- Data collected from this type of monitoring determines:
- Instantly when a site is flooded
- How much water is currently in the soil and estimate future flooding based on saturation data
- Establish a trend for drying down



Tide Gauge

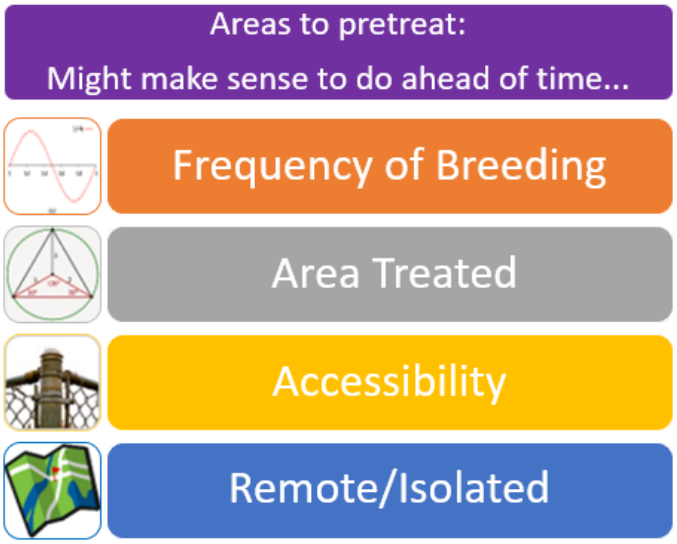
- Better estimate tidal influences further into the saltmarsh



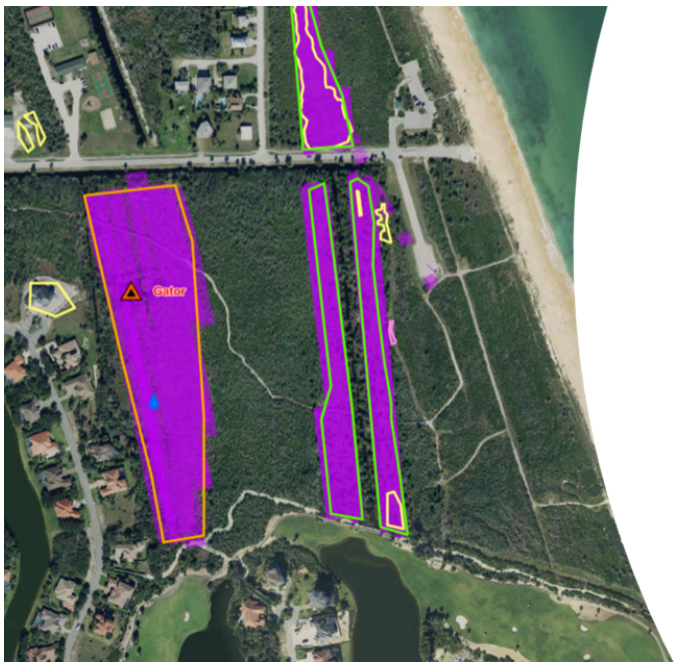
Objective 1.2 Apply control measures to prevent the emergence of adult saltmarsh mosquitoes

Strategy 1.2.1 Areas pre-treated with larvicide are prioritized

Measure- Area pre-treated with larvicide



Sites can be treated by helicopter, drone (UAS), by truck, or on foot. (Helicopter and drone sites shown)



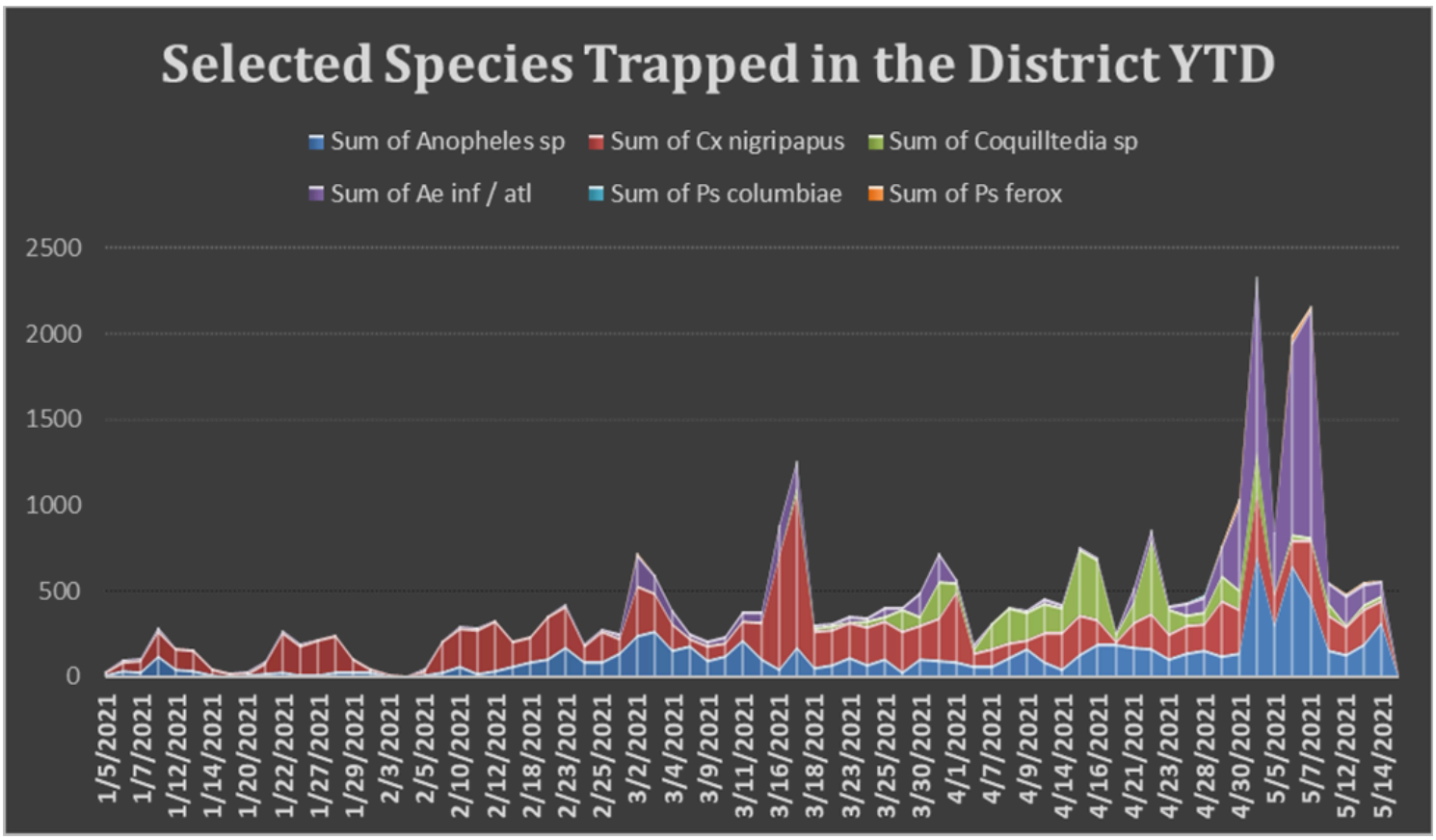
Objective 1.3 Survey adult mosquito populations and apply control measures at established parameters required by law to reduce population quickly

Strategy 1.3.1 Adult mosquitoes are detected by landing rate counts and CDC light traps.

Measure– Daily landing rates are conducted and recorded in the database

Strategy 1.3.2 Adult surveillance is conducted daily adjacent to representative breeding sites, identified to species, counted and the data is then tabulated for analysis of need for control measures

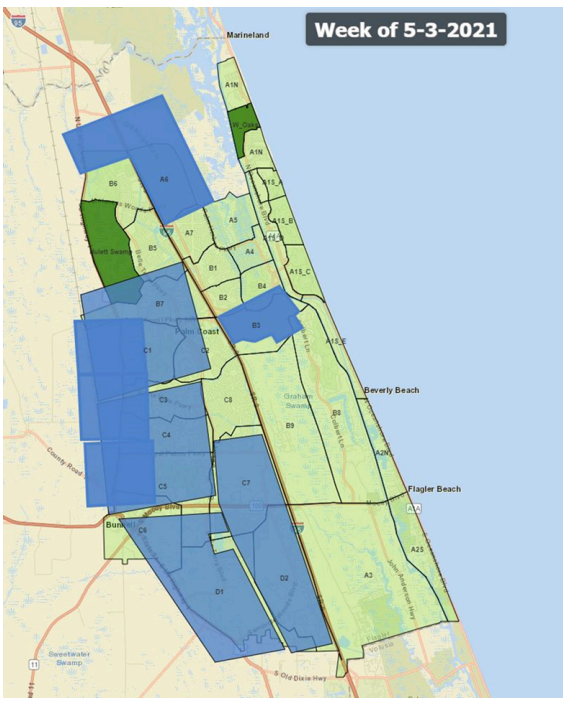
Measure– Daily trap data is collected and tabulated into a report



Strategy 1.3.3 Adult control measures are implemented when established guidelines for mosquito presence are reached and conditions are favorable for control.

Measure– Adulticide acreage treated

- Quick implementation of adult control measures is essential as a long–lasting mosquito surge spreads further into human occupied areas and increases the probability of spreading mosquito borne diseases.
- The District maintains sufficient equipment to rapidly respond to elevated mosquito presence with both helicopter and truck ULV spraying
- At low levels of mosquito activity no control measures are required
- For moderate levels of mosquito activity spray trucks employed to suburban areas with a dense net–work of roads can reduce activity to low levels
- High levels of adult mosquito activity necessitate more area be treated and so the helicopter is utilized to treat both areas inhabited by humans and create a buffer against mosquito migration from breeding sites
- Essentially the more mosquito activity there is, the more area must be treated to reduce the mosquito activity in an area.
- Mosquito populations can be quickly returned to baseline following application of adult control measures



Strategy 1.3.4 Rotation of active ingredients and resistance monitoring are critical component of effective adult control.

Measure– acres treated by different pesticides

Goal 2

Provide quality Public Outreach and Education

Objective 2.1 Participate in Community events with educational materials provided

Strategy 2.1.1 Participate in Local Events:

Measure– list of events attended for public outreach and education

- Freedom Fest
- Touch a Truck
- Home Show
- Library Events
- HOAs
- Professional and charitable organizations and social clubs

Objective 2.2 Partner with Schools to provide Educational opportunities

Strategy 2.2.1 Interact with students both at school and outside the school setting

Measure– list of events hosted to educate school children about mosquitoes

- Mosquito Sweater Contest
- Internship Program

Objective 2.3 Engage Community Partners to increase understanding and support of Mosquito Control

Strategy 2.3.1 Meet with Community Partners and provide tours of facility

Measure– list of local officials met with

Objective 2.4 Create informational content

Strategy 2.4.1 ·Post content on various platforms

- Missions
- Educational materials
- Adapt weekly operations updates for social media posts

Objective 2.5 Host Waste Tire and Bromeliad eradication

Strategy 2.5.1 Host Waste Tire round-up pending FDEP funding

Measure- tire poundage removed

Strategy 2.5.2 Bromeliad surveillance

Measure-Sites found with bromeliads

Goal 3

Effectively suppress the spread of human infection of mosquito borne diseases.

Objective 3.1 Monitor local cases of imported of mosquito related diseases in conjunction with the Department of Health

Strategy 3.1.1 Monitor weekly reports of imported diseases

Measure- number of human cases of imported mosquito borne diseases

Strategy 3.1.2 Prevent the spread of locally acquired mosquito borne diseases in humans or respond with appropriate measures

Measure- number of locally acquired human cases of mosquito borne diseases and response

Goal 4

Maintain State Approved Status as a mosquito control program

Objective 4.1 Work closely with the Florida Department of Agriculture to maintain approved status

Strategy 4.1.1 File application paperwork

Measure- completed MOU for approval

Goal 5

Comply with all Federal and State Regulations regarding the dispensing of pesticides

Objective 5.1 Staff Training

Strategy 5.1.1 Staff attend trainings for public health pesticide applicators to acquire Continuing education units (CEUs')

Measure– List Trainings attended by staff

Strategy 5.1.2 Staff attend trainings specific to safe handling of pesticides

Measure– List Trainings attended

Objective 5.2 Maintain satisfactory compliance inspection reports by Florida Department of Agriculture/Federal Environmental Protection Agency

Strategy 5.2.1 Comply with State and Federal Regulations for pesticides

Measure– satisfactory compliance with most recent inspection report

Goal 6

Respond to Citizen Concerns of Mosquito Activity

Many home-owners are unaware of how mosquito control works to monitor the mosquito population in order to apply control measures. Additionally, even the most well intentioned homeowner may inadvertently be breeding container-mosquitos in their yard. Responding to customer concerns allows for educating the homeowner about these issues as well as identify pests that may not be mosquitoes such as blind-midges, gnats, no-seeums, crane flies, love bugs, etc.

Objective 6.1 Respond to TIPS (Turning Information into Proactive Surveillance)

Strategy 6.1.1 Log complaints and maintain a database of TIPS

Measure- number of TIPS

Strategy 6.1.2 Advise homeowners on the proper removal of containers, especially bromeliads to prevent container breeding mosquitoes

Measure- number of container related TIPS

Strategy 6.1.3 Verify the presence of mosquitoes or inform the homeowner when there is a different pest present

Measure- number of TIPS with other than mosquitoes

Goal 7

Quality Control and Assurance through analysis

The heart of being an effective mosquito control program is adaptation. We would be foolish to assume the mosquito, which has survived since the Cretaceous period (100 million years ago) would not adapt to the challenge of mere humans trying to suppress their numbers. We respond not just with technological innovation and human creativity, but a persistent study of our mortal enemy. The deadliest animal on the planet to humans has always been, and will always be, the mosquito.

Objective 7.1 Review operational components of each week during the peak season April through October

Strategy 7.1.1 Assess over all abundance of mosquitoes and their distribution

Strategy 7.1.2 Analyze trends by relevant species for previous weeks and changes for current week when appropriate

Strategy 7.1.3 Correlate treatments to mosquito activity

Strategy 7.1.4 Review Weekly Arbovirus reports and provide summary

Strategy 7.1.5 Produce report weekly April through October

Measure– Weekly Operations Update Report