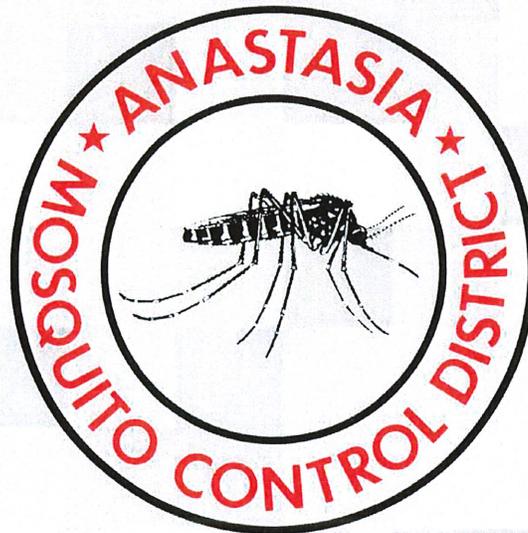


# Anastasia Mosquito Control District

of St. Johns County

[www.amcdsjc.org](http://www.amcdsjc.org)



District Board Meeting

**March 10, 2022**

Thursday at

**5:00 P.M**



**ANASTASIA MOSQUITO CONTROL DISTRICT  
ST. JOHNS COUNTY**

**PROPOSED AGENDA**

Thursday, March 10, 2022  
5:00 P.M.

**Invocation and Pledge:**

By Commissioner

**Consent Items: APPROVAL OF:**

1. Treasurer's Report
2. Vouchers (*Cancelled Checks*)
3. Chemical Inventory
4. Minutes: Regular Board Meeting, February 10, 2022 at 5:00 P.M.
5. Agreement between MosquitoMate and AMCD for software usage
6. Commissioner Mrs. Moeller and staff to attend SOVE meeting in September
7. Commissioner Mrs. Becker attending DC legislation meeting in May

**Unfinished Business:**

1. SIT building project progress update ... Mr. G. Harrell, The Harrell Construction Comp (10 min)
2. Summary report about AMCA meeting in Jacksonville ... Dr. Xue (10 min)

**New Business:**

1. Approval to Change May 12 Board meeting to May 5 ... Commissioner Mrs. Becker (5 min)
2. Update about 17 Arbovirus Surveillance and Mosquito Control Workshop .. Dr. Xue (10 min)
3. Update annual program report (draft) ... Dr. Xue (10 min)

**Reports**

1. Director
2. Attorney

**Commissioner Comments:**

**Attachments:**

# CONSENTS

# Anastasia Mosquito Control District of St. Johns County

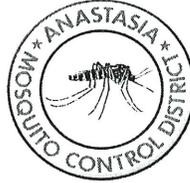
120 EOC Drive, St. Augustine, Florida 32092

PH: (904) 471-3107 • Fax (904) 471-3189 • Web Address: [www.amcdsjc.org](http://www.amcdsjc.org)

## 2022 MEMO

DISTRICT DIRECTOR

Dr. Rui-De Xue



BOARD OF COMMISSIONERS:

Jeanne Moeller, Chairperson  
Trish Becker, Vice-Chairperson  
Gayle Gardner, Secretary/Treasurer  
Catherine Brandhorst, Commissioner  
Gina LeBlanc, Commissioner

TO: Board of Commissioners

FROM: Dr. Rui-De Xue, Director

CC: Commissioners

DATE: Feb 28, 2022

RE: Treasurer's report will be on the table

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Due to our C.F.O./Accountant taking off for travel, the Feb treasurer's report will be placed on table or e-mail to you before the meeting. Thanks.



**ANASTASIA MOSQUITO CONTROL DISTRICT OF ST. JOHNS COUNTY**  
**CHEMICAL & FUEL INVENTORY**  
 MONTH OF JANUARY 2022

**DISTRICT TOTALS**

CHEMICAL DESCRIPTION (indicate lbs., gals. or ea.)	BEGINNING PHYSICAL COUNT	AMOUNT PURCHASED	TRANSFER IN	TRANSFER OUT	AMOUNT AVAILABLE	AMOUNT USED	ENDING "BOOK" BALANCE	PHYSICAL COUNT	OVER / (UNDER)
ALTOSID WSP	EA. 58,122.00				58,122.00	0.00	58,122.00	58,122.00	0.00
ALTOSID XR	LBS. 2,382.00				2,382.00	0.00	2,382.00	2,382.00	0.00
ALTOSID XRG	LBS. 41,840.00				41,840.00	0.00	41,840.00	41,840.00	0.00
AQUABAC XT	GALS. 130.00				130.00	0.00	130.00	130.00	0.00
AQUALUER 20-20	GALS. 194.30				194.30	0.00	194.30	194.30	0.00
B. t. i. DUNKS (Doughnuts)	EA. 838.00				838.00	0.00	838.00	838.00	0.00
COCO BEAR	GALS. 52.47				52.47	0.75	51.72	51.72	0.00
DUET	GALS. 516.02				516.02	0.00	516.02	516.02	0.00
MOSQUITOMIST TWO	GALS. 358.50				358.50	0.00	358.50	358.50	0.00
NALED	GALS. 1,270.00				1,270.00	0.00	1,270.00	1,270.00	0.00
NATULAR DT	EA. 10,009.00				10,009.00	0.00	10,009.00	10,009.00	0.00
STRIKE PELLETS	LBS. 44.00				44.00	0.00	44.00	44.00	0.00
SUSTAIN MBG	LBS. 4,640.00				4,640.00	160.00	4,480.00	4,480.00	0.00
TALSTAR P	GALS. 45.38				45.38	0.02	45.36	45.36	0.00
VECTOBAC 12AS	GALS. 56.38				56.38	1.63	54.76	54.75	-0.01
GASOLINE	GALS. 3,489.00				3,489.00	312.20	3,176.80	3,124.00	-52.80
JET A	GALS. 3,851.00				3,851.00	212.52	3,638.48	3,598.00	-40.48
<b>TOTALS</b>	<b>127,838.05</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>127,838.05</b>	<b>687.11</b>	<b>127,150.94</b>	<b>127,057.65</b>	<b>-93.29</b>

<b>BASE=</b>	127,057.65
Total	127,057.65

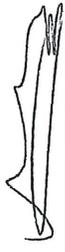
PREPARED BY: [Signature] DATE: 2/4/2022  
 REVIEWED BY: [Signature] DATE: 2/7/22  
 REVIEWED BY: [Signature] DATE: 2/22/22

PREPARED BY: [Signature]  
 REVIEWED BY: [Signature]  
 REVIEWED BY: [Signature]

**ANASTASIA MOSQUITO CONTROL DISTRICT OF ST. JOHNS COUNTY  
 CHEMICAL & FUEL INVENTORY  
 VALUE**

MONTH OF JANUARY 2022

CHEMICAL DESCRIPTION (indicate lbs., gals. or ea.)	PHYSICAL COUNT	ACTUAL COST PER LB/GAL/EA	TOTAL INVENTORY VALUE	INVOICE DATE	PURCHASED FROM
ALTOSID WSP EA.	34,122.00	\$0.8600	\$29,344.92	10/30/20	VESERIS
ALTOSID WSP EA.	24,000.00	\$0.8800	\$21,120.00	12/16/21	VESERIS
ALTOSID XR LBS.	1,502.00	\$3.42	\$5,136.39	10/30/20	VESERIS
ALTOSID XR LBS.	880.00	\$3.45	\$3,036.00	12/16/21	VESERIS
ALTOSID XRG LBS.	25,840.00	\$8.9500	\$231,268.00	10/30/20	VESERIS
ALTOSID XRG LBS.	16,000.00	\$11.5000	\$184,000.00	12/16/21	VESERIS
AQUABAC XT GALS.	130.00	\$35.0000	\$4,550.00	12/7/21	VESERIS
AQUALUER 20-20 GALS.	194.30	\$121.5400	\$23,615.22	5/10/21	ALLPRO
B. t. i. DUNKS (Doughnuts) EA.	838.00	\$0.9830	\$823.75	5/5/21	TARGET
COCO BEAR GALS.	51.72	\$20.4800	\$1,059.23	7/16/18	CLARKE
DUET GALS.	516.02	\$214.7300	\$110,804.97	8/24/21	CLARKE
MOSQUITOMIST TWO GALS.	358.50	\$73.3400	\$26,292.39	11/17/20	CLARKE
NALED GALS.	880.00	\$214.7300	\$188,962.40	8/24/21	CLARKE
NALED GALS.	390.00	\$2.0000	\$780.00	10/19/21	Osceola Co.
NATULAR DT EA.	10,009.00	\$0.4168	\$4,171.75	9/9/16	CLARKE
STRIKE PELLETS LBS.	44.00	\$184.1500	\$8,102.60	5/10/10	ADAPCO
SUSTAIN MBG LBS.	4,480.00	\$7.1000	\$31,808.00	8/30/21	ALLPRO
TALSTAR P GALS.	45.36	\$54.9050	\$2,490.49	9/16/20	TARGET
VECTOBAC 12AS GALS.	54.75	\$32.5000	\$1,779.38	3/4/21	ADAPCO
GASOLINE GALS.	124.00	\$2.8342	\$351.44	9/13/21	L. V. HIERS
GASOLINE GALS.	3,000.00	\$2.8157	\$8,447.10	12/1/21	L. V. HIERS
JET A GALS.	3,598.00	\$2.5164	\$9,054.01	8/19/21	Avfuel
<b>TOTAL</b>	<b>127,057.65</b>	<b>\$997.36</b>	<b>\$896,998.04</b>		

PREPARED BY:  W. W. W. DATE: 2/4/2022

COST FIGURES REVIEWED BY:  DATE: 2/7/22

REVIEWED BY:  DATE: 2/2/22

**ANASTASIA MOSQUITO CONTROL DISTRICT OF ST. JOHNS COUNTY**  
**CHEMICAL & FUEL INVENTORY**  
 MONTH OF JANUARY 2022

**STATIONS: 120 EOC DRIVE (BASE STATION)**  
**TAKEN BY: DENA AUTRY**

CHEMICAL DESCRIPTION (indicate lbs., gals. or ea.)	BEGINNING PHYSICAL COUNT	AMOUNT PURCHASED	TRANSFER IN	TRANSFER OUT	AMOUNT AVAILABLE	AMOUNT USED	ENDING "BOOK" BALANCE	PHYSICAL COUNT	OVER / (UNDER)
ALTOSID WSP EA.	58,122.00				58,122.00	0.00	58,122.00	58,122.00	0.00
ALTOSID XR LBS.	2,382.00				2,382.00	0.00	2,382.00	2,382.00	0.00
ALTOSID XRG LBS.	41,840.00				41,840.00	0.00	41,840.00	41,840.00	0.00
AQUABAC XT GALS.	130.00				130.00	0.00	130.00	130.00	0.00
AQUALUER 20-20 GALS.	194.30				194.30	0.00	194.30	194.30	0.00
B. t. i. DUNKS (Doughnuts) EA.	838.00				838.00	0.00	838.00	838.00	0.00
COCO BEAR GALS.	52.47				52.47	0.75	51.72	51.72	0.00
DUET GALS.	516.02				516.02	0.00	516.02	516.02	0.00
MOSQUITOMIST TWO GALS.	358.50				358.50	0.00	358.50	358.50	0.00
NALED GALS.	1,270.00				1,270.00	0.00	1,270.00	1,270.00	0.00
NATULAR DT EA.	10,009.00				10,009.00	0.00	10,009.00	10,009.00	0.00
STRIKE PELLETS LBS.	44.00				44.00	0.00	44.00	44.00	0.00
SUSTAIN MBG LBS.	4,640.00				4,640.00	160.00	4,480.00	4,480.00	0.00
TALSTAR P GALS.	45.38				45.38	0.02	45.36	45.36	0.00
VECTOBAC 12AS GALS.	56.38				56.38	1.63	54.76	54.75	-0.01
GASOLINE GALS.	3,489.00				3,489.00	312.20	3,176.80	3,124.00	-52.80
JET A GALS.	3,851.00				3,851.00	212.52	3,638.48	3,598.00	-40.48
<b>TOTALS</b>	<b>127,838.05</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>127,838.05</b>	<b>687.11</b>	<b>127,150.94</b>	<b>127,057.65</b>	<b>-93.29</b>

**ANASTASIA MOSQUITO CONTROL DISTRICT OF ST. JOHNS COUNTY  
CHEMICAL & FUEL INVENTORY**

January 2022

TAKEN BY: KAY GAINES

CHEMICAL DESCRIPTION (indicate lbs., gals. or ea.)	BEGINNING PHYSICAL COUNT	AMOUNT PURCHASED	TRANSFER IN	TRANSFER OUT	AMOUNT AVAILABLE	AMOUNT USED	ENDING "BOOK" BALANCE	PHYSICAL COUNT	OVER / (UNDER)	Actual
ALTOSID WSP EA.	58,122.00				58,122.00	0.00	58,122.00	58,122.00	0.00	0.0000
ALTOSID XR EA.	2,382.00				2,382.00	0.00	2,382.00	2,382.00	0.00	0.0000
ALTOSID XRG LBS.	41,840.00				41,840.00	0.00	41,840.00	41,840.00	0.00	0.0000
AQUABAC XT GALS.	130.00				130.00	0.00	130.00	130.00	0.00	0.0000
AQUALUER 20-20 GALS.	194.30				194.30	0.00	194.30	194.30	0.00	0.0000
B.T. BRIQUETS EA.	838.00				838.00	0.00	838.00	838.00	0.00	0.0000
COCO BEAR GALS.	52.47				52.47	0.75	51.72	51.72	0.00	0.7500
DUET GALS.	516.02				516.02	0.00	516.02	516.02	0.00	0.0000
MOSQUITOMIST TWO GALS.	358.50				358.50	0.00	358.50	358.50	0.00	0.0000
NALED GALS.	1,270.00				1,270.00	0.00	1,270.00	1,270.00	0.00	0.0000
NATULAR DT EA.	10,009.00				10,009.00	0.00	10,009.00	10,009.00	0.00	0.0000
STRIKE PELLETS LBS.	44.00				44.00	0.00	44.00	44.00	0.00	0.0000
SUSTAIN MBG LBS.	4,640.00				4,640.00	160.00	4,480.00	4,480.00	0.00	0.0000
TALSTAR P GALS.	45.38				45.38	0.02	45.36	45.36	0.02	0.0000
VECTOBAC GALS.	56.38				56.38	1.63	54.76	54.75	-0.01	1.6250
GASOLINE (120 EOC DR.) GALS.	3,489.00				3,489.00	312.20	3,176.80	3,124.00	-52.80	0.0000
JET A FUEL GALS.	3,851.00				3,851.00	212.52	3,638.48	3,598.00	-40.48	0.0000
TOTALS	127,838.05	0.00	0.00	0.00	127,838.05	687.11	127,150.94	127,057.65	-93.29	

AMCD

## Treatment Summary

**From Date :** 01-01-2022

**To Date :** 01-31-2022

**Zone :** All

**Material :** All

**Task :** All

Printed on 2022-02-01 09:09:01 EST

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Material	Amount	Area Treated	Application Rate	Times
Cocobear	96 fl oz	0.25 acre	384.02 fl oz / acre	4 times
Sustain MBG	160 lb	21.33 acre	7.5 lb / acre	3 times
Talstar P	0.02 gal	0.05 acre	0.34 gal / acre	1 times
VectoBac 12AS	208 fl oz	13 acre	16 fl oz / acre	4 times

# AMCD

## Product Totals For Sites

Date Range From : 01/01/2022 12:00:00AM To : 01/31/2022 11:59:00PM

Pump - Hose		Transactions	Total Quantity
Product :	01 Unleaded		
Site Id :	003 Anasatisia Moquito Control		
01-1		27	312.197
		<u>27</u>	<u>312.197</u>
Totals For Site :		27	312.197
Totals For Product :		27	312.197
Product :	02 Jet-A		
Site Id :	003 Anasatisia Moquito Control		
02-1		4	212.520
		<u>4</u>	<u>212.520</u>
Totals For Site :		4	212.520
Totals For Product :		4	212.520

MONTHLY MILEAGE

January Mileage 2022 (2)

NAME	VEHICLE	MILEAGE
Ford Tractor	686	1,385
ATV	934	898
Backhoe	1018	861
ATV	1109	549
Service (TF)	1132	76,816
Fog MM2	1133	87,989
Conch Island	1134	0
Service (TF)	1173	81,558
Baby Conch	1194	0
Fog MM2	1195	93,942
Service	1196	108,111
Surveillance	1197	69,287
Service	1198	68,605
Fog MM2	1199	58,413
Fog MM2	1200	80,446
Service	1201	78,397
Service	1202	39,945
Service	1203	66,982
Gator	1223	0
ATV	1273	0
Sevice	1342	104,068
Service Truck	1343	85,809
Polaris 4 Wheeler	1366	432
ATV	1367	540
Surveillance (Air Boat)	1410	115,087
Air Boat	1422	161
Dena Autry	1425	65,225
Service	1426	99,332
Phil Vaughn	1462	63,382
Holly Usina	1463	72,503
Ford Explorer	1479	60,200
Spare Dual	1484	57,589
Spare Dual	1485	62,538
David Strickland	1493	49,064
Jennifer	1494	52,899
Fork Lift	1536	178
Jerry Iser	1544	54,916
Dazmond Hackney	1546	37,279
Kyle Arber	1548	31,890
Cathy Hendricks	1550	52,359
Mike Phillips	1611	10,142
Jeremy Wohlforth	1613	22,242
Ruide Xue	1615	13,133
Service Expedition	1630	4,895
Dual Duty	1633	5,578
Gator	1666	74
Pending Dual Duty	1692	2,807



# Anastasia Mosquito Control District of St. Johns County

120 EOC Drive, St. Augustine, FL 32092  
Telephone: (904)-471-3107 \* Fax (904) 471-3189 \* Web: [www.amcdsjc.org](http://www.amcdsjc.org)

## BOARD OF COMMISSIONERS

Jeanne Moeller, Chairperson  
Trish Becker, Vice-Chairperson  
Gayle Gardner, Secretary/Treasurer  
Catherine Brandhorst, Commissioner  
Gina LeBlanc, Commissioner



## DIRECTOR

## DISTRICT

Dr. Rui-de Xue



Thursday, February 10, 2022

Next Meeting(s): Regular Meeting.; Thursday, March 10, 2022 – 5:00 PM

## MINUTES

The regular Board meeting for the Anastasia Mosquito Control District of St. Johns County was held on Thursday, February 10, 2022, at 5:00 P.M.

Board members in attendance:

Mrs. Jeanne Moeller, Chairperson  
Mrs. Trish Becker, Vice-Chairperson  
Mrs. Gayle Gardner, Secretary/Treasurer  
Ms. Gina LeBlanc, Commissioner

Board member absent:

Mrs. Catherine Brandhorst, Commissioner

Also in attendance:

Dr. Rui-De Xue, Director  
Mr. Wayne Flowers, Attorney by phone

Chairperson Moeller called the meeting to order.

Vice-Chairperson Becker Led the Pledge of Allegiance to the flag.

**CEREMONY:** Chairperson Moeller reads a proclamation for black history month and presents it to Mr. Floyd Phillips.

**ROLL CALL:** Chairperson Moeller noted ~ Commissioner Brandhorst was absent

**CITIZEN PARTICIPATION:** For Items not on the agenda ~ None

**COMMENTS:** Commissioner Becker asks the Chairperson about Mr. Flowers absence. Chairperson Moeller answered that Mr. Flowers is to call in. Chairperson Moeller reported the Compass was first on the agenda but were running late, she asked if they could be moved to New Business if there is no objection.

**APPROVAL OF AGENDA:** Chairperson Moeller called for approval of the agenda with change.

A. A motion was made to approve the agenda as changed.

- Motioned by: Commissioner Gayle Gardner
- Seconded by: Commissioner Gina LeBlanc
- VOTE accepted unanimously by all commissioner's present
- **MOTION PASSED UNANIMOUSLY**

**APPROVAL OF CONSENT AGENDA: Chairperson Moeller called for approval of the Consent Agenda.**

**A. A motion was made to approve the Consent Agenda as presented.**

- Motioned by: Commissioner Gayle Gardner
- Seconded by: Commissioner Gina LeBlanc
- VOTE: Accepted unanimously by all Commissioners present
- **MOTION PASSED UNANIMOUSLY**

**Consent Items ~ APPROVAL OF:**

1. Treasurer's Report
2. Vouchers (*Cancelled Checks*)
3. Chemical Inventory
4. Minutes: Regular Board Meeting, January 13, 2022 at 5:00 P.M.
5. 2022 committee member update.
6. Senior Mechanic job description.
7. Commissioner Gardner's travel request for Lee CMD aerial workshop and visiting Collier MCD, April 18-20.
8. Resolution of AMCD's open seats for election in 2022.
9. Budget Calendar.
10. Quarterly budget analysis.
11. Budget amendment.

**UNFINISHED BUSINESS:**

**Item 1: Update about Education building progress... ~ Moved to New Business #1**

**Item 2: Update about helicopter repair and maintenance... ~ *Mr. Dana Smith***

- It was noted that Mr. Smith has two presentations tonight, Mr. Smith stated that he would be combining the reports into one report. Mr. Smith gave a PowerPoint presentation. Mr. Smith talked about personnel, equipment, reviewed the three helicopters status, talked about helicopter costs and how the 2020/2021 budget was spent for aviation, reviewed the acquisition of parts from the Army and the cost verses value, spending \$190,331.00 and getting a value of \$1,216,360.00, and then highlighted some valuable assets like engines and transmissions. Next Mr. Smith talked about the area treated by aviation in the 2021 season, the annual cost of aviation operations, new recordkeeping procedures, training, positive impacts like good press for the district in nationally distributed publications. Mr. Smith ended his presentation and asked if there are questions, Dr. Xue asked Mr. Smith to update the insurance status from the accident. Mr. Smith explained that once the aircraft is started and run the claim will close and final costs will be calculated. Mr. Smith explained that to date about \$200,000.00 has been spent and AMCD should get back \$180,000.00, he hopes to also recover about half of the deductible in miscellaneous parts used from AMCD stock and labor spent in repairs by the AMCD A & P Mechanic. Commissioner Becker explained that she was very pleased about the bolt containers and thanked Dana for saving the district money

now and in the future. Mr. Smith then explained how we got the Education Center display helicopter for free, using \$40,000.00 of parts that AMCD cannot use, to trade for the helicopter. Chairperson Moeller said that she has seen the helicopter and it looks great and that the truck bed James Wynn built also looks good. Dr. Xue explained that Morgan has been transferred to the aviation unit and that the airboat operation will be part of the aviation unit. Commissioner Becker noted that during the fly-in she noticed that none of the aircraft had “Mosquito Control” on the aircraft and AMCD’s helicopters do and that we should be proud of our program. Dr. Xue pointed out that other districts have called AMCD to find out how we got the aircraft and parts from the government. Mr. Smith pointed out that the Navy is about to get rid of its aircraft and parts and that he may come to the Board if he finds any good deals. Chairperson Moeller thought that was a very good idea. Dr. Xue talked about the good job Mr. Smith was doing and the award he received. Commissioner Becker pointed out that the technical school had an aviation program with Northrup-Grumman and is that something AMCD could tie into. Mr. Smith said absolutely. Chairperson asked if there were any other questions. Commissioner LeBlanc said Mr. Smith was doing a fabulous job, Commissioner Gardner said thank you and Commissioner Becker asked if the parts were insured. Mr. Smith said he would look into that. Chairperson asked if Mr. Smith had any other reports, Mr. Smith replied no. Chairperson closed the discussion with a story about another district’s aircraft accident.

○ **THERE WAS NO MOTION ON THIS ITEM**

**NOTE:** At the beginning of Mr. Smith’s report Mr. Flowers joined the meeting via phone.

**NEW BUSINESS**

**COMMENTS:** Chairperson Moeller asked Dr. Xue if he would mind giving his report New Business # 2 first because Compasses report might get long. Dr. Xue started his report.

**Item 2: Report and approval of AMCD to collaborate with 4 organizations to apply for different grants (for CDC ATSB, NACCHO for mentor, Fujian Agricultural and Forest University for Gates Foundation about nano Bti, and COST for surveillance database) ~ Dr. Rui-De Xue**

Dr. Xue explained the needs for the grants, # 1 CDC, # 2 NACCHO have done two times before, # 3 Dr. Xue working with Dr. Zhang with nano Bti, # 4 COST building a database and a computer model and Dr. Qualls also applies to DOD for grant. Chairperson Moeller asked if there were any questions, there were none.

**A. A motion was made to approve staff request of the four grants collaborations and the fifth grant collaboration.**

- Motioned by: Commissioner Becker
- Seconded by: Chairperson Moeller
- VOTE: Accepted unanimously by all commissioner’s present

**MOTION PASSED UNANIMOUSLY**

**Item 1: Update about Education building progress... ~ Moved to New Business #1 Compass Construction, Mr. Grayson Mathewson**

- Chairperson Moeller started by telling the Board that she met with Dr. Xue, Mr. Weaver, Mr. Flick and Mr. Mathewson that morning and introduced Mr. Mathewson. Chairperson Moeller also asked Dr. Xue that she wanted very detailed minutes of this discussion. Mr. Mathewson apologized for being late and proceeded to give his Progress Report reading from the report attached. Commissioner Becker asked to clarify what is the “store front” he is talking about, Mr. Mathewson explained these were the front and side doors. At the end of the report Mr.

Mathewson explained about graphics content delivery dates not being met and that Compass met with Mr. Weaver and Mr. Flowers to try to resolve the issue. Mr. Mathewson said that he believes that a resolution was made at the earlier meeting with Chairperson Moeller. Mr. Mathewson then said that there are several incomplete design coordination items and are working through that but this requires the design team of record to properly coordinate the process and that may or may not be in process he wasn't sure, Mr. Mathewson said those scheduled impacts, Compass still plans on having the building portion done by July 8, that ended his report. The Chairperson asked if the board had questions. Commissioner Becker asked if, when he was talking about graphics, was if media on computers or on the walls. Mr. Mathewson replied, both and stated that everything that is an instrument of education was included. Chairperson Moeller then explained that she met with Mr. Flick and Mr. Mathewson and that Compass wants to remove all media work from the contract and give back the money allotted for this work in the contract to AMCD an amount of \$63,431.48, Mr. Weaver, Dr. Xue and Chairperson Moeller tentatively agreed that AMCD should definitely let Compass out of the media contract for a verity of reasons. One reason is going to mediation and after speaking to Mr. Flowers there was no way of knowing the amount of time it would take or if AMCD would win. Chairperson Moeller also pointed out the attorney cost could be high and that this change will not affect getting the certificate of occupancy but may set the district back getting the program opened. She said that what the district envisioned for the project is not what Compass envisioned and the quality of the project the district wanted is not really what Compass really thought the district wanted. She continued on to say everything the district has done in the last 15 years has been done with excellence and we need to continue to do that and the truth of the matter is anyone could build the building, but not everyone can do the level of media or digital that the district was expecting. She continued that allowing Compass out of the contract and having the \$63,000.00 refunded to us is in the best interest of the district, and the fiduciary responsibilities to the taxpayer. She said that she spoke to Mr. Weaver and the district still has \$1.3 million in the budget for this project and will get the \$63,000.00 back and said she made it clear to Compass that the district was not interested in being nickel and dimed with change orders and were not expecting more, asking Mr. Mathewson that, he responded "not at this time", she continued that Mr. Mathewson needs to be careful with that and this is taxpayers money and she is hoping they will not be a lot more change orders. Chairperson Moeller then said that Dr. Xue and Mr. Weaver had given the Chair two motions but the Board should probably hear from Mr. Weaver. She would like to make the motions so the board can move ahead and also wants to make sure with Mr. Flowers that what they are doing is legal and, in the districts, best interest, she again stated that it is apparent that Compass wants out of this portion of the agreement and the other bidder had almost the same amount for graphics as the building, she then recapped and asked Mr. Mathewson that if she had misspoken now is the time to speak up. Mr. Mathewson responded everything sounds accurate based on our conversation this morning. Commissioner Becker asked Mr. Mathewson for the taxpayers that didn't see the letter Compass sent to please explain the problem and remedy. Mr. Mathewson replied that the problem was the lack of completed research to be able to properly design and finish the design of the graphics to go on the walls, to date we have not gotten the content technically written, complete with images, in a format to be put on the walls. Commissioner Becker asked if the gentleman who was in charge of the tech form another company was that not his job? Mr. Mathewson replied Are you talking about A/V? he is fine. Chairperson Moeller said that Mr. Weaver has pointed out that AMCD needs to know exactly what, and what not, compass is going to do. Mr. Mathewson said Compass was clear that they will do drywall and paint but nothing that goes on the wall or component that goes on the wall. Chairperson Moeller asked what about the signs? Mr. Mathewson responded, they will provide life safety signs required for a CO, but no other signage. Chairperson Moeller then said that Mr. Weaver said that there were parts

ordered for the sign over the theater will you do that? After a short back and forth between Mr. Weaver and Mr. Mathewson, he responded, that will not be done by Compass and was included in one of the credit lines on the change order. Chairperson Moeller then asked if Mr. Mathewson had any other comments and to let Mr. Weaver have a chance to speak. Mr. Mathewson said "fair enough". Mr. Weaver said that it sounds like every sign in the building was not being done by Compass and that needs to be spelled out. He then went on to explain that this is about scope, AMCD staff thought that the content designer/graphic artist would work with the set designer, set builder, I.T. and be part of that team, Compass wanted data that was almost a finished product. Mr. Weaver said that was not in the AMCD staff's capabilities and was never imagined to be part of our work or scope and what staff has provided is layouts, photos and research and then described the process of the development of the content. Mr. Weaver then explained why photos were not provided, staff was waiting on the coordination between the graphics person and AMCD before purchasing the photos because photos are very expensive, he then talked about the fact that they are at an impasse and there are only a few options but they basically AMCD will have to take over the work and the cost will be \$300,000.00 plus and will entail hiring many contractors but at this point to keep the project going AMCD has to have control over the artistic development, he wanted to make sure Compass would work with any AMCD contractors to get the job done and not go to the nuclear options that could jeopardize the project. Mr. Weaver then said Mr. Flowers should weigh in and asked for questions. Chairperson Moeller said at some point we have to agree to disagree and whatever we do is going to cost the district money and why spend money when we have no idea how mediation will go and how they (Compass) would feel if we won. If the district needs to figure out where to get more money, we can do that. Mr. Weaver responded that at this point the district has money and the Board has already authorized spending up to 10% of the contract cost, that the real cost will be known closer to the end of the project and that the content developer cost alone will most likely be \$100,000.00 to \$150,000.00 range and that these changes are a lot of work, 50 to 75 displays will be affected. Mr. Weaver went into some detail on the amount of work that will be needed. Commissioner Becker asked if Staff had contractors in mind. Mr. Weaver responded that this change has happened fast and staff has not had time to do much but he has feelers out and is looking and will also contact Pizazz who would have been working with Harrell. Chairperson Moeller stated that Pizazz had a good grasp on what the district wanted and then asked if Mr. Flowers had comments. Mr. Flowers responded there is no perfect solution in this circumstance and he has confidence in Mr. Weaver, the district is at an impasse and the chair is trying to find a practical solution to avoid delays and costs, Mr. Weaver is correct in the need to be very clear about what is being excluded from the project and this resolution is a practical resolution to the impasse and a way to move forward. Chairperson Moeller asked the Board members if they have questions. Commissioner Becker asked Mr. Mathewson to go over the lines in the change order and explain what these are. Mr. Mathewson said line item # 1 is a \$2,000.00 deduction for taking content and turning them to graphics, line item # 2 is production and installation of the signs, pictures, murals and interpretive signs in the building. Commissioner Becker asked if that would include the wall of commissioners? Mr. Mathewson responded that that is correct, he continued, line item 3 is a continuation of signs including the exterior signs, and he said that there was no indication of what the district wanted and that Compass has constructed the monument but will not provide the sign. Line item 4 are the section signs that one was \$20,945.25. Commissioner Becker asked how come that can't be done? Mr. Mathewson responded that it is an element that is not needed to finish the work and needs further design and costs, the media specialty sign for the classroom, the marquee, that Mr. Weaver discussed earlier... Commissioner Becker asked didn't we pick one of those out in the meeting? Mr. Mathewson shook his head no, Commissioner Becker continued has this been ordered, Mr. Mathewson responded "no". Mr. Mathewson continued, the media installation scope is hanging the media on the walls, The last item is the hardware for

mounting the graphics. Commissioner Becker asked that Compass is taking everything on the wall so it is easier or is there some stuff Compass is putting up and some stuff the district is putting up? Mr. Mathewson responded that Compass is not putting anything up but life safety signs. Chairperson Moeller said that Compass does not want to do anything to do with media, Commissioner LeBlanc said they just want to do the building. Commissioner Becker asked if Compass was going to do the mosquito out front. Mr. Mathewson said that Compass has nothing in the drawings about the foundation requirements and that would not be a part of Compasses scope. Commissioner Becker asked what about the garden area? Mr. Mathewson responded Compass was still doing that and continued that every major component on the outside will be done. Commissioner LeBlanc asked the total amount to be refunded? Mr. Mathewson responded \$63,431.48. Commissioner LeBlanc said that seems like a small amount and that the district will have to come up with quite a bit of money. Chairperson Moeller said that was why we are at an impasse. Commissioner Becker said that is why Harrell Construction said the price was too cheap when we had the discussion with all the contractors. Chairperson Moeller asked if there were more questions then asked Mr. Weaver, if we need a base for the mosquito sculpture, shouldn't that be part of Compasses contract? And that was not discussed in our meeting and I don't want Compass to pick and choose what they are going to do. Mr. Mathewson said that was not a part of the Compass scope. Mr. Weaver said that the sculpture was an allowance item but it was pretty obvious that the contractor would be responsible for attaching it and let me make this clear overall Compass under bid the project by \$500,000.00, at least, and they are back tracking and Compass can say whatever, they can say AMCD didn't do this or do that, it's AMCD's fault, it's not on the drawings, that's all fine but the reality is Compass can't afford to finish the job. Chairperson Moeller asked if Mr. Flowers if he had any more comments, he replied no. She asked if there were any other comments from the Board. Commissioner LeBlanc said the district needs to sign the agreement and move forward. Commissioner Becker asked; besides all the media stuff the rest of the building was on track and the district will be able to work with Compass? Mr. Mathewson replied "yes". Chairperson Moeller asked Commissioner Gardner if she had any comments, she asked how much in change orders the district has had. Mr. Mathewson responded that Compass had issued change orders in the amount of negative \$388,705.61 plus this change order. Commissioner Becker said the amount can be found on the second page of the change order, Mr. Mathewson said that number includes the positives. Mr. Weaver said that he just did a quick calculation and the positive change orders are at about \$87,000.00 so far, he continued, \$50,000.00 was cabinetry and some of these change orders have not been signed yet because of disputes but if the Board wants to move forward the district will have to bite the bullet and spend money because again, Compass bid to low. Mr. Weaver gave an example using insect boxes to explain how Compass ended up with low-cost points for display items. Mr. Weaver then talked again about being at an impasse with Compass and having to hire a contractor consultant to help with change orders and RFI's and even after the consultant sees issues with CO's and RFI's there is no compromise form Compass. Chairperson Moeller said it is apparent that the Board needs to move on. She went on to say, Dr. Xue and Mr. Weaver have drafted two motions "Allow staff to negotiate and attorney to review a detailed version of the Compass Change Order #024 removing most media from scope for a reduction in the Compass contract of \$63,431.48", Chairperson Moeller then said, that is my motion do I have a second? Commissioner Becker asked that the second motion be read, or reread the first motion. Chairperson reread the first motion. Chairperson Moeller reminded the Board that there are four commissioners at the table and asked for a second. Commissioner Becker asked Mr. Mathewson if the Board passed the motion and relived Compass of this obligation the Board will not get a letter from a lawyer asking for more money? Mr. Mathewson replied that it is a "no harm" change order, Compass will finish the building and get the CO. Commissioner asked if Compass was still doing the benches? Mr. Mathewson said

that was a fixed item. Commissioner Becker asked about bathroom signs, Mr. Mathewson responded that for a certificate of occupancy he has to have those signs, Commissioner Becker continued asking if the cracker house will still be built by Compass, Mr. Mathewson replied that that is actual construction. Chairperson asked the Board if there were any other questions and asked for a second. Commissioner Becker seconded. Chairperson Moeller called the question

**A. A motion was made “Allow staff to negotiate and attorney to review a detailed version of the Compass Change Order #024 removing most media from scope for a reduction in the Compass contract of \$63,431.48”**

- Motioned by: Chairperson Jeanne Moeller
- Seconded by: Commissioner Trish Becker
- VOTE: Accepted unanimously by all commissioner’s present

**MOTION PASSED UNANIMOUSLY**

➤ Chairperson Moeller read the second motion, “Allow AMCD staff to hire the necessary contractors to complete the scope of work removed from the Compass contract”. Commissioner Becker asked if this was so the staff can put out and RFP, Chairperson Moeller said it would be an RFQ and asked Mr. Weaver if it would be an RFQ. Mr. Weaver said staff would put out RFQ’s, he felt this was okay and pointed that the Board made policy and can do what it wants, he said the plan was to do a request for quotes and chose the lowest qualified contractor and then asked Mr. Flowers if that was okay. Mr. Flowers responded that that would satisfy procurement requirements. Chairperson Moeller said that the Board has the right to hire whoever it wants and do not have to go with the lowest bid and that is in Chapter 388, she then called for a second. Commissioner LeBlanc seconded the motion, Chairperson Moeller called the question

**B. A motion was made “Allow AMCD staff to hire the necessary contractors to complete the scope of work removed from the Compass contract”**

- Motioned by: Chairperson Jeanne Moeller
- Seconded by: Commissioner Gina LeBlanc
- VOTE: Accepted unanimously by all commissioner’s present

**MOTION PASSED UNANIMOUSLY**

**REPORTS:**

1. **Director** ~ Dr. Xue reported: Employees attended the DODD short course, employees volunteering for the AMCA meeting, the DC legislation meeting will be in middle of Maury. Chairperson asked Dr. Xue now that Doug Carlson has retired who is in charge of DC team? Dr. Xue replied Chris Lesser.
2. **Attorney** ~ Mr. Flowers; No report this month.

**COMMISSIONER COMMENTS:**

**Commissioner Gardner** ~ None.

**Commissioner LeBlanc** ~ Thanks to staff, lot of work ahead and thanks to Tayler and Olivia for judging the science fair.

**Commissioner Becker** ~ Thanked Mr. Weaver, and said she saw the metal sculpture and it is looking good (Mr. Weaver gave the Board a picture to pass around). Thanked Mr. Smith for amazing work especially during the fly-in. Fly-in was a good event, DODD was really good and she presented in the commissioner caucus, she noted that AMCD should attend the cat seminar, downtown, and talk about heart worms, she asked permission for her to represent AMCD and ask for proclamations from the local government Boards.

**Commissioner Moeller** ~Thanks staff, she understands there will be more work, she talked about the Compass meeting and her opinions on the deal and that AMCD will get a better job without Compass and that Compass will not nickel and dime AMCD with change orders. She also said she doesn't want shoddy materials and that Compass is very ridged and there is no compromise. She said they still need talking points from FMCA legislative committee for the lobbyist, she also talked about the drone bill pending in the legislator.

Chairperson Moeller asked if there were any more comments, Commissioner Becker asked if anyone had heard from Commissioner Brandhorst, a discussion ensued and it was decided that AMCD staff would do a safety check on Commissioner Brandhorts and report back to the Board members. Mr. Flowers was asked if he had sent a letter to Commissioner Brandhorts and Mr. Flowers confirmand he had.

**ATTACHMENTS:** ~

1. *None*

**ADJOURNMENT:**

Chairperson Moeller adjourned the meeting at 7:31 P.M.

**ATTEST**

\_\_\_\_\_  
**Chairperson, Commissioner Jeanne Moeller**

\_\_\_\_\_  
**Secretary/Treasurer, Commissioner Gayle Gardner**

*These minutes are not intended to be a verbatim transcript of this meeting and could easily be misinterpreted by a reader who was not present. To obtain a full and accurate record of the meeting, an individual should view/listen to the entire proceedings via the District's DVD visual/recording system.*



Anastasia Mosquito Control District  
**Services & Software License Agreement**

This Services & Software License Agreement is entered into on the date last written below, by and between MosquitoMate, Inc., with an address of 2520 Regency Road, Lexington, Kentucky 40503 (“MMI”) and the Anastasia Mosquito Control District, with an address of 120 EOC Drive, St. Augustine, FL 32092 (“District”), together “the Parties.”

**RECITALS**

A. MMI and District represent and warrant that they have the authority to enter into this Agreement.

B. District desires to mass rear and release mosquitoes and monitor mosquito populations, collect the mosquitoes using the TRACKER and APPLICATOR software, together “MMI Software”.

C. MMI desires to provide MMI Software, Services and Materials to the District.

D. MMI desires to grant District with a limited license to use the MMI Software in conducting District’s baseline studies.

**1. DEFINITIONS**

- (a) “Authorized User” means any employee, independent contractor, or other individual providing the Services for or on behalf of District.
- (b) “Licensed Software” means “MMI Software”, together with any updates provided to District.
- (c) “Materials” means any and all manuals, instructions, training notes, and other documents MMI provides or makes available to District in any form or medium which describes the functionality, components, features, or requirements of Licensed Software, including any aspect of the installation, configuration, integration, operation, use, support, or maintenance thereof. “Materials” also includes any eggs, reagents and equipment provided by MMI to the District in support of the Services.

**2. TERM**

The Term of this Agreement shall be for twelve (12) weeks from April 4, 2022 to July 4, 2022, unless extended by mutual agreement.

**3. GOODS / SERVICES**

This Agreement is for the following (collectively, “the Services”):

- A. MMI will provide the Services to the District at no cost as part of a ‘free trial pilot test.’ At the end of the Term, the District and MMI will negotiate in good faith about entering into a paid service agreement for MMI Software, eggs, equipment and/or supplies. Neither the District or MMI are obligated to enter into an additional agreement, either paid or otherwise.
- B. During the Term, District will conduct baseline studies using MMI Software, Services and Materials, including eggs, reagents, equipment at its facilities. District shall be solely responsible for any issues that may arise in connection with its studies at the various sites, including property damage and landowner disputes.
- C. District will use its own facilities, including computers, iOS devices, Mosquito Traps, batteries, CO2 units and shipping containers.
- D. MMI will provide District with limited access to Licensed Software and tags for purposes of organizing District’s findings, and it will provide at least two training sessions for District on how to use the software. District is limited to using Licensed Software as provided in Section 4 of this Agreement.
- E. District will meet with and provide feedback to MMI at least twice during the Term. All shipping costs, including losses related to shipping, are the sole responsibility of District.
- F. MMI will oversee and manage data collection relevant to its development of mosquito mitigation plans in District. Data will be entered into the Licensed Software and thereby be available to registered software users through the Licensed Software’s reporting and export features.
- G. To use the Service, the District must establish one or more user accounts. The District is solely responsible for the security and confidentiality of user account passwords. The District is also responsible for all activities or actions exercised by District user accounts, and the District should immediately notify MMI if the District learns of any unauthorized use of a District account. MMI reserves all rights to delete user accounts (and all associated content) at MMI’s sole discretion.
- H. Upon request, MMI will provide District with a post-project debriefing of the data via a form of electronic media agreeable to both Parties. The Parties acknowledge that the debriefing will likely occur after the Term of this Agreement.

#### **4. LIMITED LICENSE TO USE SOFTWARE**

##### **A. Grant and Scope of License**

The Parties acknowledge that MMI is the entire legal and beneficial owner of Licensed Software. Without limiting the foregoing, MMI grants District a non-sublicensable and non-transferable limited license to use Licensed Software solely for the purpose of performing the

Services during the Term, subject to the requirements in this Section 4.

District may install, use, and run copies of Licensed Software on as few computers, including portable iOS devices (i.e., Apple iPhones, iPads) as necessary to perform the Services. District may grant Authorized Users with remote access to use Licensed Software from a portable electronic device through an application MMI will make available to District pursuant to this Agreement.

#### B. Use Restrictions

Except as otherwise permitted in this Agreement, District shall not, and shall not permit Authorized Users to:

- (a) copy Licensed Software, in whole or in part;
- (b) rent, lease, lend, sell, sublicense, assign, distribute, publish, transfer or otherwise make available the Licensed Software to any person or entity;
- (c) bypass or breach any security device or safeguard used for or contained in the Licensed Software;
- (d) modify, correct, adapt, translate, enhance or otherwise prepare derivative works or improvements of Licensed Software;
- (e) use the Licensed Software in any manner or for any purpose that infringes, misappropriates, or otherwise violates any intellectual property right or that violates any applicable law;
- (f) use the Licensed Software for purposes of: (i) benchmarking or competitive analysis of the Licensed Software; (ii) developing, using, or providing a competing software product or service; or (iii) any other purpose that is to MMI's detriment or commercial disadvantage; or
- (g) use Licensed Software other than as permitted in this Agreement or for any purpose or application not expressly permitted by this Agreement.
- (h) The Service, including the MMI Software and Materials used to implement the Service, may be protected by copyright, trademark, applicable intellectual property and other laws. These terms do not grant you the right to use any trademarks, branding, or logos used in our Service. No portion of the Service may be reproduced in any form or by any means, except as expressly permitted in the Service.

#### C. Effect of Termination on License

Once this Agreement terminates for any reason, including expiration of the Term, District shall immediately cease all access to and use of Licensed Software and Materials. In addition, District shall permanently delete and/or destroy and cause all Authorized Users to permanently

delete and/or destroy all physical and electronic copies of the Materials in District's possession or control. District shall also delete and cause all Authorized Users to delete from all electronic devices any and all applications that allow access to Licensed Software. In addition, the District shall return any MMI Materials that were provided by MMI to conduct the Services. The District will retain the mosquito-related data that results from the Services.

## **5. TERMINATION**

### **A. Without Cause**

This Agreement may be terminated for any reason or no reason by either Party upon thirty (30) days' written notice to the other Party at the addresses set forth herein.

### **B. Termination for Breach**

Either Party may terminate this Agreement upon breach by the other Party of any material provision of this Agreement, provided such breach continues for fifteen (15) days after receipt by the breaching Party of written notice of such breach from the non-breaching Party.

### **C. Effect of Termination**

Termination by either Party without cause or for breach relieves the Parties of all obligations under this Agreement, except Section 4B shall survive termination until District deletes and/or destroys, and causes Authorized Users to delete and/or destroy, all applications that allow access to Licensed Software. All Materials will be returned to MMI. The District will retain the mosquito-related data that results from the Services.

## **6. MISCELLANEOUS**

### **A. Independent Status**

MMI is, for all purposes arising under this Agreement, independent. MMI and its officers, agents, or employees shall not, under any circumstances, hold themselves out to anyone as being officers, agents, or employees of District. No officer, agent, or employee of MMI or District shall be deemed an officer, agent, or employee of the other Party. Neither MMI or District, nor any officer, agent, or employee thereof, shall be entitled to any benefits to which employees of the other Party are entitled, including, but not limited to, overtime, retirement, benefits, workers compensation benefits, injury leave, or other leave benefits.

### **B. Assignment**

Neither MMI nor District may assign or transfer any interest in this Agreement without the prior written consent of both Parties. Should an assignment occur upon mutual written consent, this Agreement shall inure to the benefit of and be binding upon the Parties hereto and their respective heirs, representatives, successors, and assigns.

### **C. Severability**

The Parties recognize and agree that should any clause(s) herein be held invalid by a Court of competent jurisdiction, the remaining clauses shall not be affected and shall remain of full force and effect.

D. Waiver

A waiver by either Party of a breach or failure to perform hereunder shall not constitute a waiver of any subsequent breach or failure to perform.

E. Indemnification, Governing Law, & Venue

District shall indemnify and hold harmless MMI from and against any and all claims, liabilities, damages, and expenses, including, without limitation, reasonable attorneys' fees, incurred by MMI in defending or compromising actions brought against it arising out of or related to the acts or omissions of District, its agents, employees, or officers in the provision of the Services or performance of duties by District pursuant to this Agreement.

This Agreement shall be construed in accordance with the laws of the State of Kentucky. Any dispute arising hereunder is subject to the laws of Kentucky, venue in Fayette County, Kentucky.

F. Notices

All notices required by this Agreement shall be in writing, delivered personally, by certified or registered mail, return receipt requested, or by Federal Express or Express Mail, and shall be deemed to have been duly given when delivered personally or when deposited in the United States mail, postage prepaid, addressed as follows:

**To District:**

120 EOC Drive, St. Augustine, FL 32092

**To MMI:**

Stephen Dobson, Ph.D., President  
MosquitoMate, Inc.  
2520 Regency Road  
Lexington, Kentucky 40503  
Tel: 859-488-1125  
Email: admin@mosquitomate.com

G. Entire Agreement

The Parties hereto agree that this is the final Agreement between the Parties and supersedes any and all prior Agreements and/or assurances, be it oral or in writing.

IN WITNESS WHEREOF, the Parties have executed this Agreement on this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

DISTRICT

MOSQUITOMATE, INC.

By: \_\_\_\_\_  
Name:

By: \_\_\_\_\_  
Name:



# Anastasia Mosquito Control District of St. Johns County

120 EOC Drive, St. Augustine, Florida 32092

PH: (904) 471-3107 • Fax (904) 471-3189 • Web Address: [www.amcdsjc.org](http://www.amcdsjc.org)

## 2022 MEMO

DISTRICT DIRECTOR

Dr. Rui-De Xue



BOARD OF COMMISSIONERS:

Jeanne Moeller, Chairperson

Trish Becker, Vice-Chairperson

Gayle Gardner, Secretary/Treasurer

Catherine Brandhorst, Commissioner

Gina LeBlanc, Commissioner

TO: Board of Commissioners

FROM: Dr. Rui-De Xue, Director

CC: Commissioners

DATE: Feb 28, 2022

RE: Approval of Commissioner Mrs. Moeller and three staff to attend the SOVE International Congress, Hawaii, September 18-22, 2022

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The 8<sup>th</sup> International Congress of SOVE has been postponed since 2020 due to COVID-19 pandemic. Commissioner Mrs. Moeller (invited) and Dr. Xue (SOVE Board member) plan to join the meeting. Dr. Whitney Qualls and Dr. Steve Peper plan to join the meeting also and they will use the DoD grant fund for the travel. Mrs. Moeller and Dr. Xue will use the District budget for the travel. The cost for hotel (4 nights), per diem and airline tickets will be about \$1,600 per person. Thanks.



# SOCIETY FOR VECTOR ECOLOGY

1295 E. Locust St., Ontario, CA 91761-4566 USA

Phone: (909) 635-0307, Fax: (909) 635-0405

E-mail: [mbrown@wvmvcd.org](mailto:mbrown@wvmvcd.org)

## BOARD MEMBERS - 2022

### PRESIDENT

STEVE MULLIGAN

### PRESIDENT-ELECT

ALEXANDRA CHASKOPOULOU, Ph.D.

### VICE-PRESIDENT

LYRIC BARTHOLOMAY, Ph.D.

### PAST-PRESIDENT

ISIK UNLU, Ph.D.

### EXECUTIVE DIRECTOR

MICHELLE BROWN, Ph.D.

### EXECUTIVE DIRECTOR EMERITUS

MAJOR S. DHILLON, Ph.D.

### REGIONAL DIRECTORS

#### SOUTHWESTERN

LAL MIAN, Ph.D.

#### NORTHWESTERN

BEN BEARD, Ph.D.

#### NORTH CENTRAL

NICOLE ACHEE, Ph.D.

#### SOUTH CENTRAL

STEVE PRESLEY, Ph.D.

#### NORTHEASTERN

DOUGLAS NORRIS, Ph.D.

#### SOUTHEASTERN

RUI-DE XUE, Ph.D.

#### EUROPEAN

FILIZ GUNAY, Ph.D.

#### BRAZILIAN

PAULO PIMENTA, Ph.D.

#### ASIAN

HONG-LIANG CHU, Ph.D.

#### INDIAN

ASHWANI KUMAR, Ph.D.

#### STUDENT

STEVEN LLOYD-JONES

### EDITORS

#### JOURNAL

MARC KLOWDEN, Ph.D.

ANNE KLOWDEN, Ph.D.

#### NEWSLETTER

LAL MIAN, Ph.D.

Jeanne J. Moeller

Chairperson

AMCD Board of Commissioners

120 EOC Drive

St. Augustine, FL 32092

February 14, 2022

Dear Mrs. Moeller

The 8<sup>th</sup> International Congress of the Society for Vector Ecology (SOVE) will be held on September 19-23, 2022, in Honolulu, Hawaii, USA.

The program consists of various disciplines of vector ecology. From time to time, we invite policy makers from agencies located in various parts of the globe to interact with scientists, students and public health officials. Therefore, your participation in this year's conference will be very valuable.

On behalf of the Society for Vector Ecology, I would like to extend an invitation to you for this conference. I hope that you can participate in the conference and share your experience with attendees. I look forward to your participation.

Sincerely,

Michelle Brown, PhD

Executive Director



# Anastasia Mosquito Control District of St. Johns County

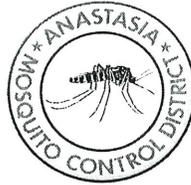
120 EOC Drive, St. Augustine, Florida 32092

PH: (904) 471-3107 • Fax (904) 471-3189 • Web Address: [www.amcdsjc.org](http://www.amcdsjc.org)

## 2022 MEMO

DISTRICT DIRECTOR

Dr. Rui-De Xue



BOARD OF COMMISSIONERS:

Jeanne Moeller, Chairperson

Trish Becker, Vice-Chairperson

Gayle Gardner, Secretary/Treasurer

Catherine Brandhorst, Commissioner

Gina LeBlanc, Commissioner

TO: Board of Commissioners

FROM: Dr. Rui-De Xue, Director

CC: Commissioners

DATE: Feb 28, 2022

RE: Approval of Commissioner Mrs. Becker and Mr. Richard Weaver to attend the AMCA's Washington DC legislation meeting, May 16-18, 2022

---

The AMCA DC legislation meeting will be held from May 16 to 18, 2022.

Commissioner Mrs. Becker and the FMCA Vice President Mr. Richard Weave plan to join the meeting. The cost for hotel (4 nights), per diem and airline tickets will be about \$1,200 per person. Total: \$2,400. Thanks.

**UNFINISHED  
BUSINESS #1**

## **CONSTRUCTION PROGRESS REPORT**

### **AMCD Sterilization Insect Technology Building**

for the period to February, 2022

#### **Civil Design Work completed**

#### **Civil Permitting Process**

Civil plans have been approved and we have received a site work permit.

Waiting to hear from St. Johns County Utility Department on Pre-con meeting date.

#### **Building Design**

#### **Building Permitting Process:**

Building Permit will be submitted this week (3/2/22).

We were waiting on receipt for water & sewer connection fees that were paid last week to complete permit application paperwork, which now has been received.

With building permit application being submitted this week, we are still on track to start a month ahead of schedule.

#### **Project Schedule Status:**

See attached schedule updated 2/28/22, (copy attached).

#### **Long Lead Items Report):**

PEMB has been delivered.

Stand by Generator schedule has been accelerated. Delivery projected in March. Have call in to confirm actually delivery date.



4185-200 Sunbeam Road Jacksonville, FL 32257  
Ph. (904) 739-5700 Fax (904) 739-5959  
"BUILT WITH QUALITY AND INTEGRITY"

**CONSTRUCTION PROGRESS REPORT**  
**AMCD Sterilization Insect Technology Building**  
for the period to February, 2022

**Tests & Inspection Reports:**

Water flow tests required for DRI process SJCUD.

Previously submitted to owner.

**Status Report of Work rejected by Owner:**

NONE

**Status of Claims previously submitted in accordance with Article 14:**

NONE



**UNFINISHED  
BUSINESS #2**

# Anastasia Mosquito Control District of St. Johns County

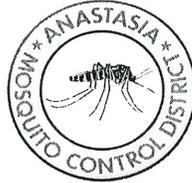
120 EOC Drive, St. Augustine, Florida 32092

PH: (904) 471-3107 • Fax (904) 471-3189 • Web Address: [www.amcdsjc.org](http://www.amcdsjc.org)

## 2022 MEMO

DISTRICT DIRECTOR

Dr. Rui-De Xue



BOARD OF COMMISSIONERS:

Jeanne Moeller, Chairperson

Trish Becker, Vice-Chairperson

Gayle Gardner, Secretary/Treasurer

Catherine Brandhorst, Commissioner

Gina LeBlanc, Commissioner

TO: Board of Commissioners

FROM: Dr. Rui-De Xue, Director

CC: Commissioners

DATE: Feb 28, 2022

RE: Summary report about AMCA annual meeting, Jacksonville, Feb 28-March 4, 2022

- 
1. Dr. Xue organized a symposium about AMCD benefits from collaborations for AMCA meeting with 11 presentations, of which 6 are from AMCD.
  2. Commissioner Mrs. Becker gives a presentation at the student competition.
  3. Dr. Xue received the medal of honor award (the highest award) from the AMCA.
  4. Dr. Xue has been elected as AMCA Vice President.
  5. Three Commissioners (Mrs. Moeller, Mrs. Becker, and Ms. Gardner, and 8 staff attend AMCA meeting).
  6. Eight staff are volunteers to assist AMCA/FMCA meeting.

AMCD hosts the facility tour of the visitors from the Pan African Mosquito Control Association, IVCC, groups from California, and industry representatives from Israel.

# **NEW BUSINESS**

# **#1**

# Anastasia Mosquito Control District of St. Johns County

120 EOC Drive, St. Augustine, Florida 32092

PH: (904) 471-3107 • Fax (904) 471-3189 • Web Address: [www.amcdsjc.org](http://www.amcdsjc.org)

## 2022 MEMO

DISTRICT DIRECTOR

Dr. Rui-De Xue



BOARD OF COMMISSIONERS:

Jeanne Moeller, Chairperson

Trish Becker, Vice-Chairperson

Gayle Gardner, Secretary/Treasurer

Catherine Brandhorst, Commissioner

Gina LeBlanc, Commissioner

TO: Board of Commissioners

FROM: Dr. Rui-De Xue, Director

CC: Commissioners

DATE: Feb 28, 2022

RE: Approval of moving May 12<sup>th</sup> Board meeting to May 5<sup>th</sup>, 2022

---

Commissioner Mrs. Becker requests for moving May 12<sup>th</sup> regular Board meeting to May 5<sup>th</sup> due to her conflicting schedule with others. Also, Dr. Xue requests for the possibility to move May 12<sup>th</sup> Board meeting to May 5<sup>th</sup> due to conflicting schedule with his Doctor appointment. Thanks.

Print

Close

**From:** Trish "The Commish" Becker (TBecker4AMCD@protonmail.com)  
**To:** rxue@amcdf.org  
**Subject:** Re: Proposed agenda for March 10's Board meeting

**Date:** Mon, 21 Feb 2022 18:28:54 +0000

---

Please add to the March Board meeting that I would like the Board to consider moving our May 12th meeting to May 5th.

I have been asked to be a panelist by the St. Augustine Film Society and Environmental group during their Pollinators screening, discussion, and community questions. This is a free event that draws a lot of people. (It is also my birthday)

## Trish Becker

Commissioner  
Anastasia Mosquito Control District  
[www.trishthecommish.com](http://www.trishthecommish.com)  
She/Her



Please note that Florida has a broad public records law (Chapter 119, Florida Statutes). Most written communications to or from state employees are public records which are obtainable by the public upon request. Emails sent to me at this email address may be considered public and will only be withheld from disclosure if deemed confidential pursuant to the laws of the State of Florida.

Sent with [ProtonMail](#) Secure Email.

----- Original Message -----

On Sunday, February 20th, 2022 at 5:23 PM, Dr. Rui-De Xue <rxue@amcdf.org> wrote:

Dear Commissioner / Chairperson Mrs. Moeller:

Following collected items will be proposed for March 10 Board meeting agenda. If you and other Board members have any inputs and correction, please let me know. Due AMCA meeting in the 1st week of March, we will prepare for the documentations and make the board books early and plan to delivery the board books on March 4 at noon.

Thanks & best regards,

Rudy Xue, Ph.D.  
Director

Proposed agenda for March 10 at 5pm Board meeting

Consent items:

1. Treasurer report
2. Cancelled checks
3. Chemical inventory
4. Minutes of Feb 10 board meeting
5. Agreement between MosquitoMate and AMCD about software usage
6. Commissioner Mrs. Moeller attending SOVE meeting in September
7. Commissioner Mrs. Becker attending DC legislation meeting in May

# **NEW BUSINESS**

## **#2**

THE 17<sup>TH</sup> ARBOVIRUS SURVEILLANCE  
AND MOSQUITO CONTROL WORKSHOP IN CONJUNCTION WITH THE NECE  
EQUIPMENT/TECHNOLOGICAL DEMONSTRATION  
AND THE FMCA'S NE REGIONAL MEETING  
(18 CEU's)

Sponsored by AMCD, USDA/CMAVE & FMCA

Being held at AMCD's New Complex at:  
120 EOC Drive, St. Augustine, Florida, 32092

MARCH 29-MARCH 31, 2022

[www.amcdsjc.org](http://www.amcdsjc.org)

PROGRAM AGENDA (Tentative)

TUESDAY, MARCH 29, 2020

7:30am Registration ... AMCD Staff

PANEL SESSION:

Moderator: Dr. Rui-De Xue, Executive Director, AMCD, St. Augustine, FL

8:05am Welcome & Introduction ... Mrs. Jeanne Moeller, Chairperson, AMCD's Board of Commissioners; Dr. Ken Linthicum, Center Director, USDA/CMAVE, and Mr. Chris Lesser, President of the FMCA

8:10am **KEYNOTE SPEAKER:** Update on mosquito-borne arbovirus diseases in the U.S.A. ... Dr. Lyle Petersen, Director, Division of Vector-borne Diseases, CDC, Ft. Collins, CO

8:40am **KEYNOTE SPEAKER:** New insecticides and repellents for mosquito control ... Dr. Jeffrey R. Bloomquist, Term & UF Research Foundation Professor, Department of Entomology and Nematology, Emerging Pathogens Institute, University of Florida, Gainesville, FL

9:10am **GUEST SPEAKER:** Overview of the IVCC for vector control product development ... Dr. Jason Richardson, Technical Manager, IVCC, Liverpool, UK

9:40 A.M. - BREAK

GERNAL SESSION:

Moderator: Dr. Ken Linthicum, Center Director, USDA/CMAVE, Gainesville, FL

10:00am ATSB and bait stations for control of malaria vector mosquitoes in Mali ... Dr. Gunter Muller, Professor, Malaria Research & Training Center, University of Bamako, Mali & Hebrew University, Israel

10:20am Natural repellents for textiles and paint for walls in the frame of COST Action CA 16227 ... Dr. Ana M. Grancaric, Professor, Prilaz Baruna Filipovica, Croatia

10:40am Knowledge, perceptions, and practices of mosquito larval source management in discarded vehicle tires among New Orleans residents... **Dr. Imelda K. Moise, Assistant Professor, University of Miami, Miami, FL and Dr. Claudia Riegel, Director, New Orleans Mosquito and Vector Control District, New Orleans, LA**

- 11:00am Overview of nanotechnology for repellent against mosquitoes ... **Dr Peyman Ghaffari, Chair of COST Action CA 16227 (IMAAC) [www.cost.eu/actions/CA16227](http://www.cost.eu/actions/CA16227) & Center for Mathematics, Fundamental Applications and Operations Research (CMAF-CIO), Faculdade de Ciências da Universidade de Lisboa, Campo Grande, 1749-016. Lisboa / Portugal**
- 11:20am Overview of vector-borne diseases in Texas.. **Dr. Steven M Presley, Professor & Director, The Institute of Environmental and Human Health, Texas Tech University, Lubbock, TX**
- 11:40am Charting a course for metagenomic xenosurveillance in vector-borne disease surveillance and control... **Dr. Rhoel R. Dinglasan, Professor and Director, CDC Southeastern Center of Excellence for Vector-borne Diseases, University of Florida, Gainesville, FL**
- 12:00pm New products from UNIVAR for 2022 ... **Mr. Jason E. Conrad, Industry Specialist, Veseris**

12:10 PM - LUNCH BREAK (in the Helicopter Hangar) (provided by Veseris)

PROGRAMS & ASSOCIATIONS:

**Moderator: Mr. Chris Lesser, President of the FMCA and Director, Manatee MCD, FL**

- 1:10pm Overview of USDA/CMAVE programs ... **Dr. Kenneth Linthicum, Center Director, USDA/CMAVE, Gainesville, FL**
- 1:30pm The Deployed Warfighter Protection Program and DoD pest management research and the Deployed Warfighter Protection (DWFP) program ... **LTC Michelle Colacicco-Mayhugh and Dr. Gabriela Zollner, Armed Forces Pest Management Board, Silver Spring, MD (virtual)**
- 1:50pm Overview of Lee County Mosquito Control District's programs ... **Dr. David Hoel, Executive Director, LMCD, Ft. Myers, FL**
- 2:10pm The Florida DACS mosquito control program update ... **Ms. Marah Clark, Environmental Administrator, Entomology and Pest Control Section, DACS, Tallahassee, FL**
- 2:30pm Overview of DACS/DPI Bureau of Entomological program ... **Dr. Leroy Whilby, Chief, Bureau of Entomology, Nematology, and Plant Pathology, DACS/DPI, Gainesville, FL**
- 2:50pm Update on the FMCA ... **Mr. Chris Lesser, President of the FMCA**
- 3:05pm Update on the AMCA ... **Mr. Dennis Walette, President of the AMCA**
- 3:20pm Update on the SOVE ... **Dr. Michell Brown, Executive Director of the SOVE**
- 3:35pm AMCD's sentinel chicken for arbovirus surveillance ... **Dr. Steven Peper, Molecular Entomologist, AMCD, St. Augustine, FL**
- 3:50pm The Northwest Florida Mosquito Control Workshop... **Dr. John Smith, Public Health Entomological Service, LLC and Beach Mosquito Control District Commissioner, Panama City, FL**

4:10 P.M. - BREAK

## DISEASE SURVEILLANCE:

- Moderator: Dr. Michael Turell, Senior Arbovirologist (retired), US Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD
- 4:20pm The Rift Valley fever virus, risks and dangers to Americas ... Dr. Michael Turell, Senior Arbovirologist (retired), US Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD
- 4:40pm Update on the Keystone virus in Florida ... Dr. J. Glenn Morris, Jr. Professor & Director, Emerging Pathogens Institute, UF, Gainesville, FL
- 5:00pm Automated real time collection & high-fidelity identification of vectors ... Dr. Nathan Burkett-Cadena, Association Professor, University of Florida, Florida Medical Entomology Laboratory, Vero Beach, FL
- 5:20pm 2021 Arbovirus surveillance report in Florida ... Dr. Andrea Morrison, Vector-borne Disease Surveillance Coordinator, Bureau of Epidemiology, DOH, Tallahassee, FL
- 5:40pm The importance of product rotation, a story about catch basins, bicycles, *pipiens*, and *sphaericus*...**Dr. Gregg White, Assistant Director/Vector Ecologist, Salt Lake City Mosquito Abatement, Salt Lake City, UT**
- 6:00pm End of session
- 6:10pm DINNER & LECTURE (HELICOPTER HANGAR) (ALL PARTICIPANTS): Overview of AMCD aerial program ... Mr. Dana Smith, Chief Pilot/Aviation Manager, AMCD, St. Augustine, FL

## WEDESDAY, MARCH 30, 2022

### BIOLOGY & ECOLOGY:

- Moderator: Dr. Jerry Hogsette, Lead Scientist & Research Entomologist, USDA/ARS/CMAVE, Gainesville, FL
- 8:20am Consumption of endemic arbovirus mosquito vectors by bats in the southeastern United States ... Dr. Eva Buckner, Assistant Professor & State Extension Specialist, UF/IFAS Florida Medical Entomology Laboratory, Vero Beach, FL
- 8:40am Insights on *Aedes aegypti* biology from comparative genomics ... Dr. Derrick Mathias, Assistant Professor, University of Florida/IFAS/FMEL, Vero Beach, FL
- 9:00am Surveillance and control efforts of *Aedes aegypti* in West Valley, California ... Dr. Michelle Brown, General Manager, West Valley Mosquito and Vector Control District, CA.
- 9:20am Spatial patterns of arbovirus transmission in Northeastern Florida ... Dr. Lindsay O. Campbell, Assistant Professor, UF/IFAS/FMEL, Vero Beach, FL
- 9:40am The re-emergence of *Ae. aegypti* in the North-Central Florida ... **Dr. Peter Jiang, Gainesville Mosquito Control, FL, George Deskins, Sandra Fisher-Grainger.**

### 10:00 A.M. - BREAK

## ATTRACTANT / TRAP / REPELLENT:

Moderator: Dr. Daniel Kline, Research Entomologist, USDA/CMAVE, Gainesville, FL

- 10:20am Final testing of an attract and kill device for stable flies ... Dr. Jerry Hogsette, Lead Scientist & Research Entomologist, USDA/ARS/CMAVE, Gainesville, FL
- 10:40am Update on repellents for skin and clothing ... Dr. Ulrich Bernier, Research Scientist (retired), USDA/ARS/CMAVE, Gainesville, FL
- 11:00am A comparison of flying biting arthropod collections obtained from Dynatrap's DT160 traps equipped with regular and fine mesh catch baskets. **Dr. Daniel L. Kline, Research Entomologist, USDA/CMAVE, Gainesville, FL and Karen McKenzie**
- 11:20am Evaluation of spatial repellents against *Aedes aegypti* mosquitoes ... Dr. M. Farooq, Field Biologist, AMCD, St. Augustine, FL
- 11:40am Comparison of AGO & In2Care traps for control of *Aedes* mosquitoes ... Mrs. Dena Autry, Supervisor, AMCD, St. Augustine, FL
- 11:50pm New products and technology from ADAPCO for 2022 ... Mr. Chris Pederson, ADAPCO, Sanford, FL

12:00 P.M. - LUNCH BREAK (provided by ADAPCO & FMCA)

THE FMCA'S NORTHEAST REGIONAL ROUNDTABLE MEETING ... Mr. Alden Estep, FMCA's NE Regional Director

## LARVAL & ADULT CONTROL:

Moderator: Dr. Whitney A. Qualls, Entomologist/Scientific Manager, AMCD, St. Augustine, FL

- 1:00pm Operational sterile male releases in St. Augustine ... Dr. Daniel A. Hahn, Professor, Department of Entomology & Nematology, University of Florida, Gainesville, FL, Chao Chen, Ken Linthicum, Seth Britch, and Bob Aldridge, Vindhya Aryaprema, Rui-De Xue, Whitney Qualls
- 1:20pm Field evaluation of *Wolbachia* infected male mosquitoes against natural populations of *Aedes albopictus* and *Aedes aegypti* ... Dr. Stephen Dobson, Professor, Department of Entomology, University of Kentucky & MosquitoMate, Inc. Lexington, Kentucky
- 1:40pm Automated sex sorter and mass release technology for SIT mosquitoes ... Mr. Ralph Breslauer, CEO, Senecio, St. Augustine, FL
- 2:00pm Aerial capability for mosquito control in Florida ... Mr. Mark Latham, Retired Director, Manatee County Mosquito Control District, Palmetto, FL
- 2:20pm Collier Mosquito Control District: UAS program overview ... Mr. Peter Brake, Director of Technical Development, Collier Mosquito Control District, Naples, FL
- 2:40pm Applying remote sensing techniques to advance mosquito control methods...Dr. **Kyndall Braumuller** & Dr. Melissa Nolan, Assistant Professor, University of South Carolina, SC.
- 3:00pm MGK's new products for mosquito control ... Dr. Jennifer Williams, Entomologist, MGK, MN

3:10 P.M. - BREAK

INSECTICIDES AND RESISTANCE:

Moderator: Dr. J.R. Bloomquist, Professor, Department of Entomology and Nematology, EPI, University of Florida, Gainesville, FL

- 3:20pm Evaluation of nanoparticle formulation of mosquito adulticides ... Mr. Kai Blore, Ph.D. Student /Biological Technician, AMCD, St. Augustine, FL
- 3:40pm Quantitative Air Sampling and Analysis to Determine Airborne Transfluthrin Concentrations ... Dr. Bradley Jay Willenberg, Assistant Professor of Medicine. Department of Internal Medicine, University of Central Florida College of Medicine, Orlando, FL
- 3:55pm Laboratory and semi-field evaluation of the L1014F *kdr* mutation in field collected *Culex quinquefasciatus* ... Dr. Neil Sanscrainte, Molecular Biologist, & Alden Estep, Research Entomologist, USDA/CMAVE, Gainesville, FL
- 4:10pm Differential toxicity of insecticides to *Apis mellifera* and *Aedes aegypti* ... Dr. Roberto Pereira and Dr. Phil Koehler, UF/Dept. of Entomology, Gainesville, FL
- 4:25pm Botanical insecticide update... Dr. Ed. Norris, Research Chemist, USDA/CAMVE, Gainesville, FL
- 4:40pm Metabolic resistance in permethrin-resistant Florida *Aedes aegypti* ... Ms. Sierra M. Schlupe. LTJG, Navy Entomology Center of Excellence, Jacksonville, FL.
- 4:55pm Getting real with resistance: Applying lab testing results to field operations .. Mr. Alden Estep, Research Entomologist, USDA/CMAVE, Gainesville, FL

5:10 P.M. END OF SESSION

THURSDAY, MARCH 31, 2022

OTHER PROGRAM:

Moderator: Dr. Ary Faraji, Director, Salt Lake City Mosquito Control Abatement, Salt Lake, UT

- 8:00am Good laboratory practice (GLP) in mosquito control product evaluations ... Dr. Karl Malamud-Roam, Vector Control Consultants, CA
- 8:20am Research program overview from Salt Lake City Mosquito Control Abatement ... Dr. Ary Faraji, Director/ Entomologist, Salt Lake City Mosquito Control District, Salt Lake, UT
- 8:40am Streamlining Brevard County Mosquito Control operations from the ground up ... Mr. Joseph M. Faella, Director, Michael Buono, Steven Whitt, Jonathan Koagel and Jonathan Linder, Brevard Mosquito Control District, Titusville, FL
- 9:00am Control of *Aedes aegypti* on Captiva Island in Lee County... Ms. Rachel Morreale, Lee County Mosquito Control District, Ft. Myers, FL
- 9:20am Field evaluation of wind conditions and their effects on female mosquito flight activity. Dr. Neil J. Vickers, Professor & Co-Director, School of Biological Sciences, University of Utah. Salt Lake City
- 9:40am AMCD's education center and SIT facility ... Mr. Richard Weaver, Business Manager, AMCD, St. Augustine, FL

10:00 A.M. - BREAK

- 10:20am Surveillance report of the populations of *Aedes albopictus* and *Aedes aegypti* in St. Johns County, FL ... Mr. Steven T. Smoleroff, Biotech, and Dr. Rui-De Xue, Director, AMCD, St. Augustine, FL
- 10:30am AMCD collaboration project update ... Dr. Whitney Qualls, Entomologist/Scientific Manager, AMCD, St. Augustine, FL
- 10:50am Reassessing the host associations of the *Culex flavivirus* vectors ... Dr. Lawrence E. Reeves, Assistant Professor, University of Florida/FMEL, Vero Beach, FL
- 11:10am Survey report about decision-making action thresholds ... Dr. Vindhya Aryaprema, Biologist, AMCD, St. Augustine, FL
- 11:20am Arbovirus surveillance using mosquito pooling .. Ms. Heather Ward, Biological Tech, AMCD, St. Augustine, FL
- 11:30am Overview of UF/IFAS Extension projects about outreach ... Dr. Rebeca Baldwin, Associate Professor Department of Entomology & Nematology, UF/IFAS, Gainesville, FL
- 11:50pm New products from Central Life Sciences for 2022 ... Mrs. Kelly Deutsch, Central Life Sciences

**12:00 P.M. - LUNCH BREAK (provided by CENTRAL LIFE SCIENCES)**

- 1:00pm Industry equipment and drone demonstrations ..... Mr. Bill Reynolds, CEO, Leading Edge Associates, NC & Dr. James Cilek, NECE, Jacksonville, FL
- 2:00pm New technological demonstration, smart cage & droplet analysis ..... Dr. M. Farooq, AMCD, St. Augustine, FL & Dr. William Eisenstadt, Professor of University of Florida

# **NEW BUSINESS**

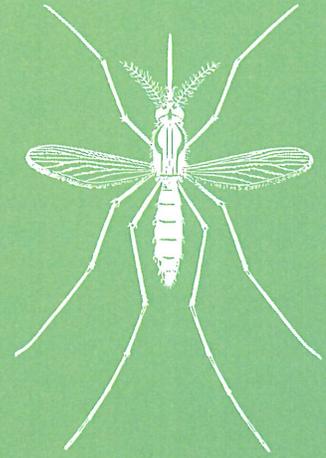
## **#3**

# ANASTASIA MOSQUITO CONTROL DISTRICT

OF ST. JOHNS COUNTY

**ANNUAL PROGRAM  
REPORT  
FOR 2021**

As an essential business AMCD  
continued all operations through the  
Covid-19 pandemic.



120 EOC Drive,  
St. Augustine,  
FL 32092

(904) 471-3107

[www.amcdsjc.org](http://www.amcdsjc.org)



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## Message from Chairperson of the Board of Commissioners

In 2021, our district continued to provide excellent service during the COVID-19 pandemic. The Board of Commissioners voted/awarded the Disease Vector Education building construction to Compass Group in March and voted/awarded the SIT building to Harrell Construction Company in August.

The Board voted to reduce the millage rate from 0.205 to 0.200. AMCD had a successful open house on April 1. The District received the Special District/Technology and Innovation/Citizenship Category award about the App software for the improvement of customer service from the AT&T Governmental Technology in November. Commissioner Trish Becker was elected as the FMCA Commissioner's section Secretary. Thanks dedicated employees for their hard work.



**Mrs. Jeanne Moeller**

## Message from The Director

There was no travel-related or locally-acquired mosquito-borne diseases in St. Johns County in 2021. St. Johns County residents have been free of any locally-acquired mosquito-borne diseases for 18 years. AMCD continued the DoD grant (2nd year) to study evidence-based decision action thresholds, CDC collaborative grant (2nd year) with the University of Florida to study smart sensors for mosquito adulticiding testing, and FDACS collaborative grants with UF about non-target and nanoparticle formulation (a Ph.D. student/Biotech project) of adulticides. AMCD finished the cooperative FDACS/CDC/DOH grant projects about SIT for *Aedes aegypti* control in downtown St. Augustine with UF and USDA/CMAVE. Mr. Dana Smith received the Special District/Technology and Innovation/Leadership award for his efforts to save over one million dollars to purchase two helicopters, and parts from military surplus from the AT&T Governmental Technology. Mrs. Kay Gaines received the FMCA's merit award and Mr. Richard Weaver was elected as the FMCA Vice President. I have been appointed as the National Association of City and County Health Officers (NACCHO)'s Vector Control Working Group member. I have also been elected as the American Mosquito Control Association (AMCA)'s Vice President and start March 1, 2022. I thank and appreciate the board, all employees, and collaborators for their strong support and help in 2021.



**Dr. Rui-De Xue**

## Board of Commissioners



**Mrs. Catherine  
Brandhort**  
Seat 1  
2021-2024

**Mrs. Jeanne Moeller**  
Seat 2  
2007-2022



**Mrs. Gina LeBlanc**  
Seat 3  
2017-2024



**Mrs. Panagiota K.  
"Trish" Becker**  
Seat 4  
2019-2022



**Mrs. Gale Gardner**  
Seat 5  
2021-2024



## Appointed Offices



**Mr. Wayne Flowers**  
Attorney Since: 11-9-10



**Ms. Julieann Klein**  
CPA Since: 9-11-03



**Dr. Rui-De Xue**  
Hired: 4-14-03  
Director Since: 2005

## Full Time Employees

**Johns Freddie  
Allen**



Mechanic  
7-08-2002 to Present

**Steven Kyle  
Arber**



Mosquito Control  
Technician  
5-01-2017 to Present

**Dr. Vindhya  
Aryaprema**



FT Grant Funded Term  
Limited Biologist  
8-05-2019 to 7-15-2023

**Dena Autry**



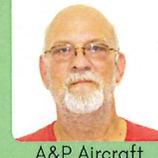
Supervisor of Operations  
8-24-2015 to Present

**Kai Blore**



Biological Lab  
Technician  
4-02-2019 to Present

**Ralph Bruner**



A&P Aircraft  
Mechanic  
9-03-2019 to Present

**Lea Bangonan**



FT Grant Funded  
Biological Technician  
6-03-2019 to Present

**Morgan Duett**



Mosquito Control  
Technician, Surveillance  
2-06-2017 to Present

**Dr. Muhammad  
Farooq**



Field Biologist  
9-16-2019 to Present

**Marcia Kay  
Gianes**



Operations Manager  
8-07-2000 to Present

**Scott Hanna**



Accountant/  
Chief Financial Officer  
7-03-2007 to Present

**Cathy Hendricks**



Mosquito Control  
Technician  
7-08-2002 to Present

**Jerry Iser**



Mosquito Control  
Technician  
2-02-2015 to Present

**Dr. Steven  
Peper**



Molecular  
Entomologist/Biologist  
3-23-2020 to Present

**Michael Phillips**



Pilot  
2-24-2020 to Present

**Dr. Whitney  
Qualls**



Entomologist/  
Scientific Manager  
10-28-2019 to Present

**Dana Smith**



Chief Pilot/  
Aviation Manager  
4-27-2020 to Present

**Steven  
Smoleroff**



Biological Technician  
10-02-2017 to Present

**Aye McKinney**



Accountant  
1-04-2021 to Present

**Rick Stockley**



Information  
Technology (IT)  
2-04-2013 to Present

**David  
Strickland**



Mosquito Control  
Technician  
3-10-1997 to Present

**Olivia Sypes**



FT Grant Funded Term  
Limited Biological  
Technician  
4-06-2020 to 7-15-2023

**Heather Ward**



Biological Technician  
4-27-2020 to Present

**Richard Weaver**



Business Manager  
4-14-2003 to Present

**Dazmond Hackney**



Mosquito Control  
Technician  
2-02-2021 to Present

**Jeremy Wohlforth**



Mosquito Control  
Technician  
2-06-2017 to Present

**James Wynn**



Mechanic  
3-04-1996 to Present

**Dr. Rui-De Xue**



Director  
4-14-2003 to Present

**Taylor Ballantyne**



Education Specialist  
10-4-2021 to Present

**Madeline Steck**



FT Grant Funded Term  
Limited Biological Technician  
10-01-2020 to 9-30-2022

## 2021 Resigned



**Allison Hartnett**  
Administration Assistant  
2-08-2021 to 4-20-2021



**Edward Zeszutko**  
Education Specialist  
5-13-2019 to 8-4-2021



**Courtney Cunningham**  
Mosquito Control Technician  
4-06-2020 to 8-6-2021

## Full Time Seasonal (6 month) Employees



**James Stockley**  
Inspector/Sprayer  
5-03-2021 to 7-24-2021



**Philip Vaughn**  
Inspector/Sprayer  
5-03-2020 to 10-29-2021



**Kyle Graham**  
Mosquito Control Technician  
5-03-2021 to 8-19-2021



**Jennifer Dentmon**  
Mosquito Control Technician  
5-17-2021 to 10-28-21

## Interns and Volunteers



**Alexis Middleton**  
AMCD Lab Intern  
5-3-2021 to 8-20-21



**Taylor Ballantyne**  
UF/AMCD Lab Intern  
4-26-2021 to 10-01-2021



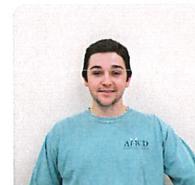
**Laryssa Fanney**  
AMCD Lab Intern  
5-10-2021 to Present



**Holly Usina**  
AMCD Lab Intern  
5-10-2021 to 11-24-2021



**Heather Keating**  
AMCD Administration Intern  
5-03-2021 to 9-24-2021



**Dylan Rodriguez**  
AMCD Lab Intern  
1-4-2021 to 5-18-2021



**Zachary Janszen**  
AMCD High School Volunteer  
Ponte Vedra High School  
6 week



**Ellie DeVault**  
AMCD High School Volunteer  
Ponte Vedra High School  
6 week



**Mira Schmidt**  
AMCD High School Volunteer  
Ponte Vedra High School  
6 week



**Genevieve Chaon**  
AMCD High School Volunteer  
Ponte Vedra High School  
6 week



**Jessica Baynocky**  
AMCD Lab Intern  
1-10-2021 to 3-20-2021

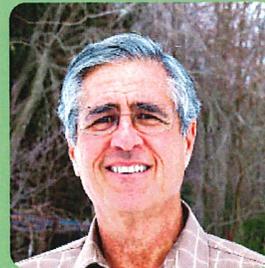
## Adjunct Professors



**Dr. Stephen Dobson**  
Adjunct Senior  
Entomologist  
March 2020



**Dr. Gunter Muller**  
Adjunct Senior  
Vector Entomologist  
October 2018



**Dr. Michael Turell**  
Adjunct Senior  
Arbivirologist  
October 2018

# Administration Personnel and Recognitions

## Personnel

Mr. Dazmond Hackney was promoted as a full time MCT and started February 2, 2021. Mrs. Aye McKinney was hired on as an accountant and started January 4, 2021. Ms. Taylor Ballantyne was hired on as the Education Specialist and started October 4, 2021. The grant funded, limited time, full time positions this year: Dr. Vindhya Aryaprema, Biologist (7-15-2023), Ms. Olivia Sypes, Biological Technician (7-15-2023), Ms. Madeline Steck, Biological Technician (9-30-2022), and Lea Bangonan, Biological Technician (12- 31, 2022).

The seasonal interns that worked for AMCD were: Ms. Jessica Baynocky (1-10-2021 to 3-20-2021), Mr. Dylan Rodriguez (1-4-2021 to 5-18-2021), Ms. Alexis Middleton (5-3-2021 to 8-20-2021), Ms. Taylor Ballantyne (4-26-2021 to 10-01-2021), Ms. Laryssa Fanney (5-10-2021 to Present), Mrs. Holly Usina (5-10-2021 to 11-24-2021).

Mr. Edward Zeszutko, Education Specialist and Ms. Courtney Cunningham, Mosquito Control Technician, resigned on August 6, 2021. Miss Allison Hartnett, Administration Assistant worked for 3 months.

## Recognitions and Awards

The following AMCD personnel received an award for their years of service with the District:

- Mr. James Wynn, Mechanic, 25 years

The Management Choice Award this year went to Mr. James Wynn, and Dr. Muhammad Farooq for their significant contributions and dedication to the District throughout the year. AMCD received the Citizen Service Award by use of the EMS App to improve service requests by the Governmental Technology, AT&T.

Mr. Dana Smith was given an award for his leadership, and saving AMCD money by purchasing military surplus helicopter parts. Mrs. Kay Gaines was given the Merit Award from FMCA.

Mr. Richard Weaver was elected as the FMCA Vice President. Dr. Rui-De Xue was elected as the AMCA Vice President.





## Committee Members 2021

### SAFETY COMMITTEE

Business Mgr. (Safety Coordinator)	Richard Weaver (Chair)
Operations Mgr.	Mrs. Marcia Kay Gaines
Supervisor	Mrs. Dena Autry
A&P Aircraft Mechanic	Mr. Ralph Bruner
Biological Technician	Mr. Steven Smoleroff
MC Technician, Surveillance	Mr. Morgan Duett
IT Specialist	Mr. Rick Stockley
Mechanic	Mr. John "Freddie" Allen
Molecular Entomologist	Dr. Steve Peper

### APPLIED RESEARCH COMMITTEE

Commissioner	Mrs. Jeanne Moeller (Chair)
Entomologist/Scientific Mgr.	Dr. Whitney Qualls
Business Mgr.	Mr. Richard Weaver
Molecular Entomologist	Dr. Steve Peper
Biological Lab Technician	Mr. Kai Blore
Field Biologist	Dr. Muhammed Farooq

### EDUCATION COMMITTEE

Commissioner	Mrs. Trish Becker (Chair)
Education Specialist	Mr. Edward J. Zeszutko
Operations Mgr.	Mrs. Marcia Kay Gaines
Supervisor	Mrs. Dena Autry
Biological Technician	Mr. Steven Smoloeroff & Ms. Heather Ward
Entomologist/Scientific Mgr.	Dr. Whitney Qualls

### PLANNING COMMITTEE

Commissioner	Mrs. Gina LeBlanc (Chair)
Director	Dr. Rui-De Xue
Operations Mgr.	Mrs. Marcia Kay Gaines
Business Mgr.	Mr. Richard Weaver
Supervisor	Mrs. Dena Autry
Chief Pilot/ Aviation Mgr.	Mr. Dana Smith
Entomologist/Scientific Mgr.	Dr. Whitney Qualls

### FINANCIAL/AUDIT COMMITTEE

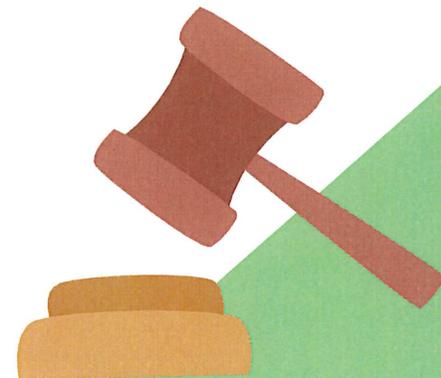
Commissioner	Mrs. Gayle Gardner (Chair)
Director	Dr. Rui-De Xue
Accountant	Mr. Scott Hanna
Business Mgr.	Mr. Richard Weaver
Chief Pilot / Aviation Mgr.	Mr. Dana Smith
Operations Mgr.	Mrs. Marcia Kay Gaines

### EMERGENCY RESPONSE COMMITTEE

Operations Mgr.	Mrs. Marcia Kay Gaines (Chair)
Field Biologist	Dr. Muhammad Farooq
Business Manager	Mr. Richard Weaver
Entomologist/Scientific Mgr.	Dr. Whitney Qualls
MC Technician	Mr. Morgan Duet
Education Specialist	Mr. Edward J. Zeszutko
Chief Pilot/Aviation Mgr.	Mr. Dana Smith
Pilot/Technician	Mr. Michael Phillips

### OPERATIONAL COMMITTEE GROUND/AERIAL

Commissioner	Mrs. Catherine Brandhorst (Chair)
Director	Dr. Rui-De Xue
Chief Pilot/Aviation Mgr.	Mr. Dana Smith
Field Biologist	Dr. Muhammad Farooq
Operations Mgr.	Mrs. Marcia Kay Gaines
Business Mgr.	Mr. Richard Weaver
Supervisor	Mrs. Dena Autry
Entomologist/Scientific Mgr.	Dr. Whitney Qualls



## Program Overview

### AMCD Mission, Values, Vision, and Programs

- Our Mission:** To protect all people from the nuisance of mosquitoes and mosquito-borne diseases in St. Johns County, Florida.
- Our Values:** Service Driven, Scientific Based, Professional, Justified, Environmentally-friendly, Collaborative, Compassionate, Accountable, and Sustainable Excellence.
- Our Vision:** AMCD of St. Johns County will be among the healthiest in the Nation -- a well-served community, enjoyed by all and supported by all partners.
- Our Programs:** Customer Service, Operations (including Surveillance and Control by Ground and Aerial Application), Education, and Applied Research.



The American Mosquito Control Association's (AMCA) 87th annual meeting was held virtually March 2nd through March 5th, 2021. AMCD's 17th Annual Arbovirus Surveillance and Mosquito Control Workshop was canceled again due to concerns from COVID-19.

The annual FMCA meeting in November 2021 was held at Hawks Kay in Duck Key, FL.

On July 8th, 2021 the building permit of the Education Center Building was issued. The Education Center Building is projected to be completed by July of 2022.

As we have done since 1949, AMCD has continued to provide many services to the citizens of St. Johns County. These services included but were not limited to: mosquito inspections, population and arbovirus surveillance, public outreach and education, the assistances of local organizations, larviciding, adulticiding, applied research and evaluations of new control tools and techniques, and employee training.



## FY 20/21 District Revenues Oct. 1, 2020 through Sept.30, 2021 Total \$7,096,016. Millage Rate: 0.2050

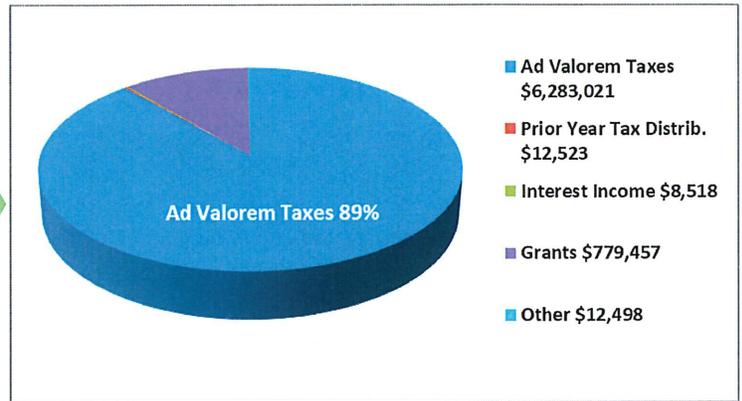
Ad Valorem (real property) Current Year Taxes, the primary source of revenue, \$6,283,021 comprised of, approximately, 89% of the total Revenues, \$7,096,016.

Grant Revenues, from Applied Research, totaling \$779,457, shows an, approximately, 85% increase over the prior year.

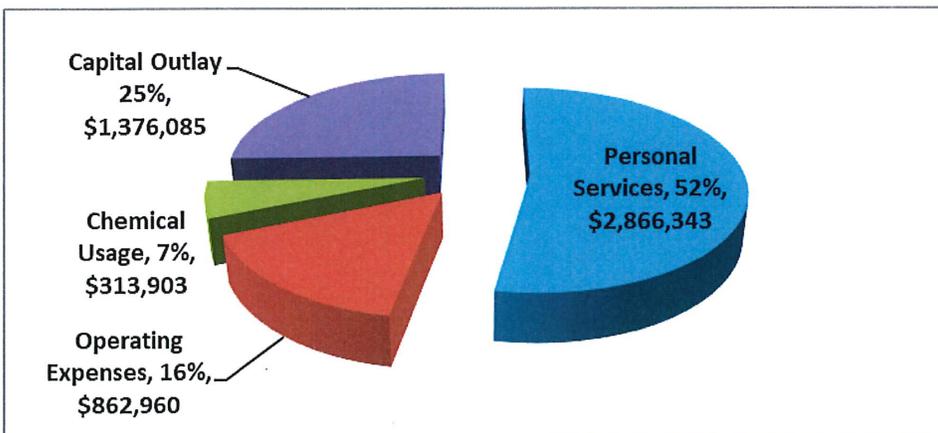
Interest Income Return on Investment, SBA Fund, non-current Operating Funds, yielded \$8,518.

Other Revenues, were predominantly comprised of \$7,293 Surplus Sales, and \$5,205 Dorm Rents.

The District's millage rate for the General Operating Budget was 0.2050 for the year.



## FY 20/21 District Expenditures Total \$5,419,291



Expenditures for the year were comparatively less than Revenues. The majority were attributed to Personal Services, (52%), with Capital Outlay, Operating Expenses, and Chemical Usage comprising of 25%, 16%, and 7%, respectively.

## Administration and Supply

### Board Business:

The AMCD staff provided many documents to Board members and the Board's attorney and for Committee meetings in 2021. The District hosted 14 Board meetings, including the annual First and Final Public Hearings, and a special meeting about helicopter incident and insurance in September for the 2021/2022 fiscal year budget and millage rate.

### Administration & Finance:

The Board approved an IT Technician, Receptionist, Chief Pilot/Aviation Manager, Pilot, Adjunct Senior Vector Biologist, and Mosquito Control Engineer. On July 15, 2021 the Board discussed DACS Work Plan Budget for FY 21/22.

### Policies:

The Board updated the policy on military leave on July 15, 2021. The Board approved the policies for Board members who are not eligible to use District education fund to support the degree, and Commissioners to contact legislators and media report.

### Inventory:

The monthly tire inventory and chemical inventory were completed as required. Two vehicles (Ford Pickup truck, and Chevy Colorado) were surplus on the FY 20/21 surplus inventory along with other pieces of equipment and miscellaneous items. The annual physical inventory was approved at the October 14, 2021 Board meeting and the FY 20/21 surplus items were approved December 9, 2021.

### Contracts:

The Board awarded/signed the contract for education building between AMCD and the Compass Group in March. The Board awarded/signed the contract with Harrell Construction for building the SIT mass rearing facility in August. Approval was given on May 13, 2021 for the contract between UF/FMEL and AMCD for collection of mosquitoes in NE region. Both approval for renewing the agreement between AMCD and DOH of St. Johns County, and the Summer Internship Partnership between Career Academies and AMCD was given on May 13, 2021. On June 17, 2021 the Board approved the renewal of the auditor contract FY 20 /21. The Board renewed the Cintas Uniform Contract on September 9, 2021. The Board approved the agreement between AMCD and Mobisoft for data serve hosting on October 14, 2021.

### RFPs & BIDs:

February 11, 2021 the Board approved the BID for Fluorescence Spectrophotometer for pesticide analysis. March 16, 2021 the Board approved the award of an RFP and then approved the contract to Compass Group for Disease Vector Education center. On June 17, 2021 the Board discussed and approved the RFP for the SIT mass rearing facility.

### Insurances:

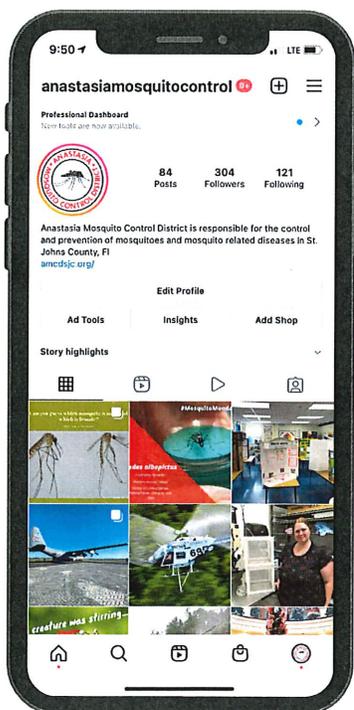
The Board approved the helicopter insurance renewal on May 13, 2021. Renewal of the Fleet/Liability and Workers Compensation Ins. with Thompson Baker Ins. Co., and the Health, Dental, and Life Insurance for the calendar year 2022.



## Customer Service

### **AMCD Website:**

AMCD's website: [www.amcdsjc.org](http://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 opportunities, 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 requested. This page on the website will also allow customers to access and review the status of a service request and see if there is any adulticide (fogging) scheduled in their area. AMCD also keeps the public engaged using social media and has a presence on Facebook, Twitter, and Instagram. AMCD has also 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 1,938 service requests in 2021. The average response time for a service request was 1.9 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 continued conducting detailed tours of the AMCD facility and research 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 to educate St. Johns County residents on many things such as adult and larval mosquitoes, adulticiding, and larviciding. The AMCD staff also dispensed valuable information pertaining to the identification of mosquitoes, pesticide safety and other insects, mosquito prevention and pesticide applications, personal protection methods, as well as commercial mosquito traps, repellents, insecticides, and assisting residents with concerns about no spray treatment areas, including bee-keepers' properties or personal/health conditions that require no treatments 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 disease, and nuisance mosquitoes.

## Cooperative Organizations/Professional Services

AMCD works in cooperation with a number of related local-, state-, federal- agencies, international-, private-, commercial- organizations, and members of the medical community. Those listed below briefly describe the work associations with AMCD in 2021 to prevent and control vector-borne diseases in Florida.

### International Cooperation and Activities:

The collaboration with Dr. Gunter Muller, the University of Science, Techniques, and Technology of Bamako, Mali working on Attractive Toxic Sugar Baits (ATSB) against vector mosquitoes was continued.

The collaboration with Dr. Tong-Yan Zhao, Beijing Institute of Microbiology and Epidemiology to continue working on rice field mosquito management and organized 7th International Forum for Surveillance and Control of Mosquitoes and Vector-borne Diseases.

November 9th, 2021 AMCD hosted three visitors from Pan African Mosquito Control Association to discuss possible collaboration and training.

Dr. Xue continues to serve the World Mosquito Control Association as their Executive Director.

Dr. Xue continues to collaborate with several Scientists from the Collaboration in Sciences and Technology (COST), Europe Commission for research and development of nanotechnology and treated textiles against mosquitoes, AMCD's database analysis. Dr. Xue gave a presentation for the COST training program May 18, 2021 (Virtual).

Dr. Xue has continued to serve the Board of the Investigation and Mathematical Analysis of Avant-garde Disease Control via Mosquito Nano-Tech Repellents (IMAAC) related to the COST program in 2021.

Dr. Xue has continued as the Expert Committee member for the International Standard Organization (ISO).

Dr. Xue was invited to give a presentation about vector control response at the Jiangsu Vector Control meeting by virtual on May 24, 2021.



# Cooperative Organizations/Professional Services (Cont'd)

## State Agencies and Services:

Florida Department of Environmental Protection:

AMCD collaborated with state parks and environmental education centers for salt marsh management grant applications in Fish Island.

Dr. Qualls serves as the DACS/FCCMC's research review subcommittee member since September 2021.

Mr. Weaver continues to serve as the FMCA financial member and was elected as the Vice President.

Dr. Xue serves as the FMCA's Publication Committee Chair, Editor of the JFMCA., Chair of the FMCA Exchange program committee, and on the By-law's committee.

Dr. Qualls serves as the FMCA Scholarship Committee Chair and as the Dodd short course committee Co-chair.

Mrs. Moeller serves as the FMCA legislation committee member.

Dr. Peper serves as the Wing Beats Advertising Director and serves on the FCCMC Imperiled Species committee .



## National and Federal Agencies & Associations:

The collaboration with USDA/CMAVE to organize the annual workshop and SIT for control of *Aedes aegypti* and other studies was continued.

The collaboration with Dr. Jerry Zhu at USDA/ARS for natural repellent evaluation was continued.

The collaboration with the DoD's NECE, Jacksonville, FL to evaluate ULV spray systems and new formulations of insecticides was continued.

Collaborated with the DoD's AFPMB for control action threshold grant and co-organize symposium for AMCA annual meeting, March 2021 (Virtual).

Collaborated with CDC about developing a smart cage and SIT study under subcontracts with UF.

AMCD is a sustaining member of the AMCA and an AMCA/EPA PESP member.

AMCD is continuing the collaboration with the CDC.

AMCD continued their collaboration with the CDC Southeastern Center for Excellence in Vector-borne Disease for training intern students.

Dr. Xue continues to serve the SOVE Board as the Regional Director.

Dr. Xue, Dr. Qualls, Dr. Farooq, and Dr. Peper reviewed numerous numbers of manuscripts for the ESA's Journals, AMCA's JAMCA, SOVE's JVE, Acta Tropic, PLoS one, Parasite & Vectors, Insects, and several other journals at their editors' requests.

Dr. Peper serves on the AMCA Training and Member Education committee.

Dr. Qualls is the AMCA Publications Committee Chair.

## Cooperative Organizations/Professional Services (Cont'd)

### **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 demonstrated and provided the blueprint of our complex to several districts and programs.

AMCD collaborated with Lee CMCD to train pilots and helicopter mechanics.

AMCD collaborated with Dyna Trap on new trap and spatial repellent device evaluations.

AMCD collaborated with Central Life Sciences on spatial repellent device, larvicide, and adulticide product evaluations.

AMCD collaborated with DNW Global LLC on new larvicide evaluations and EPA registration of their new larvicide.

AMCD collaborated with MosquitoMate on a SIT project proposal.

AMCD collaborated with New Mountains: New Trap Evaluations.

AMCD collaborated with American LongRay: New Trap Evaluations.

AMCD collaborated with Kim Benz for repellent doses and new formulation.

### **Agencies and Universities:**

AMCD cooperated with the University of Florida Department of Entomology and Nematology with Dr. D Hahn on the SIT grant.

AMCD collaborated with UF, Department of Electrical Engineering with Dr. W. Eisenstadt on the CDC grant for developing a smart cage.

AMCD collaborated with UF Dr. R. Dinglasan at EPI for intern training.

AMCD collaborated with UF, Department of Entomology and Nematology with Dr. Koehler, and Dr. Baldwin for a non-target study and nanoparticles of adulticides and to train Ph.D. student Mr. Blore.

Dr. Xue serves, as a voluntary professor for the University of Miami School of Medicine and continues to collaborate with Dr. John Beier for ATSB and biology and control of mosquitoes.

AMCD renewed the contract with the University of North Florida's College of Public Health for training intern students.

AMCD provided many mosquito samples for several universities nationwide.

## Surveillance

### Mosquito-borne Diseases:

AMCD continuously cooperates with the Florida Department of Health to monitor imported mosquito-borne diseases through local health providers.

Through the Florida Department of Health Laboratory and in-house capabilities, AMCD monitored West Nile Virus (WNV), Eastern Equine Encephalitis Virus (EEEV), Saint Louis Encephalitis Virus (SLEV), Highland James Virus (HJV), and California Group Virus, using ten sentinel chicken sites around St. Johns County. AMCD personnel bled chickens once a week for testing from April through November.

In 2021, a total of 22 sentinel chickens tested positive for arboviruses, 10 for EEEV and 12 for WNV. In 2021, there were no travel-related or locally acquired human cases of Zika, Chikungunya, Dengue, or malaria in St. Johns County.



### Mosquito Population:

The adult mosquito population was monitored by 41 CDC light traps baited with Octenol from April to November, 2021 and a total of 18,611 mosquitoes, 33 species were collected. Twelve BG Sentinel, two traps baited with BG Lure and CO<sub>2</sub> were used for *Aedes albopictus* and *Aedes aegypti* surveillance for a total of 2,601 collected from January to December, 2021. A total of 20,447 mosquitoes, 32 species were collected from BG trapping. A total of 39,058 mosquitoes were trapped by both methods.

Larval surveys were conducted on a daily basis by dipping flooded areas as needed. A total of 25,947 dips were conducted and 2,643 dips were positive with 40,462 larvae found.

### Environmental Parameters:

The total average monthly rain fall for St. Johns County in 2021 was 4.24 inches with a total of 51.62 inches for the year per the St. Johns River and Water Management Districts Hydrologic Charts.



# Surveillance (Cont'd)

Number of Mosquitoes Collected in BG Surveillance 2021

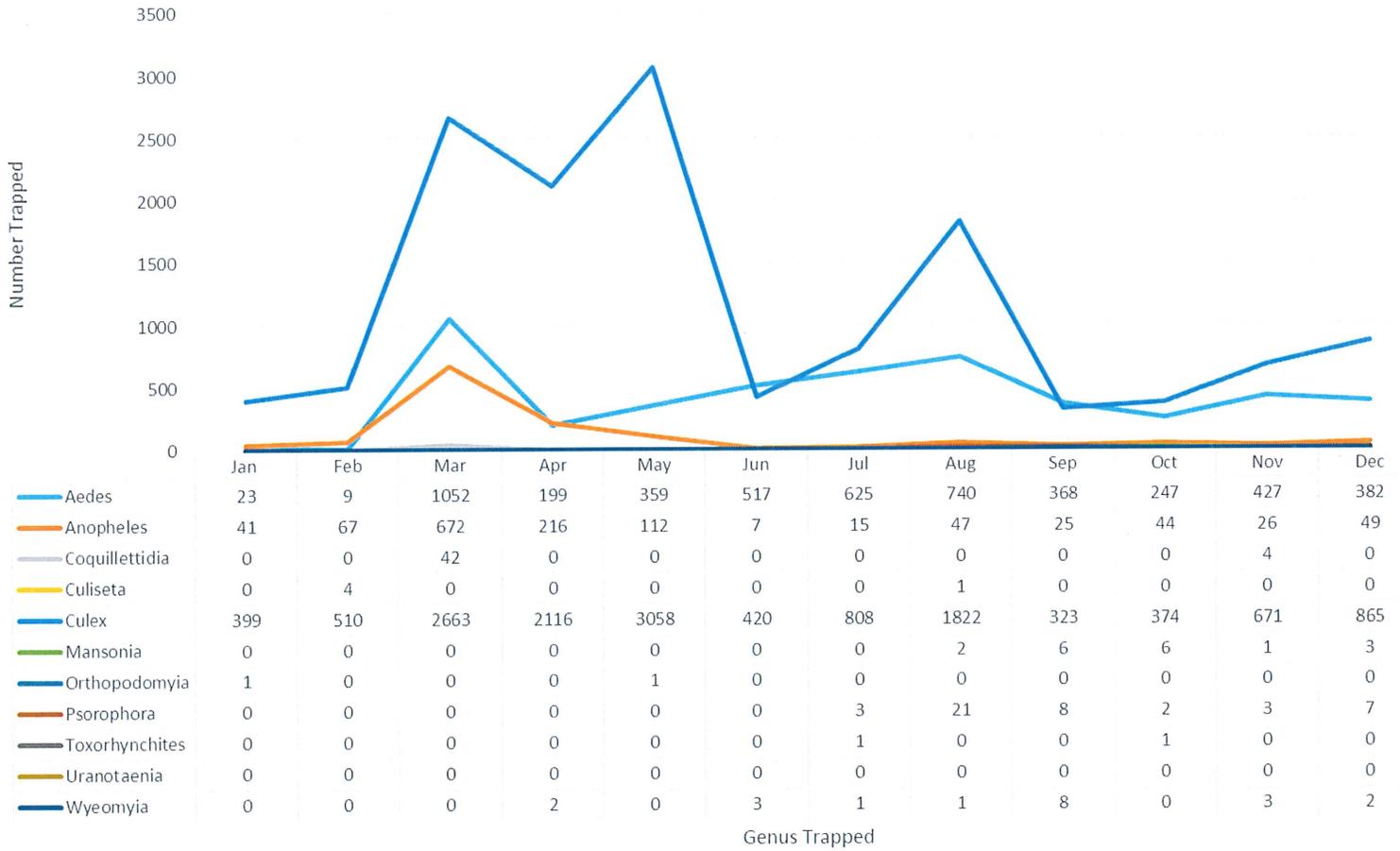


Fig. 1 Total mosquitoes collected throughout 2021 by month and genus in BG-Sentinel Traps

# Surveillance (Cont'd)

Number of Mosquitoes Collected in CDC Light Traps 2021

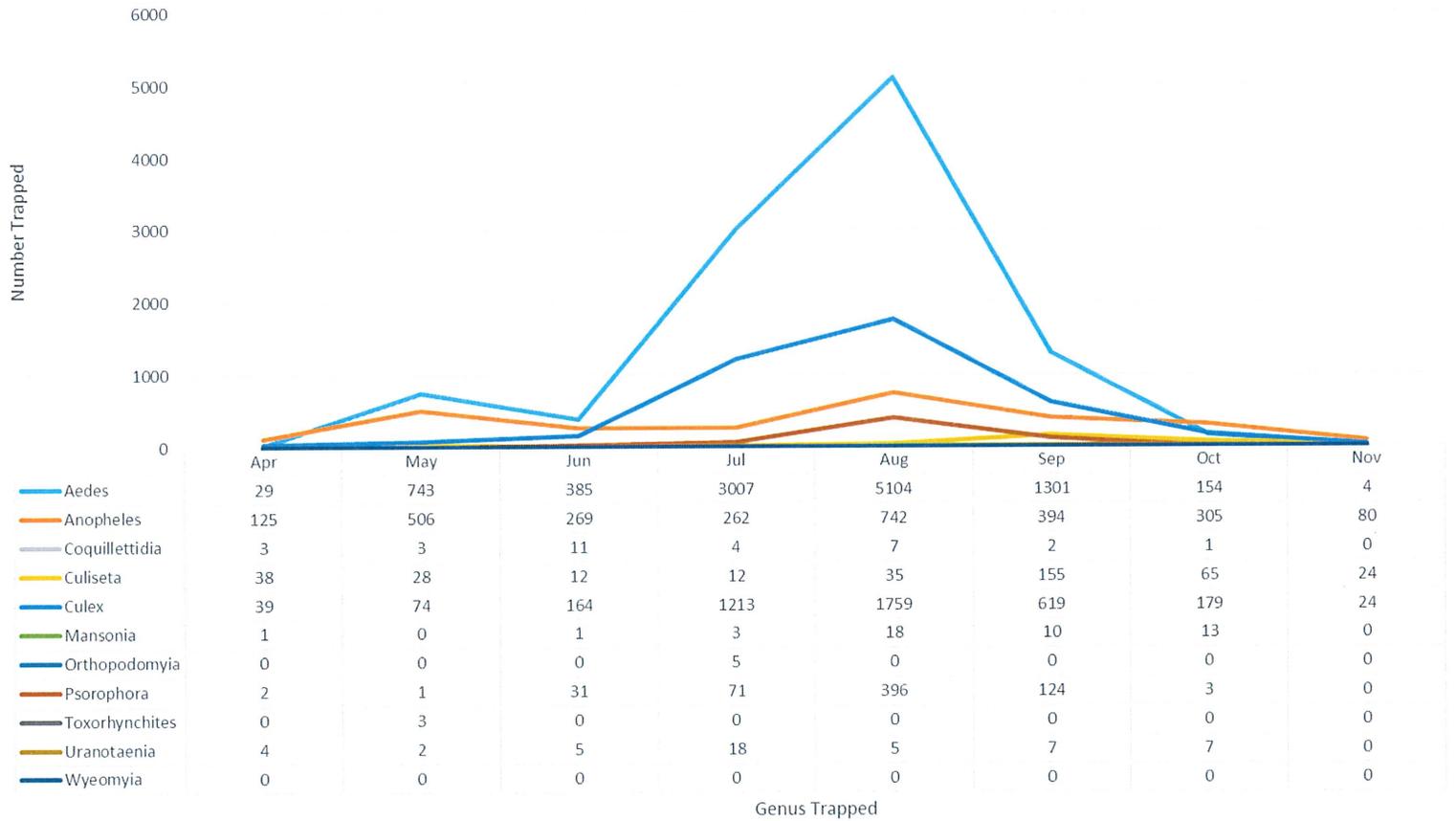


Fig. 2 Total mosquitoes collected throughout 2021 by month and genus in CDC Light Traps

# Surveillance (Cont'd)

Mosquitoes Trapped for Arbovirus Surveillance



Fig. 3 Total mosquitoes collected throughout 2021 by month and genus in Operational Surveillance. Mosquitoes collected using gravid traps using hay infusion water and CDC light traps baited with dry ice.



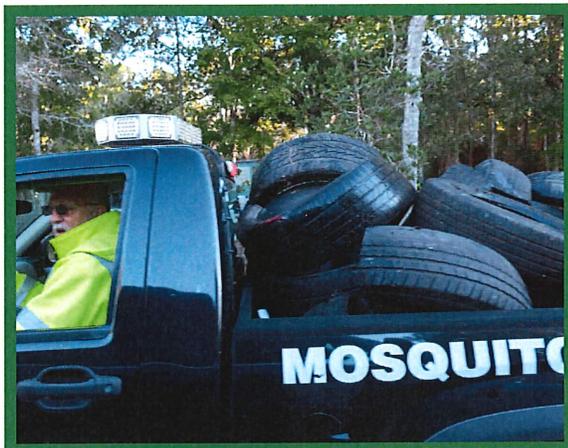
## Operational Control

### Larvicides and Larviciding:

In 2021, the District primarily used *Bacillus thuringiensis israelensis* to kill mosquito larvae, as well as methoprene products in areas where BTI was not applicable. Mosquito Control Technicians treated 1,291 times for a total of 4,270.33 acres. The aerial program made 22 applications for a total of 388 acres treated.

### Adulticides and Adulticiding:

Mosquito Control Technicians continued to use Aqualure 20-20 (Permethrin) and Mosquitomist Two (Chlorpyrifos phosphorothioate) for ground ULV spraying and treated 162 times on a total of 110,153.54 acres for adult mosquito control. DUET was used in the hand thermal foggers to handle service requests and other areas 71 times for a total of 9,396.17 acres. Talstar P was used as an adult mosquito control barrier treatment in parks, special areas, and for service requests a total of 222 times equaling 104.83 acres.



### Larvicides and Adulticides Used in 2020

Larvicides	Amount Used		Area Treated		Times applied
Altosid WSP	17,097	ea	52.98	acre	313
Altosid XR	488	ea	1.07	acre	32
Altosid XRG	2,610	lb	435	acre	58
Altosid XRG (air)	13,840	lb	384	acre	21
BTI Briquets	1,608	ea	3.66	acre	93
Cocobear	3,620	fl oz	9.43	acre	89
Natular DT	31	ea	0	acre	5
Sustain MBG	5,280	lb	704	acre	127
Sustain MBG (air)	40	lb	4	acre	1
VectoBac 12AS	49,211	fl oz	3,064.19	acre	574
Adulticides	Amount used		Area Treated		Times applied
Aqualure 20-20	19,688.67	fl oz	76,214.16	acre	121
Dibrom (air)	41,576	fl oz	59,408.06	acre	30
Duet 50%	14,752	fl oz	9,396.17	acre	71
Mosquitomist Two	22,400	fl oz	33,939.38	acre	41
Talstar P	35.17	gal	104.83	acre	222

### Source Reduction & Biological Control:

A total of 200 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 15 times for a total of 173 fish provided.

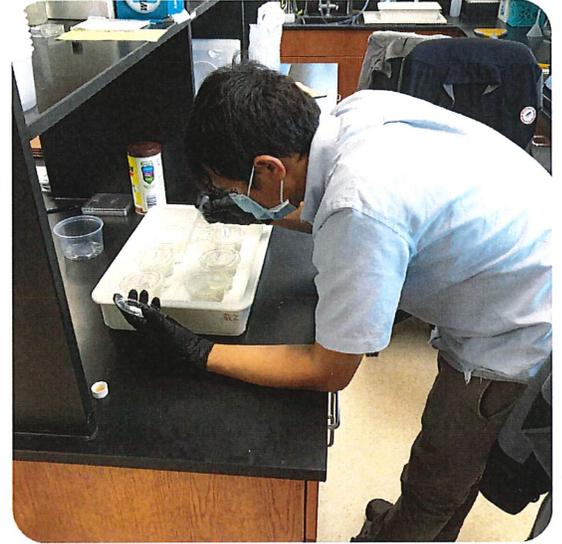
## Applied Research

### **Arbovirus Detection Techniques & Influencing Factors:**

We developed in-house confirmation testing of the antibody-positive sentinel chicken samples with a turnaround of results of a day or two, which is a drastic improvement of the several weeks to months to receive confirmation from the state lab. We figured out that the room temperature does not impact the sentinel chicken sera within a few days. We use mosquito pools to detect the presence of WNV, EEEV, and SLEV. Over 10,000 mosquitos were tested from 825 pools which represented ten local vector species. Two pools tested positive for WNV (one pool of *Culex quinquefasciatus* and one pool of *Culex nigripalpus*).

### **Good Laboratory Practices (GLP) /DNW Study:**

In partner with DNW Global LLC., our science team evaluated a new larvicide product in the laboratory against three species of mosquitoes that are found within our district - *Aedes aegypti*, *Anopheles quadrimaculatus*, and *Culex quinquefasciatus*. This study was conducted under Good Laboratory Practices (GLP) which is the highest level of standards to assure the quality and integrity of the study. GLP studies are required by the EPA for new product registrations. We will continue this study in the Spring as we move into semi-field trials.



### **Developed War Fighter Protection program (DWFP) of the Department of Defense (DoD):**

Funded by the DWFP/DoD, we started a research on the "Establishing evidence-based action thresholds for *Aedes*, *Culex*, and *Anopheles* mosquito abundance in different operational environments of deployed war fighters of the United States". We successfully completed a preliminary questionnaire survey on the identification of mosquito control programs in different continental regions and US military units which have set action thresholds for mosquito control. A follow-up survey with selected programs which claimed to have set action thresholds was stated in November 2021 and on-going. We developed several statistical models on action thresholds for different mosquito groups using AMCD historical mosquito abundance data and associated meteorological data. A systematic literature review on mosquito control action thresholds was in preparation and still on-going.

### **CDC & UF Collaborative Grant about Smart Cage (2nd year):**

The effectiveness of adulticides and spray delivery systems have traditionally been evaluated with bio-assays cages. These evaluations have reported varying levels of success ranging from excellent to dismal performance. The reasons for non-effectiveness could be that spray did not reach the cage or the pesticide is not toxic enough and it is difficult to decide between the two. One way to resolve that is to determine how much spray is delivered to the site of the bioassay cage by droplet size measurement or by spray quantification. Results from both of these methods are not readily available. Smart cage is being developed to estimate the amount of spray reaching the cage and deliver the results in real time. The prototype cage or spray collector consists of laser droplet counter, memory card, processor, antenna, and power source. The unit is able to measure droplets up to 10  $\mu\text{m}$  and is able to deliver wirelessly in real time to a PC in the laboratory. The cage will be calibrated to cover full droplet size spectrum of a ULV spray by comparing with spray quantified using dyes and fluorimeter.

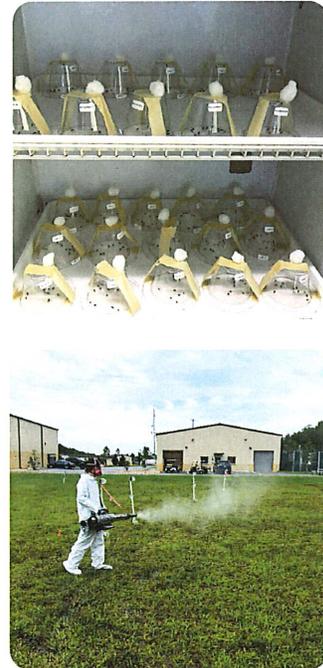
## Applied Research (Cont'd)

### **Evaluation of Thermal Fogger for Larvicide-Adulticide Mixture Application Efficacy:**

The efficacy of dual application of adulticide (permethrin) and larvicide (BTi) as a mixture using hand-held thermal fogger was studied in the field. The Longray model TS-35A(E) thermal fogger capable of delivering water-based products was used to apply a mixture of VectoBac 12AS (larvicide) and Aqualuer 20-20 (adulticide) at 2 gallons per acre. Adulticide was applied at maximum label rate of 0.5 oz/acre whereas larvicide was applied at 8, 24, 36 and 48 oz/acre. In general, larval mortality decreased with increasing distance from spray and increased with increasing application rate. The larval mortality at all distances was strongly correlated with application rate. The highest rate used produced 64 -95 % larval mortality at all distances. The results indicate that both applications can be made simultaneously if the highest application of both is used.

### **Evaluation of Three Backpack Sprayers:**

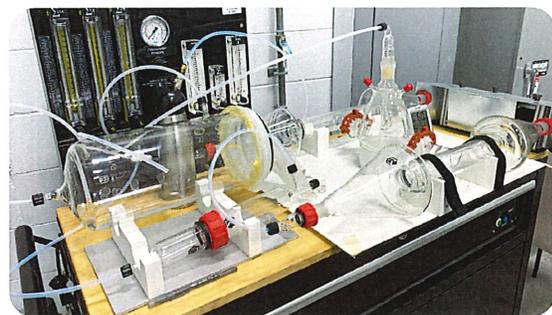
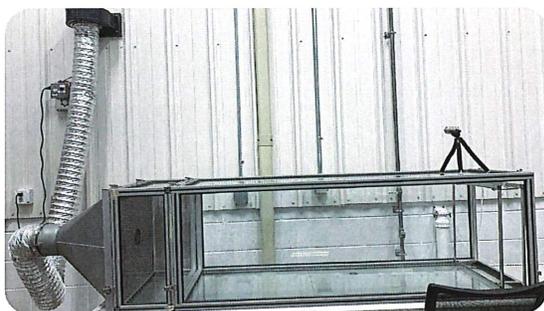
Three battery powered backpack sprayers, Field King 190515, Ryoby One+, and Spray Mate, were evaluated in the open field for their potential to apply ULV adulticide applications. Effectiveness of these sprayers was assessed up to a distance of 50 ft from the spray line using 8 bio-assay cages hanged 4 ft above ground in two rows of 4 cages in each. Each cage had 25, 5-7 days old female *Aedes aegypti* and their mortality after 24 hours was used as the effectiveness indicator. The results indicated that sprayers were effective up to 10 ft from the spray line whereas further downwind, the mortality from all sprayers was less than acceptable. Among the sprayers, Spray Mate provided highest mortality, followed by Ryobi, and Field King provided the least mortality. If a short distance control is acceptable, a ULV application using Spray Mate is the best option.



### **Evaluation of Contact and Spatial Repellents:**

Five natural oils, Clove oil, Eucalyptus oil, Geraniol, Immortelle oil and Lemongrass oil were evaluated using the True Choice Olfactometer. BG Lure was used as an attractant. Overall, the Clove oil, Eucalyptus oil, Geraniol, Immortelle oil and Lemongrass oil had 65, 54, 63, 41, and 65% repellency, compared to 42% by BG lure. Individually, 62.5  $\mu$ L of Lemongrass oil, 125  $\mu$ L of Eucalyptus oil, 250  $\mu$ L of Clove oil and Geraniol, and 500  $\mu$ L of Immortelle oil had highest repellency.

Twelve new formulations containing medium-chain fatty acids, six each having decanoic acid (C10) and lauric acid (C12) derived from palm oil and coconut oil, provided by Onedrings Lavender Farm (OLF), Clarksville OH were evaluated in olfactometer for spatial repellency against *Aedes aegypti* mosquitoes. Among all decanoic acid formulations tested, the concentration of 2.25 %(wt) indicated the best level of spatial repellency. None of the lauric acid concentrations showed any level of spatial repellency.

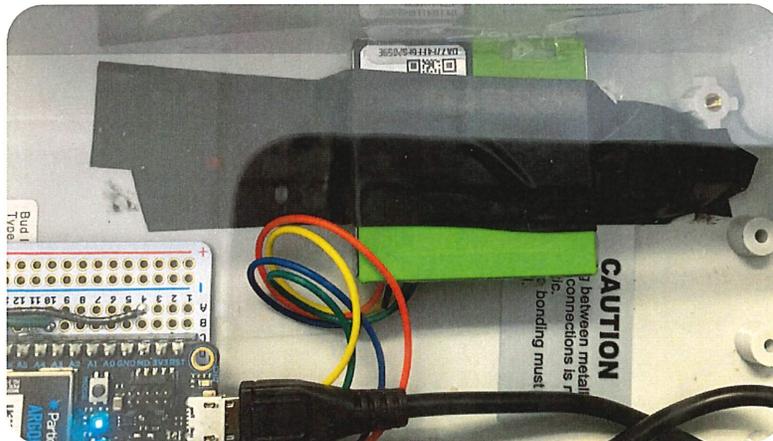


## Applied Research (Cont'd)

### Sterile Insect Technique (Collaborative Grant with UF, USDA/CMAVE)

This grant starts from 2019 and end by the end of the year 2021. The goal is to evaluate the effects of mass release of irradiated *Aedes aegypti* in reducing the population density in the treatment site in downtown St. Augustine, FL.

Irradiated *Aedes aegypti* were shipped from USDA/CMAVE to the AMCD for release twice a week from mid-February up to mid-November. A total of 70 releases were completed during 2021. Weekly entomological monitoring, with 24 BioGents Sentinel traps and 34 ovi-traps per site, in treatment and control sites were conducted since the first week of January until the second week of December. The field activities of the operational pilot study were thus completed. The population was gradually reduced.



## Applied Research (Cont'd)

### Collaborative, Ongoing, and Completed Applied Research Projects for 2021 (Cont'd):

Evaluation of trap design (Internal Sponsor)

Evaluate the efficacy of BG Counter (Internal Sponsor)

Detection of hemoglobin in mosquitoes (Herb Nyberg Sponsor)

Stability of chicken serum (Internal Sponsor)

Development of in-house IR assay (Internal Sponsor)

Evaluation of BIGSHOT Nanopesticide as a repellent for ticks (BIGSHOT Sponsor)

Evaluation of BIGSHOT Nanopesticide as acaricide (BIGSHOT Sponsor)

Thermal Fogger to apply adulticide and larvicide as a mixture (Internal Sponsor)

Spatial candle evaluation in screened enclosures (Central Life Science Sponsor)

New larvicide and adulticide study (Central Life Science Sponsor)

Attractant Study (Woostream Sponsor)

Evaluation of candidate products for thermacell unit (Thermacell Sponsor)

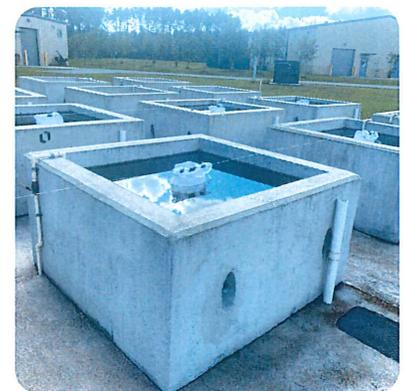
Evaluation of repellents (Onedrings Sponsor & Repelettes™)

Natural oils as spatial repellents (Internal Sponsor)

Evaluation of battery-powered misters as ULV sprayers (Internal Sponsor)

Bio-Efficacy of REXCU-S as a Larvicide against three species of mosquitoes (DNW Global Sponsor)

Evaluate the educational focus of vector-borne diseases (Internal Sponsor)



## AMCD Education and training

Annual training was done in-house in February for full-time employees and again in May, and June for those that needed to make up any training and for new hires. In April 2021, Mr. Dana Smith, Mr. Morgan Duet, Mr. Ralph Bruner, Dr. M. Farooq, Mr. S. Smoleroff, and Mr. Mike Phillips attended the Florida Mosquito Control Association (FMCA) aerial workshop at Lee County Mosquito Control. Four AMCD employees attended the Hazardous Materials Operations/OSHA Level II training in September 2021 and received a certificate of completion. Numerous AMCD employees attended the Virtual DODD Short Courses from February 1st to 5th, 2021.

## Community Events/Public Outreach

AMCD was involved with: Cracker day, National Night Out, Ancient City Kids Day, and St. Augustine Christmas Parade. AMCD created new educational videos with 2,389 cumulative views. AMCD was involved with the Meeting with the Academy of Coastal and Water Science Advisory Board. Dr. Qualls & Commissioner Mrs. Becker gave a talking about GMO for Round Table, Dr. Qualls gave a presentation for Kiwanis Club, Dr. Xue and Commissioner Mrs. Moeller gave a talking at Flagler County Board meeting, Dr. Xue and Mr. Weaver gave a talking about education center for the Rotary Club and was interviewed by TV channel 4. Commissioner Mrs. Becker gave several talking at local community. Dr. Qualls, former education specialist and Commissioner Becker were interviewed by local radio stations. Local Newspaper and other papers /publications published about AMCD education center, helicopters. AMCD was active on social media platforms: Instagram, Twitter, and Facebook. Many events that AMCD normally attended in past years were canceled due to COVID-19.

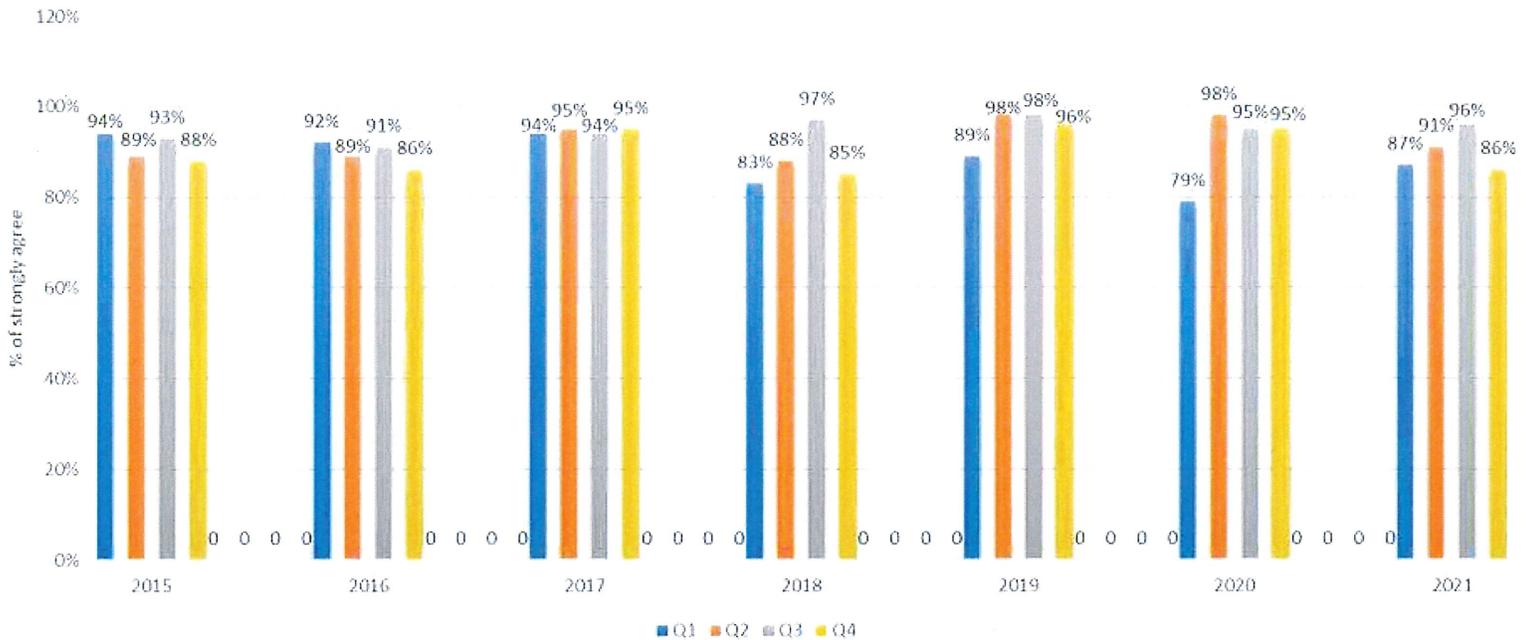


## St. Johns County School Program

In 2021, AMCD taught a BTI lab at St. Johns Technical High. The District was once again asked to judge the St. Johns County STEM Fair.

## Education Program (Cont'd)

### Satisfaction Survey 2021



#### 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.

- The number of people who respond "strongly agree" has declined since 2015

Q2- The AMCD staff were professional.

- The number of people who respond "strongly agree" has increased since 2015

Q3- AMCD responds to my service requests within the standard 1-2 business days.

- The number of people who respond "strongly agree" has increased since 2015

Q4- The AMCD staff were informative.

- The number of people who respond "strongly agree" has remained steady since 2015

# Professional Meetings, Symposiums, & Workshops

Organized and Attended by AMCD Staff and Commissioners

O. Sypes. Presented a poster for Research Day, Emerging Pathogens Institute. University of Florida/EPI, Innovative *Aedes aegypti* control in St. Augustine, Florida using irradiated mosquitoes. Virtual, Feb 2021

V. Aryaprema. Presented on the "Utilization of irradiated *Aedes aegypti* by the Anastasia Mosquito Control District, St. Augustine, FL. DODD Short Courses presented by FMCA, Virtual. January 2021.

S. Peper, BM Rendon, Webb C Reinoso, SJ Johnson, CD Gleasner, BG Bolling, and SM Presley. Evidence of West Nile virus and Saint Louis encephalitis virus in pools of mosquitoes testing negative for both viruses using real-time PCR. American Mosquito Control Association Annual Conference, Virtual. 2-5 March 2021.

S. Peper, WA Qualls, M Farooq, and RD Xue. Development and validation of in-house arbovirus detection capacity for screening of West Nile virus antibodies during a pandemic. American Mosquito Control Association Annual Conference, Virtual. 2-5 March 2021.

R.D. Xue, and K Gaines gave a presentation on AMCD's decision-making-based action threshold. Action-threshold symposium organized by Dr. Xue. American Mosquito Control Association, Virtual. 1-5 March 2021.

R.D. Xue. Collaboration with military organizations benefit to AMCD program. AMCA's Military and Local Mosquito Control Programs symposium, AMCA annual meeting, virtual. 1-5 March 2021.

R.D. Xue. Conference President address: Response of mosquito control during COVID pandemic. 7th International Forum for Surveillance and Control of Mosquitoes & Vector-borne Disease. virtual. 15-18 August. 2021.

W. Qualls. AMCD applied research program overview. 7th IFSCMVD. Virtual. 15-18 August 2021.

R.D. Xue. Education, economic, public health, and its impact. COST meeting. Virtual. March 2021.

R.D. Xue. Control action and response to population outbreak. Jangsu Vector Control Association meeting. Virtual. May 2021.

R.D. Xue. Response for reinvasion of *Aedes aegypti* in St. Augustine, Florida. Society of Vector Ecology annual meeting, virtual, September 2021.

S. Peper. In-house capabilities for arbovirus surveillance at AMCD. Florida Mosquito Control Association Annual Conference, Duck Key, Florida. 15-18 November 2021.

W. Qualls, R. Connelly, CDC, organized a symposium at the 87th AMCA Annual meeting entitled " CDC Hurricane Cooperative Agreement funding: Enhancing Mosquito Control Capacity for Response to Natural Disasters", 1-5 March, 2021.

W. Qualls. Enhancing resources and capacity of entities that do mosquito control in Texas. 87th AMCA Annual meeting (virtual), 1-5 March 2021.

W. Qualls. Chaos after the Storm at 87th AMCA Annual meeting (virtual). March 1-5, 2021.

W. Qualls. Ground and Aerial Calibration—Tips and Tricks, FMCA/DODD (virtual) , January 2021.

M. Farooq. Droplet Size Measurements. Lee County Mosquito Control District, April 11-14, 2021.

M. Farooq. Evaluation of Hand-held Thermal Fogger for Larvicide-Adulticide Mixture Application at FMCA Annual Meeting, Duck Key, FL. 15-18, November ,2021

S. Smoleroff. Surveillance report about mosquito population in St. Johns County at FMCA Annual Meeting, Duck Key, FL, 15-18, November 2021.

H. Ward. Mosquito pooling for arbovirus surveillance at FMCA annual meeting, Duck Key, 15-18, November 2021.

W. Qualls. AMCD's collaborative projects at FMCA meeting, Duck Key, 15-18, November 2021.

K. Blore presented essential oils against mosquitoes at FMCA annual meeting, Duck Key, 15-18, November 2021.

## Publications

Davis, J, Bibbs, CS, Muller, GC, Xue, RD. 2021. Evaluation of *Bacillus thuringiensis israelensis* as toxic sugar bait against adult mosquitoes *Aedes aegypti*, *Aedes albopictus*, and *Culex quinquefasciatus*. *Journal of Vector Ecology* 46(1):30-33.

Bibbs, CS, Kaufman, PE, Xue, RD. 2021. Adulticidal efficacy and sublethal effects of metofluthrin in residual insecticide blends against wild *Aedes albopictus* (Diptera: Culicidae). *J Econ Entomol.* 114:928-936.

Qualls, WA, Xue, RD, Farooq, M, Peper, S, Aryaprema, V, Blore, K, Weaver, R, Autry, D, Talbalaghi, A, Kenar, J, Cermak, SC, Zhu, JW. 2021. Evaluation of lotions of botanical-based repellents against *Aedes aegypti* (Diptera: Culicidae): *J. Med. Entomol.* 58:979-982.

Xue, RD, Fulcher, A. 2021. Evaluation of orange oils applied by three backpack sprayers against *Aedes aegypti* and *Culex quinquefasciatus*. *Journal of the Florida Mosquito Control Association (JFMCA)* 68:98-101.

Khater, E, Zhu, D, Bibbs, CS, Xue, RD. 2021. Insecticidal efficacy of a spatial repellent compound metofluthrin against susceptible and resistant strains of *Aedes aegypti*. *JFMCA* 68:83-88

Autry, D, Dixon, D, Bibbs, CS, Khater, E, Gaines, MK, Xue, RD. 2021. Field comparison of autocidal gravid ovitraps and In2care traps against *Aedes aegypti* in downtown St. Augustine, northeastern Florida. *JFMCA* 68:89-93.

Miah, MDA, Blore, K, Xue, RD. 2020. Effect of copper sulfate pentahydrate on mosquito larval *Aedes aegypti*, *Culex quinquefasciatus*, and *Anopheles quadrimaculatus* in the laboratory and under semi-field conditions. *JFMCA* 68:76-82

Aryaprema, VS, Blore, K, Albridge, RL, Kline, J, Linthicum, K, Xue, RD. 2021. Semi-field evaluation of ultra-low volume (ULV) ground spray of Aqualure 20-20 against irradiated *Aedes aegypti*. *JFMCA* 68:60-66.

Sanchez-Arroyo, H, Pereira, RM, Xue, RD, Moser, BA, Koehler, PG. 2021. Different toxicity of pyrethroid and organophosphate insecticides to *Apis mellifera* and *Aedes aegypti*. *JFMCA* 68:67-75.

Steck, M, Okech, B, Liang, S, Xue, RD, Qualls, WA. 2021. Relationship of precipitation and habitat to the spatial and temporal abundance of *Aedes atlanticus* and *Aedes infirmatus* in St. Johns County, Florida. *JFMCA* 68:21-34.

Farooq, M, Blore, K, Miah, MDA, Xue, RD. 2021. Evaluation of d-allethrin in the thermacell mosquito repellent device against the lone star tick under laboratory conditions. *JFMCA* 68:102-106.

Traore, MM, Junnila, A, McKenzie, K, Hogsette, JA, Kline, DL, Kone, AS, Diarra, RA, Petranyi, GY, Troare, I, Sangare, P, Diakite, A, Revay, EE, Traore, SF, Kravehenko, VD, Xue, RD, Muller, GC. 2021. Evaluation of Dynatrap DT160 as an inexpensive alternative to CDC traps for adult mosquito mornating in Mali, West Africa. *JFMCA* 68:21-34.

## Publications

Junnila, A, Traore, MM, Hogsette, JA, Kline, DL, McKenzie, K, Kravehenko, V, Kone, AS, Diarra, RA, Traore, SF, Petranyi, GY, Sangare, P, Diakite, A, Troare, I, Beier, JC, Xue, RD, Revay, EE, Muller, GC. 2021. Performance of the Atrakta mosquito lure in combination with Dynatrap (Models DT 160 and DT700) and a CDC trap (Model 512). *JFMCA* 68:35-44.

Yang, B, Brooke, A, Alto, BW, Boohene, CK, Brew, J, Deutsch, K, DeValerio, JT, Dinglasan, RR, Dixon, D, Faella, JM, Fisher-Grainger, SL, Glass, GE, Hayes Jr. R, Hoel, DF, Horton, A, Janusauskaite, A, Kellner, B, Kraemer, UG, Lucas, KJ, Medina, J, Morreale, R, Petrie, W, Reiner Jr. RC, Riles, MT, Salje, H, Smith, DL, Smith, JP, Solis, A, Stuck, J, Vasquez, C, Williams, KF, Xue, RD, Cummings, DAT. 2021. Modeling distributions of *Aedes aegypti* and *Aedes albopictus* using climate, host density, and interspecies competition. *15*: 1-21

Moise, IK, Whittingham, LR, Omachonu, V, Clark, M, Xue, RD. 2021. Fighting mosquito bite during a crisis: capabilities of Florida Mosquito Control districts during the COVID-19 pandemic. *BMC Public Health* 21:687.

Diarra, RA, Traore, MM, Junnila, A, Traore, SF, Doumbia, S, Revay, EE, Kravchenko, VD, Schlein, Y, Arheart, KL, Gergely, P, Hausmann, A, Beck, Xue, RD, Prozorov, AM, Kone, AS, Majambere, S, Vontas, J, Beier, JC, Muller, GC. 2021. Testing configurations of attractive toxic sugar bait (ATSB) stations in Mali, West Africa, for improving the control of malaria parasite transmission by vector mosquitoes and minimizing their effect on non-target insects. *Malaria Journal* 20:184.

Xue, RD, Dilla, J, Bangonan, LR. 2021. Comparison of modified CDC gravid, BG-bowl, and CDC autocidal gravid ovitraps to collect gravid and host-seeking *Aedes aegypti* (Diptera; Culicidae) in northeastern Florida. *Florida Entomologist* 104:162-164.

Qualls, WA, Steck, MR, Weaver, JR, Zhang, Y, Xue, RD, Sallam, MF. 2021. A shift in the spatial and temporal distribution of *Aedes taeniorhynchus* following environmental and local development in St. Johns County, Florida. *Wetland Ecology & Management*. <https://doi.org/10.1007/s11273-021-09816-6>

Zhao TY, Xue RD. 2021. Integrated mosquito management in a rice field, *Wetland Ecology & Management*. <https://doi.org/10.1007/s11273-021-09840-6>

Peper ST. 2021. Book Review: Population Biology of Vector-borne Diseases. John M. Drake, Michael B. Bonsall, and Michael R. Strand, editors. *Journal of Wildlife Management*. <https://doi.org/10.1002/jwmg.22166>

Farooq M, Xue RD, Peper ST, Qualls WA. 2021. Chapter 4: Evaluating Techniques and Efficacy of Arthropod Repellents against Ticks. In: Coates J., Corona C., Debboun M. (eds). *Advances in Arthropod Repellents*. CRC Press. Being published by Elsevier. p:49-67.

Bernier UR, Perry MK, Xue RD, Agramonte NM, Johnson AL, Llnthicum KJ. 2021. Chapter 5: Evaluation and application of repellent-treated uniform/clothing and textiles against vector mosquitoes. In: Coates J., Corona C., Debboun M. (eds). *Advances in Arthropod Repellents*. CRC Press. Being published by Elsevier. p:69-94.

## Publications

Haydett KM, Peper ST, Reinoso Webb C, Tiffin HS, Wilson-Fallon AN, Jones-Hall YL, Webb SL, Presley SM. 2021. Prevalence of *Neospora caninum* exposure in wild pigs (*Sus scrofa*) from Oklahoma with implications of testing methods on detection. *Journal of Emerging Infections in Wild Swine Special Issue*. <https://doi.org/10.3390/ani11092487>

Peper ST, Jones AC, Reinoso Webb C, Lacy M, Presley SM. 2021. Consideration of vector-borne and zoonotic diseases during differential diagnosis. *Southern Medical Journal* 114:277-282.

Peper ST, Hoffarth A, Athanasiou K, Hawkins SL, Wilson-Fallon AN, Gibson A, Reinoso Webb C, Gaskamp JA, Webb SL, Haydett KM, Tiffin HS, Presley SM. 2021. *Brucella* spp. and *Francisella tularensis* from an invasive alien species (*Sus scrofa*) in the southcentral United States. *Ecosphere Diseases Ecology Special Issue*. <https://doi.org/10.1002/ecs2.3426>

Sypes O, Bangonan L, Rodriguez D, Qualls W, Xue RD, Aryaprema. Mosquitoes shooting blanks. *Wing Beats*. Journal Cover of *Wing Beats*. Publication of the Journal of the Florida Mosquito Control Association. V. 2021. 32 (2): 5-11.

Guerrero CD, Hinojosa S, Vanegas D, Tapangan N, Qualls WA, Tyler R, Olivarez O. 2021. Increasing public health mosquito surveillance in Hidalgo County, Texas to monitor vector and arboviral presence. *Pathogens* 10: 1022.

# APR COMMITTEE MEMBERS

**Dr. Whitney Qualls**  
Scientific  
Manager/Entomologist



**Dr. Rui-De Xue**  
Director



**Marcia Kay Gaines**  
Operations Manager



**Scott Hanna**  
Accountant/  
CFO



**Taylor Ballantyne**  
Education  
Specialist



**Dena Autry**  
Supervisor of  
Operations



**Richard Weaver**  
Business Manager

As always, we would like to thank all residents of St. Johns County for their support, as well as the AMCD Board of Commissioners, the District's attorney, and CPA, all employees, colleagues, and all contractors, cooperative organizations, and agencies for their help in 2021.



# REPORTS

Director report (Feb 2022)

**Program Management:**

**Customer & professional service and service request process:** AMCD answered 24 service requests. Staff reviewed > 6 manuscripts for several professional journals and prepared for the assistant to the FMCA/AMCA meeting.

**Surveillance:** Salt march mosquito larval survey has been started. AMCD continued BG sentinel traps with BG lures and dry ice and ovitraps for *Aedes* mosquito surveillance once a week after the holidays. BG traps collected 209 adult mosquitoes (major species were *Culex*).

**Ground and aerial operation:** Positive larval dips were 38 and MCT treated larvae for 14 times for 38 acres by ground application. Conducted barrier spraying 3 time for 3 acres. Two helicopter annual maintenances have been done and ready to use.

**Applied research:** CDC smart cages, DoD, and DACS's grant projects have been continued. GLP project about larvicide and a new larvicide have been started from lab. AMCD as collaborators submitted two grant proposals for the DoD, one full proposal has been submitted. We are working on the proposals with Fujian Agricultural & Forestry University about the Gate malaria vector control grant and with Dr. Peyman about the COST grant for mosquito-borne disease database.

**Education:** Three Board members and 8 employees attended the AMCA and 8 joined as volunteers. Face book, twitter, and website have been updated.

**Business Management & Administration:**

**Serve to the Board of Commissioners:** Staff prepared for Feb 10's Board meetings, minutes, and the AMCA registration and travel arrangement.

**Budget and Auditor:** Worked out the budget calendar. Auditor starts to collect all data and documentations.

**Contract:** Education building changed order about media has been approved by the Board and implemented by the staff and attorney. The SIT building will be updated at the Board meeting.

**Insurance:** District still works on the helicopter insurance.

**HR:** An intern student from FSU has been hired and funded by a larvicide company on Feb 1.

**Meeting:**

Feb 1. Met Commissioner Mrs. Moeller and attended former Commissioner Mrs. Emily Hummel funeral.

Feb 2. 11am. Attended NACCHO's vector control working group zoom meeting. PM. Went to Dodd Short course with Commissioners (Moeller, Becker, and Gardner).

Feb 3. Attended the FMCA Dodd Course's Director caucus.

Feb 6-9. Travelled to Sacramento for Mosquito and Vector Control Association of California annual meeting and gave a presentation about innovation and technology application at AMCD at the symposium. Communicated with Mr. Weaver and Mrs. Moller about the Compass Group request for changing order regarded media.

Feb 10. 9am. Held staff meeting about education building contract items. 10am. Held meeting with Compass Group about changing order and Commissioner Mrs. Moeller and MR. Weaver attending the meeting. 5pm. Attended Board meeting.

Feb 11. Worked on St. Johns School Board about summer intern training.

Feb 14. Worked on International Congress of Entomology's symposium program about challenge and management of *Aedes aegypti* and *Ae. albopictus*.

Feb 15. Attended USDA's Biocontrol zoom meeting. 3pm. Attended AMCA zoom lecture.

Feb 16. All employees attended Clarke mosquito control training. Met Commissioner Mrs. Moeller about proposed agenda.

Feb 17. Worked on the JFMCA vol 69.

Feb 18. 11am. Met Commissioner Mrs. Becker about International Women Day.

Feb 22 & 23. Worked on employee annual performance evaluation.

Feb 24. 8am. Held all employee meeting and AMCA presentation practices and Commissioner Mrs. Becker gave her talking about her intern project.

Feb 25. Prepared and submit AMCA presentations and volunteer work schedule.

Feb 26. Noon. Met the Scientists from Vector Bites and other countries.

Feb 28. Hosted the visitors from the IVCC, Vector Bites, Pan African Mosquito Control Association, and two California Mosquito Control Programs, Israel, and MosquitoMate.

# Task Time Summary

From Date : 02-01-2022

To Date : 02-28-2022

Zone : All

Employee Name : All

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Task Time Summary			
Task	Total Time	Total Timesheets	Total Time
Administrative	1114:16 hrs	194	
Aerial Ground Crew	06:45 hrs	1	
Aerial Maint	309:00 hrs	91	
AM Briefing	22:07 hrs	53	
Assist	48:21 hrs	10	
Building & Grounds Work	647:31 hrs	160	
Chicken Program	26:30 hrs	12	
Computer Repair	139:00 hrs	18	
Daily Paperwork	37:17 hrs	80	
Field Experiment	35:00 hrs	8	
Fish Placement	01:35 hrs	3	
Fish Program	03:30 hrs	7	
Ground Adulicide	03:50 hrs	3	
Ground Larvicide	36:51 hrs	14	
Ground Site Inspection	151:09 hrs	67	
Hand Adulicide	01:10 hrs	1	
Holiday	320:00 hrs	32	
Insectary	268:00 hrs	44	
Inventory	15:10 hrs	5	
Lab Experiment	71:05 hrs	18	
Mechanics Time	242:26 hrs	26	5056:45 hrs
Meeting	112:55 hrs	64	
Molecular Lab Work	210:00 hrs	33	
Mosquito Trap BG	60:30 hrs	12	
Mosquito Trap ID	02:45 hrs	2	
Mosquito Traps Misc	19:30 hrs	9	
Produce Papers & Programs	179:50 hrs	51	
Project Research	201:30 hrs	31	
Public Relations	18:30 hrs	7	
Resupplying Trucks	05:39 hrs	9	
Source Reduction (tires)	04:53 hrs	4	
Supervisory	17:45 hrs	12	
Training Classroom	318:20 hrs	55	
Travel	38:30 hrs	11	
Vehicle Maintenance	04:20 hrs	4	
Annual Leave	240:00 hrs	34	
Leave Without Pay	10:15 hrs	2	
Sick Leave	111:00 hrs	21	

# Treatment Summary

From Date : 02-01-2022

To Date : 02-28-2022

Zone : All

Material : All

Task : All

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Material	Amount	Area Treated	Application Rate	Times
Altosid WSP	22 ea	0.07 acre	322.68 ea / acre	1 times
Altosid XRG	80 lb	13.33 acre	6 lb / acre	1 times
Cocobear	32 fl oz	0.08 acre	384.02 fl oz / acre	4 times
Sustain MBG	80 lb	10.67 acre	7.5 lb / acre	1 times
Talstar P	0.88 gal	2.62 acre	0.34 gal / acre	3 times
VectoBac 12AS	224 fl oz	14 acre	16 fl oz / acre	7 times