

ANASTASIA MOSQUITO CONTROL DISTRICT

OF ST. JOHNS COUNTY

ANNUAL PROGRAM REPORT FOR 2025



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MESSAGE FROM CHAIRPERSON BOARD OF COMMISSIONERS

In January 2025, Commissioner Trish Becker was elected as the Chairperson and due to her family relocation to another state she resigned from the Board in July. Before she departed, I was elected as the Chairperson to continue the service. In March, Commissioner Martha Gleason, Vice Chairperson resigned from the Board. In May, Tim Burton was appointed as the new Commissioner by the Agricultural Commissioner to replace Gleason's position. In August, Anthony Timis was appointed as the new Commissioner to replace Becker's position. In December, Johnny Counts was appointed to replace TJ Mazzotta, who resigned his position on December 11. Welcome Burton, Timis, and Counts to the Board.

The Board selected a new auditor based on the national search and the recommendation by the auditor selection committee. The Board has developed and updated several policies, such as travel, public record request, and public speaking. The Board voted to keep the millage rate at 0.16 same as last year and approved 7% COLA raise for employees. The Board awarded a contract to the MGT company to conduct the HR auditing and job classification and compensation study (continuing), a contractor to finish the eastside drainage repair and system construction in the facility, extended the contract with the Floridian Partners for the legislation lobby to the end of March 2026, and renewed the commercial package insurance, renewed the contract with Smith, Gambrell & Russell, LLP for the professional legal services to the district.

We extend our gratitude and appreciation to the citizens of St. Johns County, current and former Board members and all employees and contractors for their support and help in 2025.



MRS. GAYLE GARDNER
Chairperson



MRS. TRISH BECKER
Former Chairperson
January - June 2025

MESSAGE FROM THE DIRECTOR

There was 1 asymptomatic WNV human case detected through blood donation in St. Johns County in June 2025, the county was under mosquito-borne disease advisory from June to October. There were sentinel chickens that tested positive for WNV (15) and EEE (2). The mosquito population and service requests in 2025 were lower, compared with other years.

AMCD successfully organized the 20th Arbovirus Surveillance and Mosquito Control Workshop. The Disease Vector Education Center (DVEC) attracted approximately 15,000 visitors; the most visitors were from May to August. In 2025, there were more school programs, and especially home school program tours conducted at the DVEC.

The applied research was conducted very well, and the district conducted a couple of GLP study (larvicide and adulticide) for a couple of industries and increased the collaboration with the University of Nevada even if there was reduction of the collaboration projects with the federal agencies. In 2025 AMCD received about \$436,607 grant funds from different agencies to support the program.

The AMCD staff gave 41 presentations at different professional meetings and authored and coauthored more than 24 publications. Mr. Richard Weaver as immediate past president of the FMCA has done his Florida Mosquito Control Association (FMCA)'s Board service. Dr. Whitney Qualls has been elected as a regional director for the FMCA. I have done my Presidential Service for the American Mosquito Control Association (AMCA) in March and continue the service as immediate past president until March 2026. Also, I have done the Vice President service to the Society of Vector Ecology. In April 2025 I was invited/funded by the Asian Pacific Economic Development to give a keynote speech about new technology for dengue vector control in Taiwan.

AMCD Board members and staff attended the FMCA Tallahassee legislation meeting and AMCA's Washington DC legislation meeting to support the state and national legislation issues. AMCD invited and hosted State Senator Mr. Tom Leek and Representative Mr. Sam Greco for a visit and tour of our facilities.

The company finished the drainage repair and system construction in August. We are proud that we completed most of our goals and projects except for postponing the storage building plan. I would like to thank the Board of Commissioners, all employees, collaborators, and citizens for their hard work and support.



DR. RUI-DE XUE

LEGISLATION & GOVERNMENTAL RELATION

AMCD Board of Commissioner contracted with Leath Consulting, LLC, now with Florida Partners, LLC for the legislation service.

Commissioner Mr. T.J. Mazzotta, Business Manager Mr. Richard Weaver and Director Dr. Xue attended AMCA Washington DC legislation meeting and met Congressman J. Rutherford, office staff of Senator Mr. R. Scott and others.



Commissioner Ms. Gayle Gardner, Mr. T.J. Mazzotta, Business Manager Mr. Richard Weaver, and Director Dr. Rui-De Xue attended the FMCA legislation meeting in Tallahassee on March 18, 2025, met and visited Senator Mr. Thomas Leek, Representatives, Mrs. Kim Kendall, Mr. Sam Greco, and Representative Mr. Judson Sapp.



Senator Mr. Leek visited AMCD facility on October 27, 2025



Representative Mr. Greco visited AMCD on July 10, 2025.



AMCD Board of Commissioners presented a plaque to Tim Forson, the St. Johns County School Superintendent at Board meeting on May 8, 2025

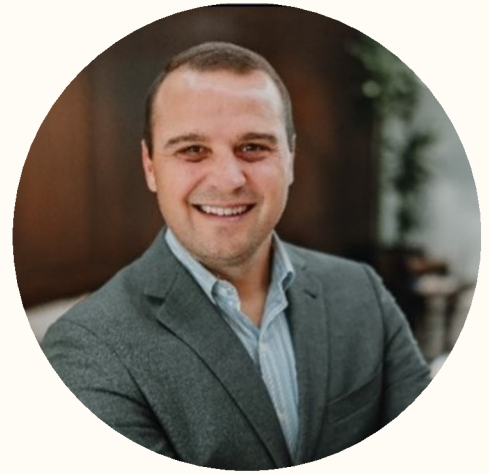
APPOINTED OFFICERS



Dr. Rui-De Xue
Director Since: 2005



Ms. Lawsikia Hodges
Attorney In: 2025



Mr. Daniel Anderson
Auditor: 2025

BOARD OF COMMISSIONERS



Mr. T.J. Mazzotta
Seat 1
2025-2028



Mr. Tim Burton
Seat 2
2025-2026



Mrs. Gina LeBlanc
Seat 3
2017-2028



Mr. Anthony Timis
Seat 4
2025-2026



Mrs. Gayle Gardner
Seat 5
2021-2028

FULL TIME EMPLOYEES

John Freddie Allen



Mechanic

7/8/2002 - Present

Uvina Allen



Biological Technician

6/1/2025 - Present

Kyle Arber



Mosquito Control Technician

5/1/2017 - Present

Dr. Vindhya Aryaprema



SIT Quality Assurance Biologist

8/5/2019 - Present

Nicole Blackwelder



Inspector Sprayer

2/5/2024 - Present

Kai Blore



Laboratory Manager

4/2/2019 - Present

Scott Carter



Helicopter Pilot

12/2/2024 - Present

Cameron Clark



Mosquito Control Technician

11/4/2024 - Present

Richard Dexter



A&P Aircraft Mechanic

8/4/2025 - Present

Dr. Joseph DiClaro



Education & Research Program Manager

4/29/2024 - Present

Morgan Duett



Drone Pilot

11/1/2024 - Present

Dr. Muhammad Farooq



Mosquito Control Engineer

9/16/2019 - Present

Kody Fisher



Biological Technician

11/04/2024 - Present

Kyle Graham



Mosquito Control Technician

2/6/2023 - Present

Dazmond Hackney



Mosquito Control Technician

2/8/2021 - Present

Teresa Hairston



Mosquito Control Technician

11/03/2025 - Present

Scott Hanna



Accountant/ Chief Financial Officer

7/3/2007 - Present

Cathy Hendricks



Mosquito Control Technician

7/8/2002 - Present

Tomomi Hirokawa



Education Specialist

10/9/2023 - Present

Brandy Huber



Receptionist

8/25/2025 - Present

Jerry Iser



Mosquito Control Technician

2/2/2015 - Present

Connor Kuppe



Biological Technician

7/11/2022 - Present

Aye McKinney



Accountant

1/4/2021 - Present

Genhsy Monzon



DVEC Coordinator

3/11/2024 - Present

FULL TIME EMPLOYEES

Continued

Madison Morris



*Mosquito
Control
Technician*
10/06/2025 - Present

Nydia Negron



Custodian
10/20/2025 - Present

Dena Oliva



*Ground
Operations
Manager*
5/1/2024 - Present

Dr. Whitney Qualls



*Assistant
Director*
10/28/2019 - Present

Sheila Rivera



*Human
Resources*
3/3/2025 - Present

Steven Smoleroff



*Field
Biologist*
10/2/2017 - Present

James Stokley



*Mosquito
Control
Technician*
11/4/2024 - Present

Rick Stockley



*IT
Specialist*
7/8/2012 - Present

Holly Usina



*Mosquito
Control
Technician*
1/3/2022 - Present

Richard Weaver



*Business
Manager*
4/14/2003 - Present

Brandon Weir



*A&P
Mechanic*
6/26/2023 - Present

Olivia Sypes



*Biological
Technician*
04/6/2020 - Present

Jeremy Wohlforth



*Mosquito
Control
Technician*
3/6/2017 - Present

James Wynn



*Senior
Mechanic*
3/4/1996 - Present

Lauren Van Rhee



*Biologic
Technician*
10/01/2024 - Present

Rui-De Xue



Director
4/14/2003 - Present

Edward Zeszutko



*Biological
Technician*
8/1/2022 - Present

Resigned

Ralph Bruner



*A&P Aircraft
Mechanic &
Aviation Manager*
11/1/2024 - 07/11/2025

Bill Cotter



*Biological
Technician*
5/1/2023 - 07/25/2025

Heather Keating Grotz



*Administrative
Assistant*
10/1/2022 - 07/14/2025

Dr. Steven Peper



*Surveillance/SIT
Manager*
3/23/2020 - 2/3/2025

Seasonal Employees

Wesley Barnes



*Seasonal
Inspector/Sprayer*

5/5/2025- 10/31/2025

Sharon Crews



*Seasonal
Inspector/Sprayer*

7/1/2025-11/31/2025

Bryce Dussia



*Seasonal
Surveillance
Technician*

5/5/2025- 10/31/2025

Markell Fuller



*Seasonal
Inspector/Sprayer*

5/5/2025- 10/31/2025

Teresa Hairston



*Seasonal
Inspector/Sprayer*

5/5/2025- 10/31/2025

Madison Morris



*Seasonal
Inspector/Sprayer*

5/5/2025- 10/31/2025

Nydia Negrón



*Seasonal
Custodian*

5/5/2025- 10/31/2025

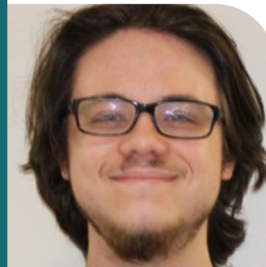
Maxim Taylor



*Seasonal
Inspector/Sprayer*

5/5/2025- 7/22/2025

Gabriel Whitehurst



*Seasonal
Inspector/Sprayer*

5/5/2025- 7/24/2025

Interns & Volunteers

Katherine Badiali



Lab
Intern

6/2/2025 - 7/31/2025

Breanna Brown



Lab
Intern

8/1/2025-1/31/2026

Shannon Cawthon



Lab
Intern

6/2/2025 - 11/31/2025

John Chau



Ponte Vedra
High School
Intern

6/2/2025 - 7/31/2025

Nicolas DeNora



Ponte Vedra
High School
Intern

6/2/2025 - 7/31/2025

Elijah Entrolizo



Lab
Intern

10/23/2024 - 7/31/2025

Sandra Fein



Volunteer
Ambassador

2/3/2025 - 7/31/2025

Aaron Griffis



Lab
Intern

1/13/2024 - 7/28/2025

Bryce Johnson



Lab
Intern

5/12/2025 - 10/31/2025

Frank Lewis



Lab
Intern

10/14/2025-12/19/2025

Pierce Garvis



Lab
Intern

6/2/2025 - 7/31/2025

Logan Husted



Lab
Intern

7/13/2025 - Present

Suehellen McDougal



Lab
Intern

9/2/2025 - Present

Minh Nguyen



Ponte Vedra
High School
Intern

6/2/2025 - 7/31/2025

Hassan Niyomdecha



Intern

March 24 - May 23, 2025

Timothy Pearson



Lab
Intern

7/11/2025 - Present

Julia Preston



Ponte Vedra
High School
Intern

6/2/2025 - 7/31/2025

Jade Santiago



Lab
Intern

4/07/2025 - 8/29/2025

Kaden Scarbrough



Lab
Intern

5/12/2025 - TBA

Chantel Scheiner



Lab
Intern

8/1/2025 - Present

Zoe Sierra



Lab
Intern

3/3/2025 - 8/31/2025

Corbyn Smith



Intern

5/6/2025 - 10/31/2025

Jaslyn Stamey



Lab
Intern

6/2/2025 - 11/31/2025

Zane Swierz



Ponte Vedra
High School
Intern

6/2/2025 - 7/31/2025

Isabella Velez Cano



Lab
Intern

8/5/2025-1/31/2026

Halie Woody



Seasonal
DVEC
Assistant

1/2/2025- 6/30/2025

Visiting Scientist

Kendra Dagg



*Visiting
Scientist*

2025

Dr. Mohamed Traore



*Visiting
Scientist*

2025

Adjunct Professors

Dr. Ulrich R. Bernier



*Adjunct
Senior
Chemist*

2022-Present

Dr. Florence Fougue



*Adjunct
Senior
Entomologist
Professor*

2025

Dr. Daniel Hahn



*Adjunct
Senior
Entomologist*

2023-Present

Ken Linthicum



*Adjunct
Senior
Vector
Biologist*

2024-Present

Dr. Gunter Muller



*Adjunct
Senior
Vector
Ecologist*

2018-Present

Dr. Michael Turell



*Adjunct
Senior
Arbo-virologist*

2018-Present

ADMINISTRATION PERSONNEL & RECOGNITIONS

PERSONNEL

Promotions From Seasonal to Full Time:

- Teresa Hairston - Mosquito Control Technician
- Madison Morris - Mosquito Control Technician
- Nydia Negrón - Custodian

Promotions:

- Kyle Arber - Drone Pilot
- Morgan Duet - Assistant Supervisor
- Cathy Hendricks - Assistant Supervisor
- Dena Oliva - Operations Manager

New Hires:

- Sheila Rivera - HR Generalist
- Richard Dexter - A&P Mechanic
- Brandy Huber - Receptionist

RECOGNITIONS & AWARDS

District Manager's Choice:

- Kyle Arber
- Cameron Clark
- Morgan Duett
- Olivia Sypes
- Genhsy Monzon

Five Years:

- Dazmond Hackney
- Aye McKinney
- Olivia Sypes

Ten Years:

- Jerry Iser
- Dena Oliva

Awards from State, Nation, and World

State Association: Connor Kuppe won 2nd place in the T Wainwright Miller written Scholarship.

Kai Blore and Olivia Sypes won an honorable mention in the Cyrus Lesser presentation Scholarship.

Olivia Sypes 1st, Connor Kuppe 2nd, Kai Blore 3rd placed in the student poster competition at the FMCA annual meeting, Port Charlotte, FL, November 17-21, 2025.

National Association: Mrs. Trish Becker received the AMCA's Presidential Citation to appreciate her contribution for National Legislation. Dr. Rui-De Xue received AMCA Past Presidential Service Appreciation's Award.

World: Dr. Rui-De Xue was recognized and listed as World's Top 2% Scientists by Stanford and Elsevier in 2025



Dr. Rui-De Xue received an award from AMCA for past president appreciation in Suan Juan, Puerto Rico, March 2-7, 2025 (picture).

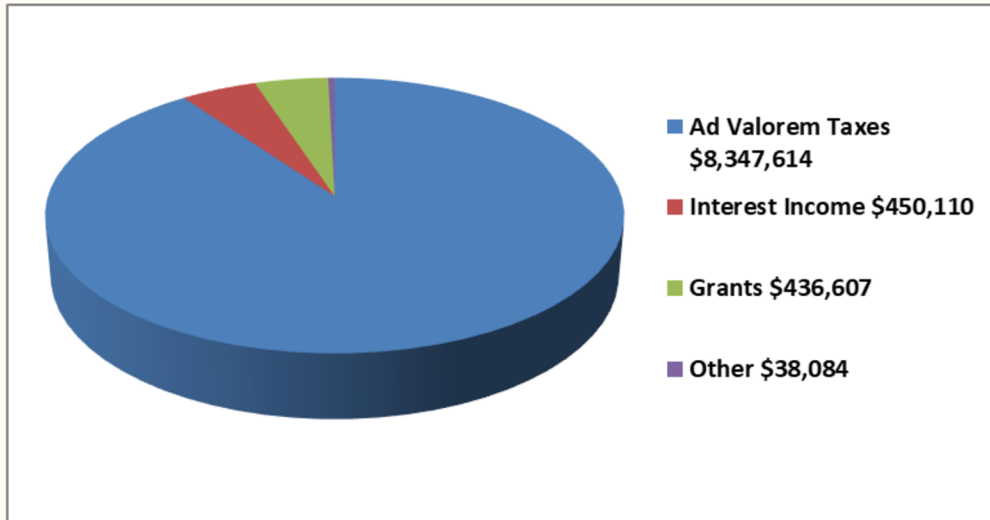


Former Commissioner Mrs. Trish Becker won the AMCA Presidential Citation Award for her contribution to AMCA and AMCD's legislation at AMCA annual meeting, San Juan, Puerto Rico, March 2-7, 2025 (Picture for Farwell from AMCD Board Meeting in June 12, 2025)

BUDGET

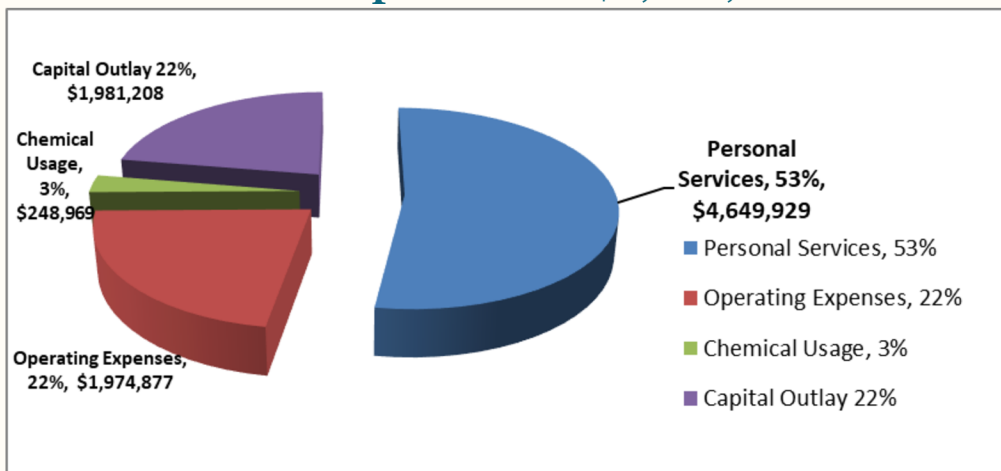
Fiscal Year October 1, 2024 -September 30, 2025, Financial Summary

Total Revenues \$9,272,415



- **Ad Valorem** (real property) **Current Year Taxes**, the primary source of revenue, **\$8,347,614** comprised of, approximately, **90.0%** of the **total Revenues, \$9,272,415**.
- **Interest Income- Return on Investment, SBA Fund, Wells Fargo Sweep, non-current Operating Funds**, yielded **\$450,110**.
- **Grant/Sponsored Project Revenues**, from **Applied Research**, totaling **\$436,607**.
- **Other Revenues** were predominantly comprised of **\$8,488 Surplus Sales, \$14,090 Workshop, \$2,512 Misc. and \$12,994 DVEC Sales**.
- The District's **millage rate** for the General Operating Budget was 0.1600 for the year.

Total Expenditures \$8,854,982



The majority was attributed to Personal Services, 53% to Operating Expenses, Capital Outlay and Chemical Usage comprising 22%, 3% and 22%, respectively.

ADMINISTRATION AND SUPPLY

Board Business: The AMCD staff provided many documents to Board members and the district attorney for committee and board meetings in 2025. The District hosted 14 Board meetings, including the annual first and final public hearings, in September for the 2025/2026 fiscal year budget and millage rate.

Administration & Finance: On 05/08/2025 the Board approved the Custodian job description. On 07/10/2025 the Board approved the A&P Mechanic job description. On 09/11/2025 the board approved the Assistant Supervisor, Operations Manager and Molecular Biologist job descriptions.

Inventory: The monthly tire inventory and chemical inventory were completed as required. The annual physical inventory was approved at the 08/09/2025 Board meeting. The annual surplus items were approved at the 06/12/2025 Board meeting.

Insurance: The Board approved the helicopter insurance renewal on 07/10/2025. Renewal of the Fleet/Liability and Workers Compensation Ins. on 09/11/2025 and on 12/11/2025 the Health, Dental, and Life Insurance for the calendar year 2025 was approved.

Policies: On 05/08/2025 the board approved the Travel Policy. On 08/14/2025 the Board approved the Public Records Request Policy. On 05/08/2025 Dr. Xue requested and the Board approved the increase of the total full-time staff from 39 to 43. On 08/14/2025 the Board approved the new Organization Chart.

Contracts: 02/13/2025 the Board approved the contract for MGT Impact Solutions, 03/13/2025 the Board approved the contract for MGT Impact Solutions, Gruhn May, Inc., and Leath Consulting, LLC. On 08/14/2025 the Board Approved the new Auditor's Contract with Maulden & Jenkins. On 09/11/2025 the Board approved the contract with Floridian Partners LLC, formally known as Leath Consulting and agreed to renew the Fleet, Liability, & Workers Compensation Insurance contract. On 10/09/2025 the Board approved to renew the contract for AMCD's District Attorney with Smith, Gambrell, & Russell, LLC.

RFPs & BIDs: In 2025 the Board approved the RFP for Frontier Precision to replace the AMCD database, mapping, and phone App. software. MGT Impact Solutions to help with HR related items. Gruhn May, Inc. to construct/repair the NE property drainage. On 04/10/2025 the Board approved the Aircraft Engine Repair & Ad requirement. On 06/12/2025 the Board approved the RFP for a new Auditor. On 9/11/2025 the Board approved the RFP for Fire inspections.



CUSTOMER SERVICE

AMCD Website:

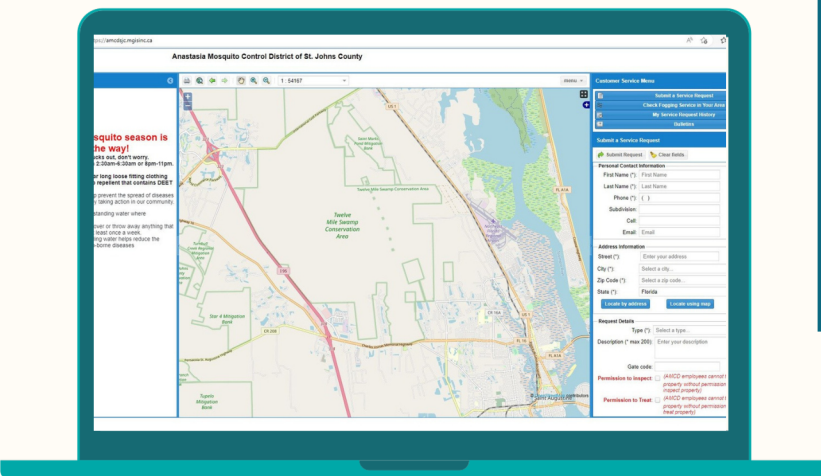
AMCD's website: www.amcdsjc.org is an important tool for providing information to the public, other mosquito control districts, and staff. The site contains important information including public notices, meeting dates, mosquito-borne disease advisories, training, education, and employment opportunities.

One of the most important links on the AMCD website is the service request button. At this link, St. Johns County citizens can enter requests for service. This service request is linked to the District's database, Geomosquito, and immediately notifies the AMCD technicians in the field that a request for service has been made.

This page on the website also allows customers to access and review the status of a service request and see if there is an adulticide mission (fogging) scheduled in their area.

AMCD also keeps the public engaged using social media and has a presence on Facebook, and Instagram. AMCD has developed a free app (EMS) to enter service requests, to check for adulticiding, and the ability to get important notifications from the District. This free app is available for iPhone and Android phone users.

**Scan QR code to
access AMCD's
website**



AMCD responded to 2,033 service requests in 2025. The average response time for a service request was 1.11 days. Service requests were received by the District office via phone, email, website, and phone app with more than 75% of service requests coming in through the phone app and web interface.

AMCD staff conducted detailed tours of the AMCD facility and buildings to members of the public, local and state officials, members of the education system, and other government agencies especially other mosquito control districts.

AMCD continued to provide service and education to St. Johns County residents on adult and larval mosquitoes, adulticiding, and larviciding. AMCD staff also dispensed valuable information pertaining to the identification of mosquitoes, pesticide safety, other insects, mosquito prevention and pesticide applications, personal protection methods, commercial mosquito traps, repellents, insecticides, and assisted residents with concerns about no spray treatment areas, including bee-keepers' properties or personal/health conditions that require no treatments to be made.

AMCD strictly adheres to the Florida Statutes, Chapter 388, and 5E-13 of the Florida Administrative Code. The District also follows all Florida Department of Agriculture and Consumer Services and Environmental Protection Agency rules. Labels and Safety Data Sheet instructions are closely followed, as well as, the District's own policies and procedures. AMCD is committed to public safety while providing the important public service of larviciding and adulticiding in order to reduce the spread of vector-borne diseases and nuisance mosquitoes.

COOPERATIVE ORGANIZATIONS/ PROFESSIONAL SERVICES

AMCD works in cooperation with a number of related local, state, and federal agencies, as well as international, private, and commercial organizations, and members of the medical community. Those listed below briefly describe the work associations with AMCD in 2025 to prevent and control vector-borne diseases in Florida.

International Cooperation and Activities:

Continued the collaboration with Dr. Gunter C. Muller & Dr. Mohammed Traore, the University of Science, Techniques, and Technology of Bamako, Mali on Active Ingredients for Attractive Toxic Sugar Baits (ATSB) against vector mosquitoes.

Dr. Rui-De Xue attended the 3rd India Society of Vector Ecology meeting, Chennai, India, January 21-23, 2025. Gave two presentations about AMCA and AMCD programs. Travel funded by AMCA presidential budget.

Dr. Rui-De Xue was invited/funded to give the KEYNOTE Address about Dengue Vector Control Response at the Asian Pacific Dengue Control Conference, Tainan, Taiwan. April 21-24, 2025.

Dr. Rui-De Xue as Section Chair organized the 2nd International Electronic Entomology Conference and gave an update on current topics in Medical & Veterinary Entomology. Dr. Qualls was invited to give a presentation about SIT and applied research.

Continuing the collaboration with Dr. CX Li, Beijing Institute of Microbiology and Epidemiology, Dr. Rui-de Xue co-organized the 9th International Forum for Surveillance and Control of Mosquitoes and Vector-borne Diseases, XiAn, May 26-29, 2025. Dr. Rui-De Xue gave the conference presidential address about new technology.

Dr. Rui-De Xue & Dr. TY Zhao co-organized a symposium about vector control response: International perspectives for the 9th International Congress of Vector Ecology, Crete, October 12-17, 2025. Dr. Xue gave two presentations.

Dr. Xue collaborated with Taiwan Environment Protection Agency for vector database and modeling, and Taiwan CDC for Dengue vector control technology & collect/edit a special issue for Acta Tropic.

AMCD hosted visitors from Mali, Italy, China, Taiwan, Thailand, and Singapore for vector control projects.

AMCD hosted a visiting scientist from Mali to collaborate on a study on ATSB.

Dr. Rui-De Xue has continued on the Expert Committee member for the International Standard Organization (ISO).

Dr. Rui-De Xue continues as Assistant Editor of Acta Med Parasit Med Entomol Sinca, Council Board members for China Tropic Acta.



COOPERATIVE ORGANIZATIONS/ PROFESSIONAL SERVICES (CONT'D)

National and Federal Agencies & Associations:

Collaborated with CDC, Southeastern Center of Excellence to train 1 intern student. Collaborated with CDC/Gulf South VECTOR Center to conduct workshops and Continuing Education Events.

AMCD continues to serve as a sustaining member of the AMCA and an AMCA/EPA Pesticide Environmental Stewardship Program member.

AMCD continues to collaborate with Navy Entomology Center for Excellence to conduct training and testing.

Dr. Whitney Qualls continues to serve as the AMCA Publications Committee Chair.

Dr. Whitney Qualls serves as an Entomological Society of America Mentor in the CDC supported Mentor/Mentee program.

Dr. Whitney Qualls serves as a reviewer for the AMCA Research Foundation Scholarship.

Dr. Rui-De Xue as Past President served as the AMCA nomination and award committee chair.

Dr. Rui-De Xue as the NACCHO vector-borne disease working group member which ended in 2025.

Dr. Rui-De Xue continues to serve as the ESA vector control working group to support legislative items about vector control.

Dr. Rui-De Xue continues to serve on the SOVE Board as the Vice President.

Dr. Rui-De Xue, Dr. Whitney Qualls, Dr. M. Farooq, and Dr. V. Aryprema reviewed numerous manuscripts for ESA's Journals, AMCA, JAMCA, SOVE JVE, Acta Tropica, J-Peer, PLoS one, Parasite & Vectors, Viruses, Pathogens, Insects, Scientific Report, and several other journals.

State Agencies and Services:

DEP: AMCD collaborated with state parks and joined the environmental education center consulting meetings for salt marsh management. Both agencies continue to fund a full-time biotech position.

AMCD collaborated with State Park, Fish and Wildlife to update Arthropod Management Plans.

Dr. Rui-De Xue continues to serve as a member of the FDACS's FCCMC.

Dr. Whitney Qualls continues to serve as a reviewer for the FDACS's /FCCMC's grant.

Continue to collaborate with DoH for disease surveillance and public education/news releases.

Mr. Richard Weaver ended his tenure on the FMCA board as the immediate past President.

Dr. Rui-De Xue serves as the FMCA's Publication Committee Chair and Editor of the JFMCA.

Dr. Whitney Qualls serves as the Chair of the FMCA Foundation Scholarship Awards, Buzzwords Editor, and as a FMCA legislative committee member. Dr. Qualls is also the FMCA NE regional director/representative Board member.

Dr. Rui-De Xue served as the Past President of the Florida Entomology Society to join the meeting.

COOPERATIVE ORGANIZATIONS/ PROFESSIONAL SERVICES (CONT'D)

Agencies and Universities:

AMCD cooperated with the University of Florida Dr. Dan Hahn for the SIT project, Dr. R. Dinglasan at UF/EPI for intern training, Dr. P. Koehler and Dr. R. Baldwin for non-target study and nanoparticles of adulticides and training of Ph.D. student K. Blore. Dr. Cameron Jack for honeybee FDACS grant and Dr. Nathan Burket-Cadena for sugar feeding and trap grant.

AMCD still collaborates with University of Central Florida to conduct the FDACS grant about CapGel arbovirus detection.

University of Miami: Dr. Rui-De Xue, serves as a voluntary professor for the school of medicine, and continues to cooperate with Dr. John Beier for ATSB and biology and control of mosquitoes, and special issues for dengue vector control technology for Acta Tropica.

University of North Florida: AMCD has renewed a MOU with the University of North Florida's College of Public Health for training intern students.

University of Nevada Las Vegas, School of Public Health, AMCD serves as a NIH subcontract site to evaluate experimental huts for malaria control.

Companies And Other Districts:

AMCD collaborated with several local mosquito control programs in the northeast region to share mosquito and mosquito-borne disease information.

AMCD continued to provide the blueprint of our complex to several other districts and programs.

AMCD collaborated with industry:

- Syngenta: New formulation of insecticides.
- VecTech: grant application, mosquito species ID and AI technology.
- Synvect Inc.: Evaluation of ngSIT and Separator
- Valent BioScience as a product test site
- Eurofins Agrosience Services, LLC to conduct GLP adulticide testing
- Carroll-Loye Biological Research to conduct GLP larvicide testing

Local Agencies and Service:

- County EOC for hurricane response.
- County Fire Rescue for hurricane and fire disaster response.
- County Department of Parks for public education.
- St. Johns County School Board for high school interns and as judges for school science projects.
- P.V. High School Career Academy intern student training & St. Augustine High School (space program).
- St. Johns Academy as judges for student science projects.
- Several home schools for education.
- Utility Department for Easement.
- Local intergovernmental service organization networking group.
- St. Johns Chamber Commerce for public education.
- Kiwanis Club for kids' education.
- Local honeybee association for education.
- Other local community for Christmas Parade, Carrack days, Ancient City Kids, the earth day.

SURVEILLANCE

Mosquito-borne Diseases:

AMCD continues its close collaboration with the Florida Department of Health (FDOH) to monitor both local and imported mosquito-borne diseases through reports from local healthcare providers. In 2025, the FDOH reported one asymptomatic case of West Nile virus (WNV) detected through blood donation screening, and one travel related Dengue case.

To track arbovirus activity, AMCD operated ten sentinel chicken sites across St. Johns County to monitor for WNV, eastern equine encephalitis virus (EEEV), Saint Louis encephalitis virus (SLEV), Highland J virus (HJV), and California group viruses. Blood samples from the chickens were collected weekly by AMCD personnel from April through November, with testing performed by the FDOH Laboratory as well as AMCD's in-house diagnostic capabilities. In 2025, a total of 17 sentinel chickens tested positive for arboviruses: 15 for WNV and 2 for EEEV.

AMCD personnel conducted aspirations of mosquitoes from sentinel chicken sites with confirmed arbovirus-positive chickens. One WNV-positive mosquito pool, consisting of 9 female *Cx. nigripalpus*, was detected using in-house RT-qPCR.

AMCD personnel partnered with the St. Johns County Fire Department to relocate and replace four sentinel chicken sites. Additionally, AMCD updated its field coop maintenance procedures by discontinuing the practice of leaving containers of chicken feed at each site. This change has reduced pest presence and streamlined emergency response efforts, as personnel now only need to remove the birds during hazardous weather conditions.

Mosquito Population:

The adult mosquito population was monitored by both CDC LT and BG Sentinel traps this season from April 13th to November 24th, 2025. This change in trapping was conducted for better county representation and justification for our Operational treatments.

27 CDC light traps baited with Octenol and a total of 29 of the 48 species were collected. 15 BG Sentinel two traps baited with BG Lure and CO2 and a total of 25 of the 48 species were collected. A total of 29,150 mosquitoes and 31 genera were trapped by both methods.

Larval surveys were conducted on a daily basis by dipping flooded areas as needed. A total of 11,822 dips were conducted, and 2,630 dips were positive with 23,980 larvae found among all larval stages.

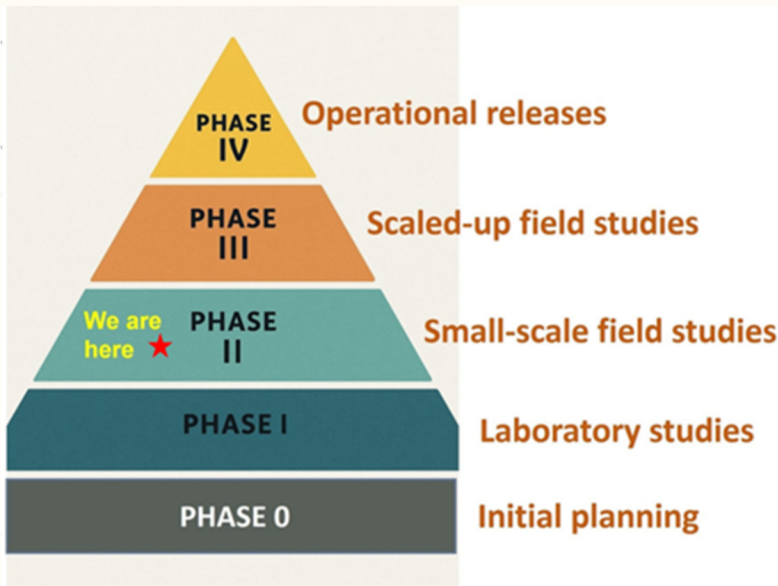
Environmental Parameters:

The total average monthly rainfall for St. Johns County from January through November 2025 was 4.28 inches, totaling 47.08 inches for the year, according to the St. Johns River Water Management District's hydrologic charts. This represents a 6.02-inch decrease in cumulative rainfall compared to the same timeframe last year.



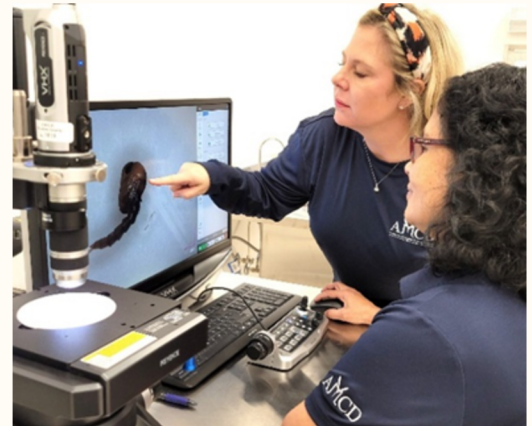
Sterile Insect Technique (SIT) Program Update

Sterile Insect Technique Program



It's important that our sterile males can still mate with the wild females. In the field, we conducted small-scale releases and trapping of irradiated male mosquitoes marked with fluorescent dyes to see how far they disperse and how long they survive. The results of our studies give us strong confidence in the quality and performance of our sterile males. Our SIT program is now ready to implement large-scale field releases in 2026, marking a critical step towards sustainable *Aedes aegypti* population control in St. Johns County!

In 2025, The AMCD Sterile Insect Technique (SIT) program met the Phase II milestone as outlined by the World Health Organization (WHO). For our laboratory studies, AMCD evaluated three different mass rearing diets, selecting bovine liver powder as the most practical and efficient option to deliver healthy male mosquitoes with less than a 1% female contamination rate after separation. Our aim is to only release sterile male mosquitoes which don't bite people. We also tested different doses of X-ray irradiation on our mosquitoes to ensure maximum sterility (>99%) was being achieved while maintaining strong mating competitiveness.



Operational Control

Larvicides and Larviciding:

In 2025, the District primarily used *Bacillus thuringiensis israelensis* (BTI) to kill mosquito larvae, as well as Methoprene products in areas where BTI was not applicable. Mosquito Control Technicians treated 1,340 times for a total of 5,210.84 acres. The aerial program made 105 applications for a total of 766 acres treated.

Adulticides and Adulticiding:

Mosquito Control Technicians continued to use Aqualure 20-20 (Permethrin), Aqua-Kontrol 30-30, and Mosquitomist Two (Chlorpyrifos phosphorothioate) for ground ULV spraying and treated 196 times on a total of 206,258.36 acres for adult mosquito control. DUET was used in the hand thermal foggers to handle service requests and other areas 52 times for a total of 10,904.45 acres. Talstar P was used as an adult mosquito control barrier treatment in parks, special areas, and for service requests a total of 122 times equaling 130.72 acres.

Source Reduction & Biological Control:

A total of 258 used tires were collected and removed throughout the year by AMCD staff and personnel as a means of source reduction.

Empty containers in-and-around residential yards were emptied numerous times when AMCD staff and personnel performed their inspections.

AMCD provided the public with the mosquito larval eating fish (*Gambusia*) for use in retention ponds and ditches 5 times for a total of 105 fish provided.

Larvicides and Adulticides Used in 2025

Larvicides	Amount Used		Area Treated		Times Applied
Altosid WSP	83986	ea	260.08	acre	553
Altosid XR	1435	ea	3.25	acre	69
Altosid XRG	3280	Ib	546.68	acre	30
Altosid XRG Air	40	Ib	4	acre	1
Altosid XRG Drone	2940	Ib	294	acre	42
BTI Briquets	2940	ea	6.75	acre	41
Cocobear	767	fl oz	2	acre	31
Natular DT	8	ea	0	acre	3
VectoBac 12AS	57637	Ib	3601.91	acre	551
VectoBac G	5133	Ib	790.17	acre	62
VectoBac G Air	80	fl oz	8	acre	1
VectoBac G Drone	4600	fl oz	460	acre	61
Adulticides	Amount used		Area Treated		Times Applied
Aqua-Kontrol 30-30	28581.33	fl oz	149678.77	acre	137
Aqualure 20-20	1477.83	fl oz	5720.64	acre	10
Duet 50%	17120	fl oz	10904.45	acre	52
Mosquitomist Two	33567	fl oz	50858.95	acre	49
Talstar P	44.54	gal	130.72	acre	122



APPLIED RESEARCH

The Anastasia Mosquito Control District (AMCD) continues to advance its mission through applied research that enhances operational surveillance, control strategies, and responsiveness to service requests. In 2025, AMCD staff collaborated with federal agencies, academic institutions, and industry partners to address emerging challenges in vector control. These efforts not only support local operations but also contribute to the broader scientific community through publications and innovation.

Projects Completed in 2025

In 2025, AMCD successfully completed several applied research projects that evaluated new products, technologies, and methodologies for mosquito control. These studies, conducted in collaboration with industry and academic partners, provided critical data for product development, regulatory approval, and operational decision-making.

Syngenta Barrier and Wind Tunnel Studies

Two studies were completed in partnership with Syngenta. The Barrier Study evaluated the residual efficacy of Syngenta products through leaf bioassays against *Aedes aegypti*. Complemented with a Wind Tunnel Study testing a novel essential oil formulation against both insecticide susceptible and resistant *Aedes aegypti* strains using AMCD's wind tunnel. These studies provided comparative efficacy data for product refinement.

Repurposing existing materials to control mosquitoes

Dr. Wuchun Tu Visiting Scientist from the Department of Entomology, National Chung Hsing University, Taiwan explored the potential of existing materials for mosquito control, focusing on *Steinernema carpocapsae* (Sc), a nematode, and long-lasting insecticide plastic products (LLIPs). Sc, an entomopathogenic nematode, targets mosquito larvae and offers potential for controlling mosquito-borne diseases. It can multiply within infected larvae, providing long-term control and is safe for non-target organisms. The study found that Sc effectively kills third and fourth instar mosquito larvae, though it is not fast-acting. The Sc survives in water for over a month without requiring feeding.

The study also evaluated LLIPs as a control method for adult mosquitoes, including *Culex quinquefasciatus*, *Aedes albopictus*, and *Aedes aegypti*. Mosquitoes exposed to LLIPs for various durations showed no repellent effects, but direct contact with the materials led to mosquito mortality. These findings suggest that LLIPs can be effective for adult mosquito control.

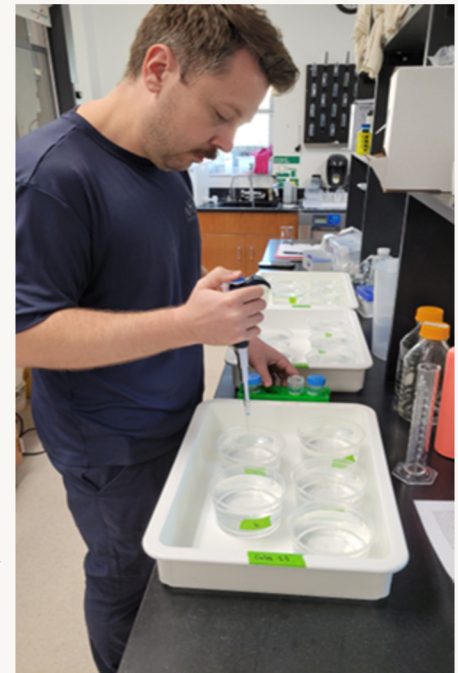
APPLIED RESEARCH (CONT'D)

Valent BioSciences project to evaluate VectoBac 12AS

A laboratory and semi-field evaluation of VectoBac® 12AS was conducted to validate its larvicidal efficacy and support regulatory requirements. In the laboratory using cup bioassays and semi-field trials, where mosquito larvae were introduced into AMCD's larval ponds treated with the product, and efficacy was assessed through timed sampling. The study confirmed the product's effectiveness against target mosquito species and reinforced its continued use in integrated mosquito management programs.

Wind Tunnel Validation Study

This study was conducted to provide further method validation to the use of the wind tunnel for product evaluation. Quantitative metrics obtained from CDC bottle bioassays were shown to be directly correlated to percent mortality obtained from the wind tunnel assays. Results illustrate the wind tunnel provides a measure of control efficacy, validating its use in future studies.



Ongoing Projects from 2025 to 2026

NOAA Collaboration with GTM NERR: Mosquito Population Impacts of Tidal Wetland Changes

This NOAA-funded project, in partnership with the Guana Tolomato Matanzas National Estuarine Research Reserve (GTM NERR), investigates how ecological changes in tidal wetlands, particularly marsh migration, affect mosquito populations. The study addresses limitations in previous marsh migration models by incorporating edge conditions and evaluating mosquito dynamics in transitional zones. The findings will inform both ecological management and mosquito control strategies in coastal environments.



NIH Collaboration with University of Nevada, Las Vegas (UNLV): Evaluation of Portable Experimental Hut Tents (PEHT)

In collaboration with UNLV and funded by the NIH, AMCD conducted Phase 1 of this study in 2025 to evaluate the effectiveness of portable experimental huts for mosquito behavior research. The focus is on three species: *Anopheles quadrimaculatus*, *Culex quinquefasciatus*, and *Aedes aegypti*. Using CO₂-baited tents and 3D-printed baffles, the study assessed mosquito entry and escape behavior. Experiments are conducted in AMCD's large screened enclosures with dyed mosquitoes to track movement and retention. The goal is to refine hut designs that simulate West African experimental conditions while improving containment and observational accuracy. Project will continue into 2026 with Phase 2, evaluating direct comparisons of standard experimental huts to PEHTs.



APPLIED RESEARCH (CONT'D)

FDACS Collaboration with University of Central Florida (UCF): Innovative Biomaterials for Surveillance

In partnership with the University of Central Florida (UCF), FDACS is supporting an ongoing project to evaluate Capgel biomaterials as a novel tool for mosquito feeding and pathogen surveillance. Semi-field trials launched in late 2025, focusing on *Culex* species. Modified EntoVate traps were adapted to deploy Capgels, enabling mosquitoes to feed and be collected alive for analysis. Subsequent Capgel samples were analyzed using miRNA assays via qPCR to detect potential mosquito and pathogen signatures. This research aims to advance mosquito surveillance by integrating biomaterials with molecular diagnostics, offering a promising approach for early detection of disease vectors.

Semi-field and Field Evaluations of Unmanned Aerial Vehicle Larvicide Applications

With the integration of unmanned aerial vehicles (UAVs) into AMCD's management program, this project has focused on evaluating application methodologies, LiDAR technology, and the operational strengths and limitations of UAVs. Semi-field and field trials provided valuable insights into application rates, flight strategies, and product efficacy. These findings are guiding improvements in precision larvicide delivery and expanding the potential use of UAVs across diverse habitats. Building on this progress, the project will continue in 2026 to further explore UAV capabilities and optimize their role in vector control.



APPLIED RESEARCH (CONT'D)

AMCD GLP Program

In 2025, AMCD continued to support Good Laboratory Practice (GLP) compliant mosquito control product evaluations as an EPA-recognized field-testing partner. AMCD served as the test site and Principal Investigator (PI) organization for three GLP studies: two adulticide evaluations (PI) and one larvicide evaluation (study site). All studies were executed under approved protocols and within WHO space spray field trial guidance.

Adulticide GLP Studies in collaboration with Eurofins AgroScience Services, LLC

Two GLP adulticide studies were conducted to support regulatory evaluation of a coded adulticide product formulated with multiple active ingredients. Both studies assessed control of *Aedes aegypti* and *Culex quinquefasciatus*, including insecticide-susceptible and -resistant laboratory strains of *Ae. aegypti*. One study evaluated the adulticide in a thermal fogger and the other evaluated the product as a ULV application.

Larvicide GLP Study in collaboration with Carroll-Loye Biological Research

A GLP-compliant larvicide trial was completed through collaboration with Carroll-Loye Biological Research and evaluated a novel coded larvicidal formulation. This larval trial utilized AMCD's 200-gallon concrete mesocosm array and realistic tire habitats, with blinded sampling protocols, environmental monitoring, and outcome assessments handled in accordance with GLP standards.

Overall Program Strengths and Compliance

Across all GLP evaluations this year, AMCD:

Maintained full compliance with U.S. EPA GLP requirements (40 CFR Part 160)

Executed studies using validated SOPs and facility QA oversight

Provided high-quality mosquito research infrastructure and professional staff expertise

Successfully partnered with multiple international industry sponsors

Advanced regulatory science supporting future mosquito control tools

GLP involvement continues to reinforce AMCD's regional and national leadership in science-based mosquito control and vector product evaluation.



Education Program

School Visits:

St. Augustine Public School Montessori 2/20
Crookshank Elementary Pre-K 3/5
South Woods Elementary Pre-K 3/6
Osceola Elementary Pre-K 3/12
Webster Elementary Pre-K 3/13
R.B Hunt Elementary 5th grade 4/15 & 4/16
PV/PV Rawlings Elementary 4th grade 4/28
St. Augustine Co-op homeschool 5/8

Outreach:

Career Fair St, Johns County 5/31
Westminster Woods on Julington Creek
Retirement Home 7/29 & 9/3
Annual Back to School Festival in Hastings 8/2
Flagler College -Annual Wellness Fair 9/9
Tide Program Large School Program with GTM 8th graders 10/6
Main Library Halloween Party 10/23
The 29th Annual Ancient City Kids 10/25
71st Annual St. Augustine Christmas Parade 12/6
Hastings Hometown Christmas Parade 12/13

AMCD/DVEC Tours

Community Group:

Navy Entomology Center of Excellence (NECE) 2/27
Arc tour 4/22 ,7/28, & 11/13
Ancient City Baptist Church Senior Group 5/27
Regional Leadership Academy Roster 5/28
Westminster Woods Julington Creek Retirement Community 6/17 & 8/19

Summer Camps:

St. Johns County Summer Camp 7/8&7/22
Anchor Faith 7/17
Roots Academy 7/22
Kids City USA Port Orange 7/29 & 8/4
Park and Recreation 7/30 & 8/6

AMCD/DVEC Tours (Cont'd)

Home School Programs:

Ability Tree First Coast 1/13
Nature Co-op 1/21, 3/21
Anchored Root 2/3
Firm Foundation 2/3
Home school (no name) 2/4, 2/10, 8/18,8/19,9/5,10/24
904 kids 3/11, 11/14
Ability Tree First Coast 3/13
Sea Pines Academy 4/22
Radiant Learning Collective 5/5
Woodlands 6/2
Advanced Solutions for Kids 6/9
San Juan De Rio 6/23
Greater JAX Christian 7/28
Mighty Seedings 8/5
Salty Kids 8/11
Wild +Free 9/18
BHI 10/1
Homeschool Co-op 10/2, 10/22,11/6
Salt &Light Society 10/13
Classical Conversations-North St. John's
Community 10/24

Professional Meetings:

St. Johns County Beekeepers Association 11/3
Sawgrass Players Club Women's Association
Gardening Club 11/5
American Association of University of Women (AAUW)10/14

High Schools & Colleges:

Academy of Veterinary and Biomedical Science at Beachside High School 2/18
STEM Education Event for middle school girls with AAUW 5/13
UF Bug Camp for middle and high school-aged kids 6/24
Flagler College 10/20
Ponte Vedra High School 10/23
SJR State College Biology Class 11/4 & 11/6

Education Program(CONT'D)

Public School/Private Schools:

Victory Preparatory 3rd grade 1/14
St. Augustine Public Montessori School 1/27
Florida School for the Deaf and Blind (FSDB) 7th grade Deaf Department 2/10
Florida School for the Deaf and Blind (FSDB) 3rd-5th grade Blind Department 2/11, 4/22
Modern Minds Learning 6th grade 2/24
Veritas Classical School in St. Augustine, 2nd grade 2/25
Hartley Elementary 3rd grade 3/3, 3/4, and 3/10
Treasure Harbor Preschool 3/11
St. Elizabeth Ann Seton Catholic 3/11
St. Paul AME Church 3/19
Sea Pines Academy 4/22
St. Johns Academy 6th grade 4/24
Island Prep School in St. Augustine 4/29
Hartley Elementary 1st grade 5/8&5/9
WA Classical Christian K-1st grade 5/13
Ark Christian Academy 8/27
St. Augustine Catholic School 10/8
Ketterlinus Elementary 3rd grade 11/19
J. Allen Axson Montessori 1-3rd grade 12/3, 12/4, 12/5, 12/17, 12/18, and 12/19

DVEC Total Field Trips/Tours

25 home schools (698 people)
5 summer camps (61 people)
19 public schools (958 people)
6 middle school/high school/colleges (161 people)
5 community groups (99 people)



Social Media Viewer & Engagement Overview (Jan 1–Dec 14): Facebook & Instagram

From January 1 to December 14, the organization's Facebook and Instagram platforms generated a combined 84,194 total views, all of which were organic, demonstrating strong performance without paid advertising. Facebook accounted for 66,533 views, while Instagram contributed 17,661 views, with both platforms showing multiple peaks in late spring, summer, and early fall—reflecting the impact of timely and high-interest content. Engagement increased significantly across platforms, with 2,415 total content interactions, alongside strong growth in video consumption and watch time, indicating improved audience retention and interaction. Collectively, the platforms reached over 2,575 followers, with a predominantly female audience, and the core age range concentrated between 35 and 54 years old, followed by smaller but meaningful engagement from older adult audiences and minimal engagement from ages 18–24. The audience is primarily local and community-focused, with strong concentration in Northeast Florida, including St. Augustine, Jacksonville, and surrounding communities, while also extending beyond the region to national and international viewers—highlighting both deep local penetration and expanding global visibility.

Education Program (CONT'D)

Student Internship Program

The Anastasia Mosquito Control District (AMCD) continued its long-standing commitment to workforce development through its Student Internship Program in 2025. Established in 2005, the program enhances District operations while providing hands-on training in applied public health, mosquito control, research, education, and administration.

AMCD's internship program supports students from high school through doctoral-level training and is sustained through partnerships with the University of Florida, University of North Florida, Florida Medical Entomology Laboratory, St. Johns County School District Career Academies, and national partners including the CDC Southeastern Center of Excellence in Vector-Borne Diseases and the Entomological Society of America's Public Health Entomology for All initiative.

In 2025, interns contributed directly to mosquito surveillance, laboratory and insectary operations, resistance testing, larval bioassays, evaluation of emerging control products, Sterile Insect Technique (SIT) research, drone-based and GIS-supported projects, data management, and public outreach through the Disease Vector Education Center. Expanded opportunities in administration, IT, aviation, and education reflect the diverse skill sets required for modern mosquito control programs.

Since inception, AMCD has trained 133 interns, many of whom now serve in mosquito control districts, public health agencies, academia, and several in full-time positions at AMCD. Graduate interns frequently lead independent research resulting in conference presentations and peer-reviewed publications, reinforcing AMCD's leadership in applied mosquito control research and workforce development.

2025 Intern Highlights

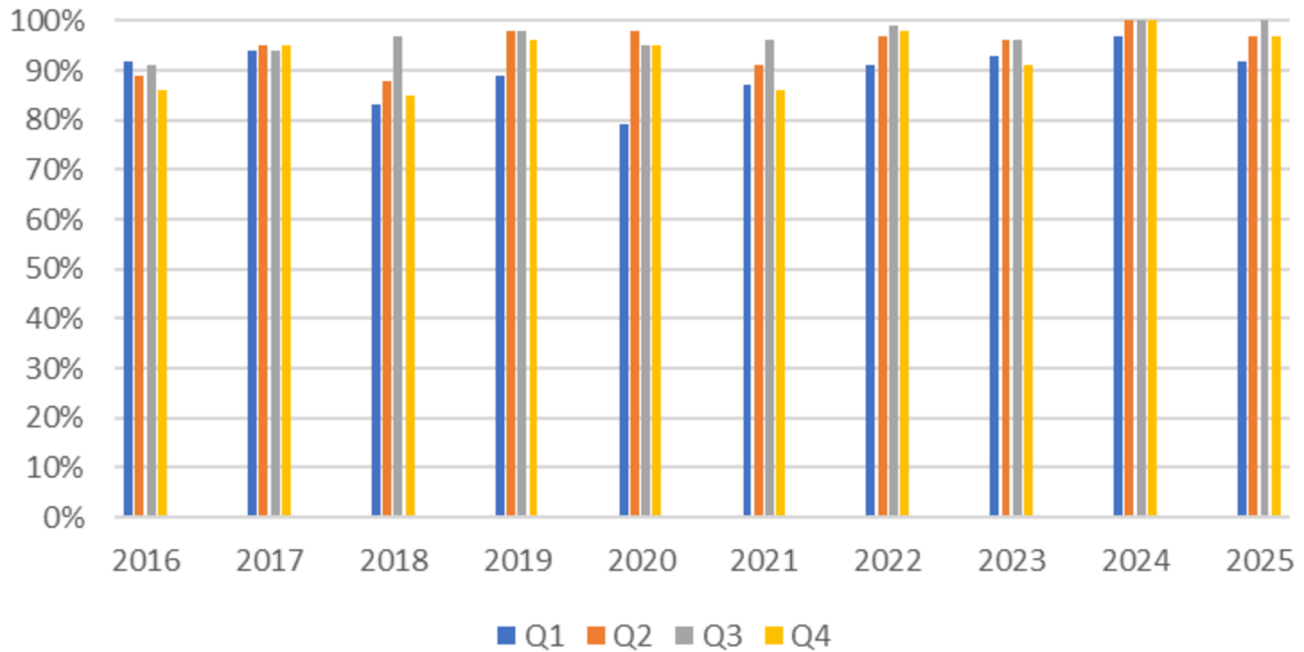
- Students trained: 8 undergraduates, 4 graduate students, and 5 high school students.
- Institutions represented: UF, UNF, Flagler College, Western Carolina University, Penn State, Northeastern University, and St. Johns County high schools
- Program areas supported: Surveillance, research, SIT, drone/GIS applications, DVEC education, administration, IT, and aviation



Education Program 2025

Satisfaction Survey 2025

Satisfaction Survey Last 10 years



Satisfaction Survey Questions

- Q1: I am aware of and actively participate in the DRAIN and COVER method: Drain standing water and cover your skin with clothing and repellent.
- Q2: The AMCD staff were professional.
- Q3: AMCD responds to my service requests within the standard 1-2 business days.
- Q4: The AMCD staff were informative.



Disease Vector Education Center

Annual Impact and Highlights

This year marked strong growth for the Disease Vector Education Center, with 11,592 visitors recorded by November 25. This already exceeds last year's attendance by more than 1,000 guests with three months remaining. Overall engagement remains high, with returning visitors making up 21 percent of the total. Peak days continue to fall during summer months and on Saturdays, with daily attendance often reaching 100 to 200 guests.

Educational programming saw major expansion and improvements. Crazy Science, Sunday Funday, and Feature Creature remained key public programs. The Hissing Roaches Education Program provided valuable insight into learning retention. A total of 173 participants answered 3,042 questions with an average accuracy of 72 percent. These results helped guide updates to Mosquito Cravings, including adding Booked sessions for tracking retention and strengthening core vector education content. The scavenger hunt was fully redesigned into a three-level passport system with a more structured reward process. Work also began to develop pre and post surveys for field trips to better measure learning outcomes.

Exhibit and facility improvements continued throughout the year. Updates included new signage, mounted magnifiers, improved video functions, interactive sliders, and enhancements to the ant farm, tarantula enclosure, and feeder insect setups. Outdoor upgrades included adjustments to the pond autofill and playground substrate. DVEC also completed Autism Center Certification and began developing sensory kits to support accessibility needs.

Community involvement increased through Girl Scout events, UF Bug Camp visits, and Alligator Farm summer programming. DVEC also established new connections with the UF Bug Club to plan future internship opportunities.

Digital engagement saw significant growth starting in March 2025 when consistent posting began. Instagram followers grew by 915 percent and Facebook followers increased by 761 percent. Both platforms saw substantial increases in impressions, reach, and audience interaction. Posts featuring hands on activities, live insects, and seasonal events performed the strongest. Google Business data also showed high visibility, with more than 8,300 combined Search and Maps views and more than 3,200 website clicks.

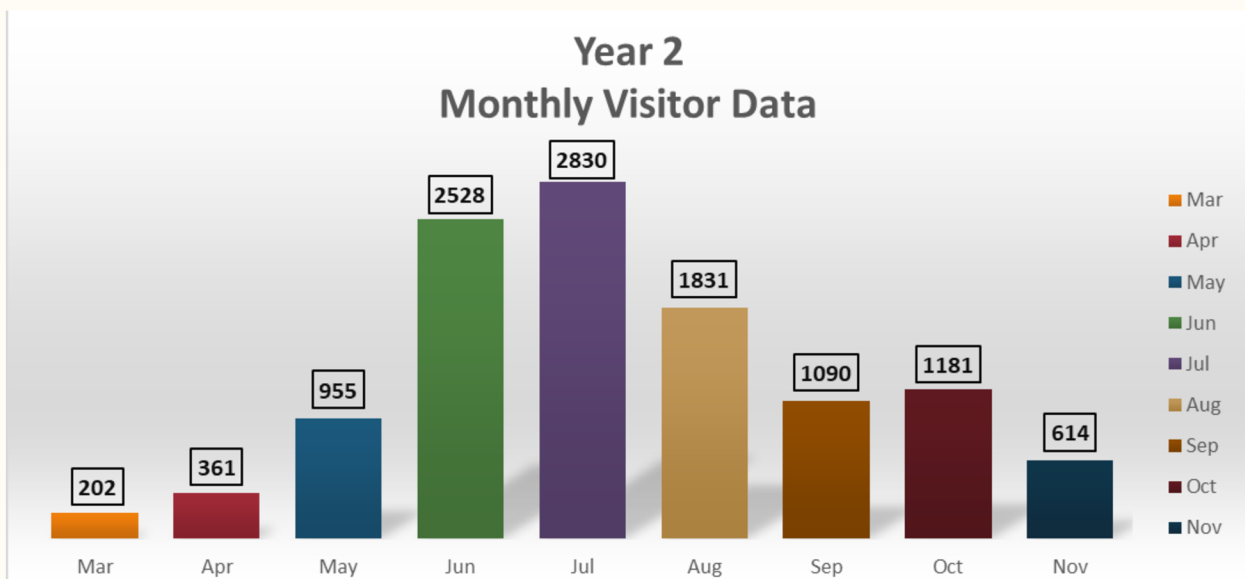
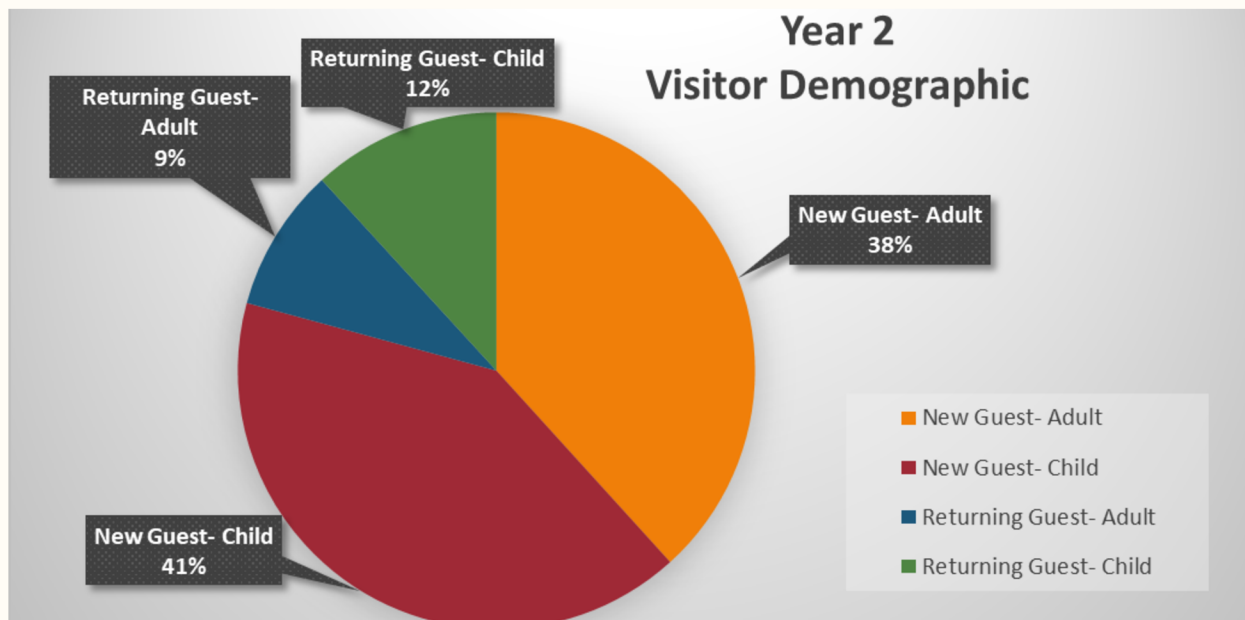


Disease Vector Education Center (CONT'D)

Guest feedback remained very positive. DVEC kept a 5-star rating on Google, with many visitors highlighting knowledgeable and welcoming staff, strong educational value, and interactive displays. Qualtrics surveys reflected similar feedback, emphasizing clarity of explanations, cleanliness of the facility, and the appeal of hands-on exhibits.

Financially, Year 2 performed well. Revenue reached 11,898 dollars, already surpassing the full total from Year 1 despite only covering eight months. Honey and microscopes continued to be reliable sellers, and plush tarantulas became a top item. Donations totaled 1,376 dollars.

Looking ahead, DVEC will continue refining tiered programming, expanding NGSSS aligned field trip content, and developing workshops and seminars for older age groups. Strengthening educational retention assessments through Blooket and similar tools will be a priority. Planning is underway for an AR supported app to enhance self-guided tours and extend the DVEC experience off site. Continued improvements to exhibits, marketing materials, and community partnerships will remain central goals as DVEC grows into a regional leader in vector education and public health outreach.



Organized Professional Meetings, Symposiums, Workshops & Presentations

January: Florida Coordinative Council on Mosquito Control meeting, St. Augustine, FL, January 15, 2025 (AMCD hosted).

Dr. Rui-De Xue is one of appointed council members and Dr. Whitney Qualls gave a presentation about AMCD applied research.

FMCA Dodd Short Courses, Gainesville, Florida, January 27-30, 2025.

Dr. Whitney Qualls taught a course on Tips and Tricks on Calibration and Characterization for the Advance and Introduction to Mosquito Control

March: American Mosquito Control Association annual meeting, San Juan, Puerto Rico, March 2-7, 2025.

Dr. Rui-De Xue: The 2025 AMCA presidential address.

Dr. Rui-De Xue: AMCA 2025 awards and narratives.

Dr. Rui-De Xue (symposium organizer of Director/Manager dilemma) and gave a presentation of AMCD service with five words: honesty, trust, respect, cooperative, and support.

Dr. Whitney Qualls, Moderator of symposium of applying military vector control skillset to civilian mosquito control.

Dr. Whitney Qualls. Evaluation of novel attractants, repellents, and traps at AMCD, St. Johns County, FL.

The 20th annual arbovirus surveillance and mosquito control workshop, St. Augustine, FL, March 24-26, 2025.

Dr. Rui-De Xue (organizer): The 3rd adjunct, consulting and collaborative meetings on March 23.

Dr. Rui-De Xue: Update on AMCA.

Mr. Kai Blore: Update on nanoparticle formulation against mosquitoes

Ms. Lauren Van Rhee: Tide variations and their impact on the salt marsh mosquito population in Northeastern Florida

Mr. Steve Smoleroff: Surveillance of Aedes mosquito population in St. Johns County

Mr. Lee S. Carter: AMCD aviation's program overview

Ms. Oliva Sypes: Laboratory evaluation of the artificial blood and fecundity in Aedes aegypti

Mr. Edwards Zeszutko: Arbovirus surveillance in St. Johns County

Mrs. Tomomi Hirokawa: Survey for dog heartworm in St. Augustine, FL

Organized Professional Meetings, Symposia, Workshops & Presentations (CONT'D)

Dr. Vindya Aryaprema: Optimizing Larval Diets for Scalable Mass Rearing of *Aedes aegypti*

Dr. Whitney Qualls: Aerial spray by contractor VDCI for control of mosquito population in St. Johns County, FL

Mr. Connor Kuppe: Insecticide resistance detection in adult mosquitoes in St. Johns County, Florida

Dr. Joe DiClaro: Overview of AMCD applied research programs

Genhsy Monzon: Anniversary report about the Disease Vector Education Center

Dr. M. Farooq: Evaluation of commercial fruit juices as the attraction of ATSB against 3 species of mosquitoes

April: Asian Pacific Dengue Control, Tainan, Taiwan, April 21-24, 2025.

Dr. Rui-De Xue gave the Invited Keynote Speaker about new technology for dengue vector control. Funded by the APE.

May: The 9th International Forum for Surveillance and Control of Mosquitoes and Vector-borne Diseases, XiAn, China, May 26-29, 2025.

Dr. Rui-De Xue gave the invited presentation about new technology for mosquito control.

International Electronic Conference of Entomology, online, May 15-19, 2025.

Dr. Rui-De Xue as Chair of the Medical & Veterinary Entomology section and gave an overview about the section topics.

Dr. Whitney Qualls gave an invited presentation on New Frontiers in Mosquito Management: Sterile Insect and Wolbachia-Based Approaches for Public Health

July: Florida Entomology Society Annual Meeting Winter Haven, FL, July 13-15, 2025.

Dr. Rui-De Xue gave a presentation about overview of AMCD operation program at the annual meeting of the Florida Entomology Society, Oakland, July 13-15, 2025.

October: 9th International Congress of Vector Ecology, Chania, Crete, 12-17 October 2025

Dr. Rui-De Xue organized a symposium of Dengue & Malaria Vector Management: international perspective and gave a presentation about vector control response of AMCD to suspected case in St. Johns County, Florida.

Dr. Rui-De Xue gave the invited presentation about Swatting mosquitoes and strengthening partnerships: AMCD's role in advancing vector control education and research (prepared by Dr. Qualls) at the symposium of the US CDC's Centers of Excellence.

Organized Professional Meetings, Symposia, Workshops & Presentations (CONT'D)

Special Seminar, AMCD, October 27, 2025

AMCD hosted and organized a seminar about vector surveillance database and model provided by Professor Hsian from Taiwan National University

UMAA Annual Conference. Park City, Utah, Oct 28, 2025

Ms. Dena Oliva's presentation: Notification List: Understanding Limitations and Exceptions

November: St. Johns County Honeybee Association meeting, Nov 3 at 6 pm

Dr. Whitney Qualls gave a presentation about AMCD operation program.

Jacksonville Area Microbiology Society, Jacksonville, FL.

Dr. Whitney Qualls gave a presentation on science that protects: The applied research program at Anatasia Mosquito Control District.

FMCA 2025 annual conference. Port Charlotte, FL, Nov 17-20, 2025

Dr. W. Qualls's presentation: Implementing SIT in St. Johns County: Program development from rearing to field release (prepared by Dr. Aryaprema).

Ms. Uvina Allen's presentation: Innovating vector surveillance pipelines: collaborative evaluation of CapGel arbovirus detection methods.

Dr. W. Qualls moderated student paper competition session on Nov 19.

Ms. Olivia Sypes's presentation: Analysis of fecundity against different blood meals in colony *Cx. quinquefasciatus* & *An. quadrimaculatus*.

Ms. Olivia Sypes's poster presentation: Mating competitiveness of irradiate *Ae. aegypti* in AMCD's SIT program.

Mr. Connor Kuppe's presentation: Semi-field and field evaluations of UAV-based applications of Altosid XR-G and VectorBac G in St. Johns County, FL.

Mr. Connor Kuppe's poster presentation: Assessing the relationship between wind tunnel assay using DeltaGard and CDC bottle bioassay with technical-grade Deltamethrin.

Mr. Kai Blore's presentation (orally & poster): Evaluation of silver nanoparticles as a control tool against adult mosquito vectors.

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