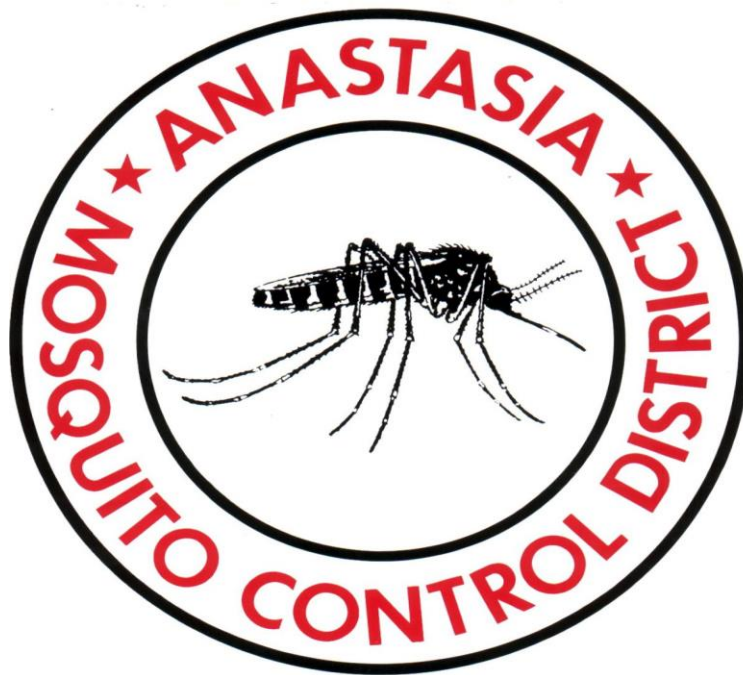


Strategical Plan

(2021-2025)

Anastasia Mosquito Control District of St. Johns County,
Florida



120 EOC Drive

St. Augustine, FL 32092

904/471-3107

www.amcdsjc.org

Our Mission, Vision, Value, and Program

Anastasia Mosquito Control District

of St. Johns County

Mission

To protect all people from the nuisance of mosquitoes and mosquito-borne diseases in St. Johns County, Florida.



We have a vision that AMCD of St. Johns County will be among the leading Districts for mosquito control, and the people in St. Johns county will be the Healthiest in the nation- a well served community enjoyed by all, and supported by all partners.

We serve you with programs in **Customer Service, Operations** (including Surveillance and Control by ground and aerial application), **Education, and Applied Research.**

Values

Justified

Accountable

Service driven

Scientific based

Sustainable excellence

Environmentally friendly.

Professional

Collaborative

Compassionate

History

The Anastasia Mosquito Control District (AMCD) started its humble beginnings in 1948. The District was formed from the desire of the people of Anastasia Island to live mosquito free deciding to tax themselves to provide funds for a mosquito control program. In 1949, AMCD began to take action against the mosquitoes that inhabited the Anastasia Island. In the beginning, AMCD controlled mosquitoes only on a small portion of Anastasia Island (17 square miles), and now AMCD provides services to the entire 609 square miles of St. Johns County.

When AMCD first started controlling mosquitoes in 1949, operations took place out of a leased facility near the lighthouse under the guidance of three elected Board members. Eleven years passed and AMCD expanded its District borders south to the county line. It also started providing services to Vilano Beach, Palm Valley, and Ponte Vedra. Other areas included a small section of the intercoastal waterway, State Road 210 west to the county line at Snowden Bay, and up to the north Duval County line, making the total area covered approximately 91 square miles.

In response to St. Johns County growth, it became necessary for AMCD to expand county leadership representation, so in 1961 two more seats were added to the Board of Commissioners making the total number five. In 1964, 3 acres of land in Ponte Vedra was purchased to build an AMCD substation, which was finished in 1968. In the same year, the City of St. Augustine joined the District making the total square miles covered 106.

In 1974, AMCD built a base station on Anastasia Island and vacated the leased facility near the lighthouse. Fourteen years passed, and by the end of 1988, AMCD had added more land to the District including St. Augustine South, St. Augustine Shores, North U.S. 1 to Nine Mile Road, west to I-95, north to State Road 210, and west to the new Shands Bridge, making the total area of land covered 311 square miles. Then in 1989, AMCD built a North West substation on Cartwheel Bay Avenue. For the next 14 years, AMCD continued to expand until 2003, when the whole county was included in AMCD's District for a total of 609 square miles.

From 1989 to 2005, AMCD worked out of four stations spaced throughout the county. In 2005, the decision was made to centralize operations. AMCD bought a large plot of land (25 acres) off of Agricultural Center Drive located in the center of the county with easy access to I-95. A parcel of 7 acres of this plot of land was given to the County for building the Emergency Operations Center (EOC) in 2008 and the rest of 18 acres was to be the sole station for all of the District's operations. The first step was taken to centralize AMCD in 2006 when the Ponte Vedra substation was merged into the Northwest station at Cartwheel Bay. Construction of the new facility off of Agricultural Center Drive started in 2013. In 2015, the South Station merged into the Base Station on Anastasia Island, continuing the centralization of the District's facilities. Finally, in 2016, all operations moved to the current facility on EOC Drive.

Over the last seventy plus years, AMCD has gone from servicing only 17 square miles of Anastasia Island, out of a small leased building using basic mosquito control methods, to servicing the whole 609 square miles of St. Johns County on an 18-acre plot of land utilizing the most modern technology including an aerial program, applied research, and a whole team of certified or licensed technicians and staff ready to serve the people of this county. In 2020 the District approved to build an Education Center to teach people about mosquito control and vector-borne diseases. In 2018, District purchased a used helicopter from Lee County Mosquito Control District and decided to build a helicopter hangar, and a multipurpose laboratory. In 2020-2021, Board decided to purchased 2 additional helicopters from military surplus at \$180,000 each. In 2021, the Board decided to build the sterile insect technique (SIT) mass rearing facility for species specific operational control.

Programs & Experience

1. **Customer & professional service**: AMCD provides and answers about 5,000 service requests per year. The service request through online submission has been increased due to the development of an APP. This software development led to the District receiving an award from the AT&T governmental technology's special district in 2021. The citizens in St. Johns County have been free of any local-acquired mosquito-borne diseases from year 2004 to year 2021.

2. **Surveillance of diseases and mosquito populations:** AMCD built in-house capabilities to detect arboviruses by using sentinel chickens and mosquito testing. Same day arbovirus detection results in immediate action for control. AMCD has also provided evaluations and modification of traps used for mosquito population surveillances.
3. **Operation control by ground and aerial applications:** AMCD built dual duty (adulticiding and larviciding) equipment to reduce the number of vehicles in their fleet. The District also built aerial capability for surveillance, adulticiding, and larviciding.
4. **Applied research:** AMCD has over 200 publications evaluating spatial repellents/topical repellents, repellent devices, different formulations of larvicides & adulticides, surveillance tools, spray devices and novel technologies. The District received about \$2 million funds from the Department of Defense, CDC, USDA, State, and industry through collaboration research. AMCD has also recently been recognized as a GLP capable testing facility.
5. **Education:** AMCD has been nationally recognized as a host site for mosquito control training and certification by the American Mosquito Control Association (2017 & 2018), National Association of County and City Health Officials (2019 & 2020), CDC Southeastern Center for Excellence in Vector-borne Diseases (2017-current) and the Entomological Society of America and CDC funded Public Health Entomology for All program. Additionally, since 2004 AMCD has organized the Annual Arbovirus Surveillance and Mosquito Control Workshop. Collectively, these have resulted in certification of 108 professional mosquito control educators nationwide, training for 8 college level students, 83 internships and more than 360 CEU credits for vector control professionals.

Major Work Plan for Each Program

from Year 2021 to Year 2025

1. Standardize District's customer services, develop standard operating procedures (SOPs), and analyze the last five to eight years of service request data, and continue to improve the customer services.
2. Standardize all surveillance tools/methods, develop SOPs, and feasibility study/analysis of in-house capability for arbovirus surveillance (mosquito pooling, sentinel chickens, and new detection methods).
3. Develop all SOPs for ground and aerial applications and analysis of ground and aerial operations to improve their efficiencies.
4. Promote Good Laboratory Practices Program (GLP) through applied research/evaluation and develop the collaboration with the CDC, World Health Organization, and Innovation Vector Control Consortium (IVCC) for the Collaboration Center of Evaluation for Prevention and Control of Vector-borne Diseases and be able to provide SIT male mosquitoes for other counties in Northeastern Florida.
5. Promote public education and evaluate/ justify the effectiveness and impact of tools used in public outreach. Develop the collaboration center for training with the CDC, WHO, and African Mosquito Control Organizations.

Outline of Major Work Plan for Each Year

Year 2021:

1. Installation of all spraying equipment for the 2 used helicopters (purchased from military surplus in January) and make sure all three helicopters are operational during the mosquito seasons.
2. Continue GLP process and conduct one to two GLP studies.
3. Design and start to build the Disease Vector Education Center.
4. Continue the 1st year of the CDC/University of Florida's smart cage grant.
5. Search for SIT building fund and finish design by the end of 2021 and ground break in 2022 and complete finish by the end of 2023.
6. Consider about possible expansion of mosquito control service to partial Putnam county in 2024-2025.
7. Finish the 1st year's task of the DoD's control action threshold grant.
8. Continue organize annual Arbovirus Surveillance and Mosquito Control Workshop and collaboration with NECE for equipment demo.
9. Organize annual open house in April and national mosquito control awareness week in last week of June.

10. Continue to train interns from CDC Southeastern Center for Excellence in Vector-borne Diseases.
11. Back/return to FMCA annual meeting in person in November.
12. Continue collaborations with Federal, State, University, and Industry for applied research.
13. Build an additional (1) outdoor screened enclosures.

Year 2022:

1. Assist the Board to update AMCD policy including the employee handbook & pay plan policy.
2. Start to analyze labor needs after building aerial capability and other facility increase.
3. Continue the construction for the education center project and hold the dedication ceremony for public education and relation in December.
4. Start construction of the ITT facility for mass rearing (SIT/Wolbachia).
5. Extend and finish the CDC/UF collaboration grant about smart cages.
6. Continue and finish the goals and objectives of the 2nd year of the DoD grant.
7. Organize and hold 17th Arbovirus Surveillance and Mosquito Control Workshop in conjunction with NECE equipment demo.
8. Organize annual open house in last week of June.
9. Organize and host the SIT group meeting in December.
10. Conduct GLP study for a new formulation of larvicide.
11. Continue to train interns from CDC Southeastern Center for Excellence in Vector-borne Disease.
12. Host 4 high school intern training from St. John County School Board's Academies.
13. Host the Florida Mosquito Control Association's Fly In class in middle of January.
14. Explore drone project.
15. Start to serve as the leadership for AMCA (Dr. Xue) and FMCA (Mr. Weaver) as elected offices.

Year 2023:

1. Assist the Board in finishing the District policy audited by Lee CMCD's HR Director.
2. Collaborate with State to support and finish the special district's accountability auditing.
3. Complete the DoD grant (this is the 3rd year) by the end of July, 2023.
4. Develop the job description of an Assistant Director and fill the position in middle of the 2023.
5. Organize and hold the 18th Annual Workshop, March 28-30, 2023.
6. Hold the 1st meeting about adjunct professors and consultants to review programs on March 27.
7. Finish all Education Center interior projects and plan to open to public in April.
8. Organize annual open house in last week of June.
9. Start to analyze the cost for labor, utilities, and others for the Education Center.
10. Finish the SIT construction and install all equipment.
11. Remodel quarantine insectary and introduce the African malaria vector in late 2023. Accept visiting scientists and intern students from African countries.

12. Start to analyze the needs of labors and cost for the SIT project and organize/host the SIT group meeting in June before our SIT program starts.
13. Continue to collect and analyze the cost and efficiency of the aerial program operation (this is the 2nd year in full operation).
14. Continue to train interns from CDC Southeastern Center for Excellence in Vector-borne Disease.
15. Accept/host/provide the intern training (college and high school students) from CDC/ESA.
16. Continue to host 4-6 high school students as summer interns from P.V. High School.
17. Continue the leadership services for AMCA (Dr. Xue as the President-Elect) and FMCA (Mr. Weaver as the President-Elect).
18. Apply CDC's 5-year grant for Southeastern Collaboration Center in training and evaluation for prevention and control of vector-borne disease.

Year 2024

1. Reorganize the organization chart.
2. Rework/update on the pay plan policy and update pay grade and step program.
3. Labor study and solve the man power for all programs.
4. Organize the 19th annual workshop in late March, 2024.
5. Organize the annual open house in the last week of June.
6. Feasible/cost study about the instructors and working hrs needed for the education center.
7. Feasible/labor cost study for the SIT project and mass rearing and release.
8. Hire a Scientist who is a specialist in the biology and control of ticks.
9. Conduct the 3rd year aerial application analysis for cost efficiency
10. Continue CDC Southeastern Center for Excellence's and other university and organization's intern student training.
11. Continue the GLP Program to study and evaluate commercial products and bring more revenue from Federal, State, and Industry.
12. Provide the training and certification for vector-borne disease professionals from other states if AMCD receives the CDC fund in late 2023.
13. Provide the evaluation and certification for public health pesticides and equipment for the USA.
14. Explore SIT for control of WNV mosquitoes.
15. Purchase 1-2 drones for surveillance, larviciding, and release of male mosquitoes & mapping.
16. Continue leadership in the FMCA and AMCA.
17. Consider the expansion of the district to provide service to other surrounding counties.
18. Consider the extension of the board room for holding more people for annual meetings/workshops.
19. Review and update all AMP (Arthropod control plan) with related agencies.

Year 2025

1. Analyze all service request data and publish an article about the study based on the past eight-ten years' worth of data.
2. Explore possibility to test mosquitoes for arboviruses for other programs.
3. Explore and start to supply SIT male mosquitoes for other North Florida programs.
4. Update all MoUs for training and evaluation.
5. Continue to organize the 20th annual workshop.
6. Organize annual open house in last week of June.
7. Provide the training for vector control professionals from Florida, Georgia, Alabama, and South Carolina.
8. Continue intern trainings for CDC Southeastern Center for Excellence and ESA, and local college and high school students.
9. Start the project for surveillance and control of vector ticks.
10. Continue the leadership in the FMCA and AMCA.
11. Explore SIT for control of salt marsh mosquitoes.
12. Evaluate the effectiveness of drone program for surveillance and control.
13. Start to the Build 100 Board room extension project.
14. Develop the SOP for drone operation.
15. Contact WHO/IVCC for the establishment of the WHO or IVCC's GLP/Collaboration Center.
16. Provide the evaluation and certification of public health pesticides and equipment for the world.