

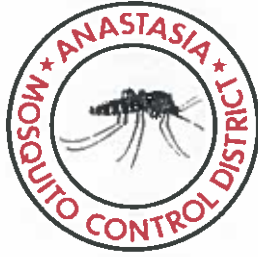
Anastasia Mosquito  
Control District  
of St. Johns County



District Board Meeting  
**FEBRUARY 14, 2019**

Thursday at

**5:00 P.M**



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

**PROPOSED AGENDA**

**Thursday, February 14, 2019  
5:00 P.M.**

**Invocation and Pledge: *Commissioner Howell***

**Consent Items: APPROVAL OF:**

1. Treasurer's Report
2. Vouchers (*Cancelled Checks*)
3. Chemical Inventory
4. Minutes: Regular Board Meeting, January 10, 2019 at 5:00 P.M.
5. Budget Calendar 19/20
6. Change Data Manager's Title to Business Manager
7. Dodd Short Course Report
8. Update Assistant Supervisor Job Description
9. Budget Amendments ~ \$46,713.44 from Receipts; to Expenditures for Personal Services and Benefits, Operating Expenses, Printing, Misc. Supplies & Training

**Unfinished Business:**

1. 8 Acre Parcel & Research Property Construction Project Update ~ *Mr. Bill Youker, V.P., Harrell Construction Company, Inc. (15 min)*
2. Discussion and Approval of the Concept for District Expansion ~ *Dr. Rui-De Xue (10 min)*
3. SIT Project Report Ppt ~ *Mr. Christopher Bibbs (15 min)*

**New Business:**

1. Aerial Program Report Ppt ~ *Mr. Peter Paul Leone III (15 min)*
2. Update on 16<sup>th</sup> Annual Workshop March 26-28, 2019 ~ *Dr. Rui-De Xue (10 min)*
3. FMCA Tallahassee Legislation Meeting Items and Delegates and Travel Approval for March 18-19, 2019 ~ *Commissioner Jeanne Moeller (10 min)*
4. Discussion and Approval for AMCA, Washington DC Conference, May 13-16, 2019 ~ *Dr. Rui-De Xue (10 min)*

**Reports**

1. Director
2. Attorney

**Commissioner Comments:**

**Attachments: FOR INFORMATION PURPOSES ONLY**

1. 2018 Annual Program Report DRAFT

# CONSENTS

ANASTASIA MOSQUITO CONTROL DISTRICT OF ST. JOHNS COUNTY

TREASURER'S REPORT

January 2019 Reconcile

Report for February, 2019 Meeting

Cash Balances Ending:

1/31/19

Local Fund	\$	2,402,680.29
S.B.A. Fund	\$	5,757,595.76
<b>Total Funds as of 01/31/19</b>	<b>\$</b>	<b>8,160,276.05</b>

Source of Income Local/ SBA Fund:

1/31/19

Taxes	\$	1,398,877.83	Gross before Tax Collector Commission, 2%
Taxes, Prior Year Distrib.	\$	859.48	Gross before Tax Collector Commission, 2%
Local Fund - Interest	\$	-	
SBA Fund- Return on Investment	\$	13,046.77	
Grant Money	\$	15,000.00	"Lamplight Farms, Inc.,Tiki Outdoor Spatial Repellency Test
Surplus/ Misc.	\$	15.00	
<b>Total Deposits by 01/31/19</b>	<b>\$</b>	<b>1,427,799.08</b>	

CHEMICAL & INSECTICIDE INVENTORY

Report for February, 2019 Meeting

Summary

VOUCHERS PRESENTED

Report for February, 2019 Meeting

Local Fund      several

# VOUCHERS (Electronic Bill Pay & Canceled Checks)

From 00/01/19 through 01/31/19

Date	Num	Name	Memo	Clr	Amount	Balance
<b>110 - Wells Fargo Bank - Local</b>						1,521,957.21
<b>110-A - QuickBooks Bill Pay</b>						-7,836,854.91
01/11/2019	6509	Blue Cross Blue S...	A5658	X	-25,919.30	-7,862,774.21
01/16/2019	6510	AFLAC	HZQ29	X	-161.76	-7,862,935.97
01/16/2019	6511	AG-PRO Compani...	ANAST003	X	-226.68	-7,863,162.65
01/16/2019	6512	Augustine Alarm, ...	18081	X	-114.98	-7,863,277.63
01/16/2019	6513	Aztec Office of FL...	015791	X	-360.24	-7,863,637.87
01/16/2019	6514	Cintas Corporatio...	280-01247	X	-487.14	-7,864,125.01
01/16/2019	6515	DiscoverTec	ANAS001	X	-50.00	-7,864,175.01
01/16/2019	6516	Florida Pest Control	AMCD	X	-33.08	-7,864,208.09
01/16/2019	6517	FPL - EOC DR-M...	54682-331...	X	-1,455.23	-7,865,663.32
01/16/2019	6518	FPL - EOC DR - R...	37751-460...	X	-100.70	-7,865,764.02
01/16/2019	6519	Isolair Helicopter ...	AMCD Heli	X	-3,240.97	-7,869,004.99
01/16/2019	6520	Legal Shield	Group#01...	X	-57.80	-7,869,062.79
01/16/2019	6521	MSC Industrial Su...	CUST#023...	X	-27.30	-7,869,090.09
01/16/2019	6522	Pitney Bowes	Acct#1009...	X	-287.40	-7,869,377.49
01/16/2019	6523	Renco Corporation	REP(CSE)	X	-330.00	-7,869,707.49
01/16/2019	6524	Republic Services...	3-0687-00...	X	-480.00	-7,870,187.49
01/16/2019	6525	St. Johns County ...	500562-12...	X	-325.29	-7,870,512.78
01/16/2019	6526	Staples Credit Plan	60111000...	X	-108.07	-7,870,620.85
01/16/2019	6527	The Feed Store	00300	X	-165.00	-7,870,785.85
01/16/2019	6528	The Home Depot	60353225...	X	-207.24	-7,870,993.09
01/16/2019	6529	Tractor Supply Cr...	6035 3012...	X	-20.56	-7,871,013.65
01/16/2019	6530	Verizon Wireless ...	94206016...	X	-1,295.56	-7,872,309.21
01/16/2019	6531	Walmart Commun...	6032 2020...	X	-146.16	-7,872,455.37
01/24/2019	6532	Advance Auto Parts	9530571521	X	-84.56	-7,872,539.93
01/24/2019	6533	Comcast Busines...	906116964	X	-366.27	-7,872,906.20
01/24/2019	6534	COMCAST TV-Int...	8495-74-3...	X	-339.44	-7,873,245.64
01/24/2019	6535	DiscoverTec	ANAS001	X	-50.00	-7,873,295.64
01/24/2019	6536	Lewis Longman & ...	ID#4370-001	X	-1,250.00	-7,874,545.64
01/24/2019	6537	MSC Industrial Su...	CUST#023...	X	-81.90	-7,874,627.54
01/24/2019	6538	St. Johns County ...	Account#0...	X	-42.00	-7,874,669.54
01/24/2019	6539	The St. Aug. Reco...	15661	X	-17.95	-7,874,687.49
01/28/2019	6540	Blue Cross Blue S...	A5658		-29,207.76	-7,903,895.25
01/28/2019	6541	United Concordia	Recipient ...	X	-1,380.14	-7,905,275.39
01/28/2019	7361	AFLAC	HZQ29		-72.72	-7,905,348.11
01/28/2019	7362	Nationwide Retire...	Entity Cod...		-970.00	-7,906,318.11
01/28/2019	7363	US Department of...	Tracing# 1...		-138.79	-7,906,456.90
01/29/2019	6542	Bank of America	4356 2200...	X	-2,886.07	-7,909,342.97
01/30/2019	6543	Altman Scientific, ...	INV#5836	X	-925.00	-7,910,267.97
01/30/2019	6544	Florida Pest Control	AMCD		-33.08	-7,910,301.05
01/30/2019	6545	Republic Services...	3-0687-00...	X	-482.80	-7,910,783.85
01/30/2019	6546	Verizon Wireless ...	94206016...	X	-2,272.89	-7,913,056.74
<b>Total 110-A - QuickBooks Bill Pay</b>					<b>-76,201.83</b>	<b>-7,913,056.74</b>
<b>110 - Wells Fargo Bank - Local - Other</b>						9,358,812.12
01/02/2019	Dire...	Don Girvan		X	-100.00	9,358,712.12
01/02/2019	Dire...	Gary Howell		X	-100.00	9,358,612.12
01/02/2019	Dire...	Gina LeBlanc		X	-100.00	9,358,512.12
01/02/2019	Dire...	Jeanne Moeller		X	-100.00	9,358,412.12
01/02/2019	Dire...	Panagiota Becker		X	-100.00	9,358,312.12
01/03/2019	Dire...	TD Bank		X	-6,200.00	9,352,112.12
01/03/2019	Dire...	TD Bank		X	-2,700.00	9,349,412.12
01/03/2019	Dire...	Ameris Bank	John Allen ...	X	-6,200.00	9,343,212.12
01/03/2019	Dire...	VyStar Credit Union	HSA Fundi...	X	-98,700.00	9,244,512.12
01/04/2019		QUICKBOOKS BI...		X	-15.95	9,244,496.17
01/04/2019		QUICKBOOKS BI...		X	-13.90	9,244,482.27
01/08/2019	7351	Harrell Constructi...	AMCD Co...	X	-192,536.79	9,051,945.48
01/08/2019	7352	Quality Hardware ...	65874	X	-2,440.55	9,049,504.93
01/08/2019	7353	Nationwide Retire...	Entity Cod...	X	-970.00	9,048,534.93
01/08/2019	7354	US Department of...	Tracing# 1...	X	-138.79	9,048,396.14
01/08/2019	7355	Nationwide Retire...	Entity Cod...	X	-970.00	9,047,426.14
01/08/2019	7356	US Department of...	Tracing# 1...	X	-138.79	9,047,287.35
01/08/2019	7357	Ann Simpson	Cleaned & ...	X	-1,000.00	9,046,287.35
01/08/2019	7358	Tesla Industries, I...	Inv. #119554	X	-6,495.34	9,039,792.01
01/09/2019	9-#4...	Daniel Dixon	Taxes Wit...	X	-1,126.92	9,038,665.09
01/09/2019	9-#4...	Daniel Dixon	Bank Acco...		0.00	9,038,665.09
01/09/2019	9-#4...	Daniel Dixon	Credit Union		0.00	9,038,665.09
01/09/2019	9-#4...	Daniel Dixon	Net Pay to ...	X	-2,771.32	9,035,893.77
01/09/2019	7359	St. John's County ...	# FL2991PK	X	-662.52	9,035,231.25
01/09/2019	Dire...	Peter P. Leone III		X	-140.00	9,035,091.25
01/09/2019	Dire...	Richard Weaver		X	-140.00	9,034,951.25
01/10/2019	9-#4...	Payroll	Taxes Wit...	X	-13,038.72	9,021,912.53
01/10/2019	9-#4...	Payroll	Bank Acco...	X	-1,659.39	9,020,253.14
01/10/2019	9-#4...	Payroll	Credit Union	X	-718.39	9,019,534.75

**VOUCHERS (Electronic Bill Pay & Canceled Checks)**  
From 00/01/19 through 01/31/19

Date	Num	Name	Memo	Clr	Amount	Balance
01/10/2019	9-#4...	Payroll	Net Pay to ...	X	-37,366.19	8,982,168.56
01/10/2019			Deposit	X	802.70	8,982,971.26
01/10/2019	Dire...	Richard Weaver		X	-32.50	8,982,938.76
01/11/2019	7350	Ann Simpson	VOID: Cle...	X	0.00	8,982,938.76
01/11/2019		wells Fargo		X	-268.61	8,982,670.15
01/14/2019			Deposit	X	842.29	8,983,512.44
01/16/2019	7360	VyStar Credit Union	H.S.A. Co...		-2,559.45	8,980,952.99
01/17/2019			Deposit	X	102.99	8,981,055.98
01/24/2019	9-#4...	Payroll	Taxes Wit...	X	-11,863.50	8,969,192.48
01/24/2019	9-#4...	Payroll	Bank Acco...	X	-1,659.39	8,967,533.09
01/24/2019	9-#4...	Payroll	Credit Union	X	-718.39	8,966,814.70
01/24/2019	9-#4...	Payroll	Net Pay to ...	X	-34,231.84	8,932,582.86
01/29/2019			Deposit	X	1,370,113.63	10,302,696.49
01/31/2019			Deposit	X	15,000.00	10,317,696.49
01/31/2019	7364	Quality Hardware ...	65874		-356.50	10,317,339.99
01/31/2019	7365	Stan Weaver & C...	4624		-1,515.00	10,315,824.99
01/31/2019	9-#4...	Braddock's Small ...	Previously ...	X	-87.96	10,315,737.03
Total 110 · Wells Fargo Bank - Local - Other					956,924.91	10,315,737.03
Total 110 · Wells Fargo Bank - Local					880,723.08	2,402,680.29
<b>TOTAL</b>					<b>880,723.08</b>	<b>2,402,680.29</b>

**Anastasia Mosquito Control District**  
**Reconciliation Summary**  
 110 · Wells Fargo Bank - Local, Period Ending 01/31/2019

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	Jan 31, 19
<b>Beginning Balance</b>	1,523,391.04
<b>Cleared Transactions</b>	
Checks and Payments - 71 Items	-471,285.23
Deposits and Credits - 6 Items	1,386,861.61
<b>Total Cleared Transactions</b>	915,576.38
<b>Cleared Balance</b>	2,438,967.42
<b>Uncleared Transactions</b>	
Checks and Payments - 9 Items	-36,287.13
Deposits and Credits - 2 Items	
<b>Total Uncleared Transactions</b>	-36,287.13
<b>Register Balance as of 01/31/2019</b>	2,402,680.29
<b>New Transactions</b>	
Checks and Payments - 5 Items	-7,924.26
<b>Total New Transactions</b>	-7,924.26
<b>Ending Balance</b>	2,394,756.03

# Anastasia Mosquito Control District

## Reconciliation Detail

110 · Wells Fargo Bank - Local, Period Ending 01/31/2019

Type	Date	Num	Name	Clr	Amount	Balance
<b>Beginning Balance</b>						1,523,391.04
<b>Cleared Transactions</b>						
<b>Checks and Payments - 71 Items</b>						
Bill Pmt -Check	01/02/2019	Direct ...	Panagiota Becker	X	-100.00	-100.00
Bill Pmt -Check	01/02/2019	Direct ...	Don Girvan	X	-100.00	-200.00
Bill Pmt -Check	01/02/2019	Direct ...	Jeanne Moeller	X	-100.00	-300.00
Bill Pmt -Check	01/02/2019	Direct ...	Gina LeBlanc	X	-100.00	-400.00
Bill Pmt -Check	01/02/2019	Direct ...	Gary Howell	X	-100.00	-500.00
Bill Pmt -Check	01/03/2019	Direct ...	VyStar Credit Union	X	-98,700.00	-99,200.00
Bill Pmt -Check	01/03/2019	Direct ...	Ameris Bank	X	-6,200.00	-105,400.00
Bill Pmt -Check	01/03/2019	Direct ...	TD Bank	X	-6,200.00	-111,600.00
Bill Pmt -Check	01/03/2019	Direct ...	TD Bank	X	-2,700.00	-114,300.00
Check	01/04/2019		QUICKBOOKS BILL...	X	-15.95	-114,315.95
Check	01/04/2019		QUICKBOOKS BILL...	X	-13.90	-114,329.85
Bill Pmt -Check	01/08/2019	7351	Harrell Construction ...	X	-192,536.79	-306,866.64
Bill Pmt -Check	01/08/2019	7358	Tesla Industries, Inc.	X	-6,495.34	-313,361.98
Bill Pmt -Check	01/08/2019	7352	Quality Hardware & ...	X	-2,440.55	-315,802.53
Bill Pmt -Check	01/08/2019	7357	Ann Simpson	X	-1,000.00	-316,802.53
Bill Pmt -Check	01/08/2019	7355	Nationwide Retirem...	X	-970.00	-317,772.53
Bill Pmt -Check	01/08/2019	7353	Nationwide Retirem...	X	-970.00	-318,742.53
Bill Pmt -Check	01/08/2019	7354	US Department of E...	X	-138.79	-318,881.32
Bill Pmt -Check	01/08/2019	7356	US Department of E...	X	-138.79	-319,020.11
General Journal	01/09/2019	9-#424	Daniel Dixon	X	-2,771.32	-321,791.43
General Journal	01/09/2019	9-#424	Daniel Dixon	X	-1,126.92	-322,918.35
Bill Pmt -Check	01/09/2019	7359	St. John's County T...	X	-662.52	-323,580.87
Bill Pmt -Check	01/09/2019	Direct ...	Peter P. Leone III	X	-140.00	-323,720.87
Bill Pmt -Check	01/09/2019	Direct ...	Richard Weaver	X	-140.00	-323,860.87
General Journal	01/10/2019	9-#423	Payroll	X	-37,366.19	-361,227.06
General Journal	01/10/2019	9-#423	Payroll	X	-13,038.72	-374,265.78
General Journal	01/10/2019	9-#423	Payroll	X	-1,659.39	-375,925.17
General Journal	01/10/2019	9-#423	Payroll	X	-718.39	-376,643.56
Bill Pmt -Check	01/10/2019	Direct ...	Richard Weaver	X	-32.50	-376,676.06
Bill Pmt -Check	01/11/2019	6509	Blue Cross Blue Shi...	X	-25,919.30	-402,595.36
Check	01/11/2019		wells Fargo	X	-268.61	-402,863.97
Bill Pmt -Check	01/16/2019	6519	Isolair Helicopter Sy...	X	-3,240.97	-406,104.94
Bill Pmt -Check	01/16/2019	6517	FPL - EOC DR-Main...	X	-1,455.23	-407,560.17
Bill Pmt -Check	01/16/2019	6530	Verizon Wireless Ce...	X	-1,295.56	-408,855.73
Bill Pmt -Check	01/16/2019	6514	Cintas Corporation-...	X	-487.14	-409,342.87
Bill Pmt -Check	01/16/2019	6524	Republic Services - ...	X	-480.00	-409,822.87
Bill Pmt -Check	01/16/2019	6513	Aztec Office of FL (p...	X	-360.24	-410,183.11
Bill Pmt -Check	01/16/2019	6523	Renco Corporation	X	-330.00	-410,513.11
Bill Pmt -Check	01/16/2019	6525	St. Johns County Uli...	X	-325.29	-410,838.40
Bill Pmt -Check	01/16/2019	6522	Pitney Bowes	X	-287.40	-411,125.80
Bill Pmt -Check	01/16/2019	6511	AG-PRO Companies	X	-226.68	-411,352.48
Bill Pmt -Check	01/16/2019	6528	The Home Depot	X	-207.24	-411,559.72
Bill Pmt -Check	01/16/2019	6527	The Feed Store	X	-165.00	-411,724.72
Bill Pmt -Check	01/16/2019	6510	AFLAC	X	-161.76	-411,886.48
Bill Pmt -Check	01/16/2019	6531	Walmart Community	X	-146.16	-412,032.64
Bill Pmt -Check	01/16/2019	6512	Augustine Alarm, Fir...	X	-114.98	-412,147.62
Bill Pmt -Check	01/16/2019	6526	Staples Credit Plan	X	-108.07	-412,255.69
Bill Pmt -Check	01/16/2019	6518	FPL - EOC DR - Re...	X	-100.70	-412,356.39
Bill Pmt -Check	01/16/2019	6520	Legal Shield	X	-57.80	-412,414.19
Bill Pmt -Check	01/16/2019	6515	DiscoverTec	X	-50.00	-412,464.19
Bill Pmt -Check	01/16/2019	6516	Florida Pest Control	X	-33.08	-412,497.27
Bill Pmt -Check	01/16/2019	6521	MSC Industrial Supp...	X	-27.30	-412,524.57
Bill Pmt -Check	01/16/2019	6529	Tractor Supply Credi...	X	-20.56	-412,545.13
General Journal	01/24/2019	9-#425	Payroll	X	-34,231.84	-446,776.97
General Journal	01/24/2019	9-#425	Payroll	X	-11,863.50	-458,640.47
General Journal	01/24/2019	9-#425	Payroll	X	-1,659.39	-460,299.86
Bill Pmt -Check	01/24/2019	6536	Lewis Longman & ...	X	-1,250.00	-461,549.86
General Journal	01/24/2019	9-#425	Payroll	X	-718.39	-462,268.25
Bill Pmt -Check	01/24/2019	6533	Comcast Business -...	X	-366.27	-462,634.52
Bill Pmt -Check	01/24/2019	6534	COMCAST TV-Inter...	X	-339.44	-462,973.96
Bill Pmt -Check	01/24/2019	6532	Advance Auto Parts	X	-84.56	-463,058.52
Bill Pmt -Check	01/24/2019	6537	MSC Industrial Supp...	X	-81.90	-463,140.42
Bill Pmt -Check	01/24/2019	6535	DiscoverTec	X	-50.00	-463,190.42
Bill Pmt -Check	01/24/2019	6538	St. Johns County So...	X	-42.00	-463,232.42
Bill Pmt -Check	01/24/2019	6539	The St. Aug. Record...	X	-17.95	-463,250.37
Bill Pmt -Check	01/28/2019	6541	United Concordia	X	-1,380.14	-464,630.51
Bill Pmt -Check	01/29/2019	6542	Bank of America	X	-2,886.07	-467,516.58
Bill Pmt -Check	01/30/2019	6546	Verizon Wireless Ce...	X	-2,272.89	-469,789.47
Bill Pmt -Check	01/30/2019	6543	Altman Scientific, Inc.	X	-925.00	-470,714.47



Type	Date	Num	Name	Clr	Amount	Balance
Bill Pmt -Check	01/30/2019	6545	Republic Services - ...	X	-482.80	-471,197.27
General Journal	01/31/2019	9-#426	Braddock's Small E...	X	-87.96	-471,285.23
<b>Total Checks and Payments</b>					<b>-471,285.23</b>	<b>-471,285.23</b>
<b>Deposits and Credits - 6 Items</b>						
Deposit	01/10/2019			X	802.70	802.70
Bill Pmt -Check	01/11/2019	7350	Ann Simpson	X		802.70
Deposit	01/14/2019			X	842.29	1,644.99
Deposit	01/17/2019			X	102.99	1,747.98
Deposit	01/29/2019			X	1,370,113.63	1,371,861.61
Deposit	01/31/2019			X	15,000.00	1,386,861.61
<b>Total Deposits and Credits</b>					<b>1,386,861.61</b>	<b>1,386,861.61</b>
<b>Total Cleared Transactions</b>					<b>915,576.38</b>	<b>915,576.38</b>
<b>Cleared Balance</b>					<b>915,576.38</b>	<b>2,438,967.42</b>
<b>Uncleared Transactions</b>						
<b>Checks and Payments - 9 Items</b>						
Bill Pmt -Check	12/13/2018	7348	E. H. Thompson Co...		-1,433.83	-1,433.83
Bill Pmt -Check	01/16/2019	7360	VyStar Credit Union		-2,559.45	-3,993.28
Bill Pmt -Check	01/28/2019	6540	Blue Cross Blue Shi...		-29,207.76	-33,201.04
Bill Pmt -Check	01/28/2019	7362	Nationwide Retirem...		-970.00	-34,171.04
Bill Pmt -Check	01/28/2019	7363	US Department of E...		-138.79	-34,309.83
Bill Pmt -Check	01/28/2019	7361	AFLAC		-72.72	-34,382.55
Bill Pmt -Check	01/30/2019	6544	Florida Pest Control		-33.08	-34,415.63
Bill Pmt -Check	01/31/2019	7365	Stan Weaver & Com...		-1,515.00	-35,930.63
Bill Pmt -Check	01/31/2019	7364	Quality Hardware & ...		-356.50	-36,287.13
<b>Total Checks and Payments</b>					<b>-36,287.13</b>	<b>-36,287.13</b>
<b>Deposits and Credits - 2 Items</b>						
General Journal	01/09/2019	9-#424	Daniel Dixon			
General Journal	01/09/2019	9-#424	Daniel Dixon			
<b>Total Deposits and Credits</b>						
<b>Total Uncleared Transactions</b>					<b>-36,287.13</b>	<b>-36,287.13</b>
<b>Register Balance as of 01/31/2019</b>					<b>879,289.25</b>	<b>2,402,680.29</b>
<b>New Transactions</b>						
<b>Checks and Payments - 5 Items</b>						
Bill Pmt -Check	02/01/2019	6547	Guardian		-371.38	-371.38
Bill Pmt -Check	02/06/2019	6549	Lombardo, Spradley...		-7,089.18	-7,460.56
Bill Pmt -Check	02/06/2019	6550	St. Johns County Util...		-355.93	-7,816.49
Bill Pmt -Check	02/06/2019	6548	Legal Shield		-57.80	-7,874.29
Bill Pmt -Check	02/06/2019	6551	Turner Ace Hardware		-49.97	-7,924.26
<b>Total Checks and Payments</b>					<b>-7,924.26</b>	<b>-7,924.26</b>
<b>Total New Transactions</b>					<b>-7,924.26</b>	<b>-7,924.26</b>
<b>Ending Balance</b>					<b>871,364.99</b>	<b>2,394,756.03</b>

02/05/19

# Reconciliation Summary

115 · SBA, Period Ending 01/31/2019

---

	Jan 31, 19
<b>Beginning Balance</b>	5,744,548.99
<b>Cleared Transactions</b>	
<b>Deposits and Credits - 1 Item</b>	13,046.77
<b>Total Cleared Transactions</b>	13,046.77
<b>Cleared Balance</b>	<b>5,757,595.76</b>
<b>Register Balance as of 01/31/2019</b>	5,757,595.76
<b>Ending Balance</b>	5,757,595.76

02/05/19

# Reconciliation Detail

115 · SBA, Period Ending 01/31/2019

Type	Date	Num	Name	Clr	Amount	Balance
<b>Beginning Balance</b>						5,744,548.99
<b>Cleared Transactions</b>						
<b>Deposits and Credits - 1 item</b>						
Deposit	01/31/2019			X	13,046.77	13,046.77
<b>Total Deposits and Credits</b>					13,046.77	13,046.77
<b>Total Cleared Transactions</b>					13,046.77	13,046.77
<b>Cleared Balance</b>					13,046.77	5,757,595.76
<b>Register Balance as of 01/31/2019</b>					13,046.77	5,757,595.76
<b>Ending Balance</b>					13,046.77	5,757,595.76



State Board of Administration  
Local Government Surplus Funds Trust Fund  
Participant Statement

AGENCY ACCOUNT 101071  
01/01/2019 - 01/31/2019

ANASTASIA MOSQUITO CONTROL DIS  
OF ST JOHNS COUNTY  
120 EOC DRIVE  
ST. AUGUSTINE, FL 32092

Participant Return 01/31/2019 : 2.67 %

Date	Transaction Type	Description	Amount	Balance
01/01/2019	BEGINNING BALANCE			5,744,548.99
01/31/2019	EARNED INCOME	INTEREST	13,046.77	5,757,595.76
	Totals:		13,046.77	5,757,595.76



**ANASTASIA MOSQUITO CONTROL DISTRICT OF ST. JOHNS COUNTY**  
**CHEMICAL & FUEL INVENTORY**  
 MONTH OF DECEMBER 2018

**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.	16,180.00				16,180.00	0.00	16,180.00	16,180.00	0.00
ALTOSID XR LBS.	313.00				313.00	1.00	312.00	312.00	0.00
ALTOSID XRG LBS.	3,480.00				3,480.00	0.00	3,480.00	3,480.00	0.00
AQUABAC XT GALS.	350.50				350.50	32.88	317.62	317.63	0.01
AQUALUER 20-20 GALS.	460.60				460.60	0.00	460.60	460.60	0.00
B. t. DUNKS (Dognuts) EA.	349.00				349.00	20.00	329.00	329.00	0.00
COCO BEAR GALS.	186.38				186.38	2.95	183.43	183.42	-0.01
DUET GALS.	246.75				246.75	1.00	245.75	245.75	0.00
MOSQUITOMIST TWO GALS.	451.25				451.25	0.00	451.25	451.50	0.25
NALED GALS.	750.00				750.00	0.00	750.00	750.00	0.00
NATULAR DT EA.	10,476.00				10,476.00	10.00	10,466.00	10,466.00	0.00
NATULAR XRT EA.	0.00				0.00	0.00	0.00	0.00	0.00
STRIKE PELLETS LBS.	44.00				44.00	0.00	44.00	44.00	0.00
SUSTAIN MBG LBS.	1,162.00				1,162.00	0.00	1,162.00	1,162.00	0.00
TALSTAR P GALS.	26.05				26.05	0.05	26.00	26.00	0.00
GASOLINE GALS.	2,791.00				2,791.00	662.17	2,128.83	2,145.00	16.17
<b>TOTALS</b>	<b>37,266.53</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>37,266.53</b>	<b>730.05</b>	<b>36,536.48</b>	<b>36,552.90</b>	<b>16.42</b>

BASE=	36,552.90
Total	36,552.90

PREPARED BY: [Signature]      DATE: 1/15/19  
 REVIEWED BY: [Signature]      DATE: 2/06/19  
 REVIEWED BY: \_\_\_\_\_      DATE: \_\_\_\_\_

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

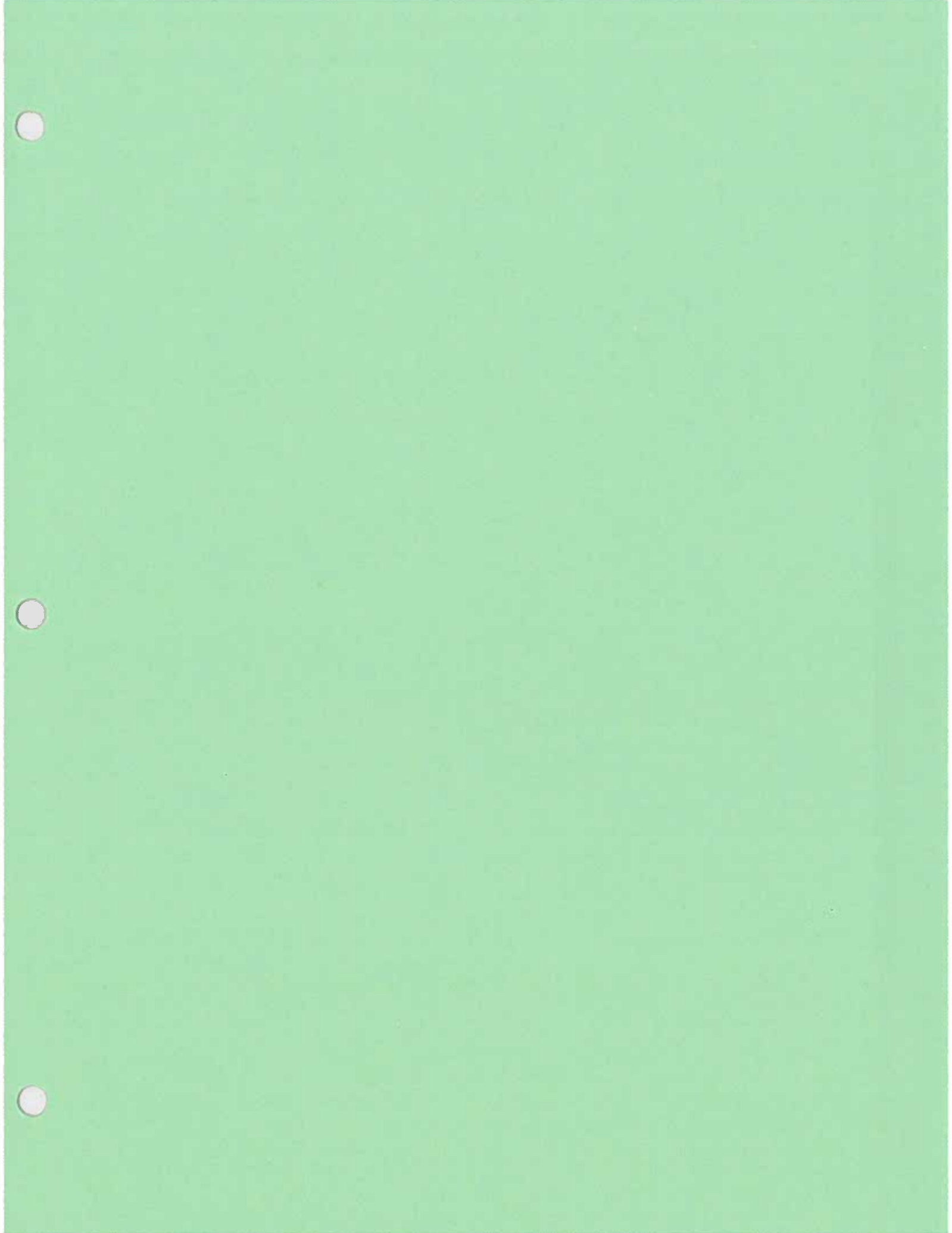
MONTH OF DECEMBER 2018

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.	16,180.00	\$0.8100	\$13,105.80	6/22/17	UNIVAR
ALTOSID XR LBS.	312.00	\$3.34	\$1,042.08	4/9/18	UNIVAR
ALTOSID XRG LBS.	3,480.00	\$8.7500	\$30,450.00	9/18/18	UNIVAR
AQUABAC XT GALS.	317.63	\$32.5000	\$10,322.98	9/24/18	ADAPCO
AQUALUER 20-20 GALS.	460.60	\$118.0000	\$54,350.80	7/18/18	ALLPRO
B. t. i. DUNKS (Dognuts) EA.	329.00	\$0.9780	\$321.76	7/13/18	ADAPCO
COCO BEAR GALS.	183.42	\$20.4800	\$3,756.44	7/16/18	CLARKE
DUET GALS.	245.75	\$197.9900	\$48,656.04	7/11/18	CLARKE
MOSQUITOMIST TWO GALS.	451.50	\$68.2800	\$30,828.42	8/13/18	CLARKE
NALED GALS.	750.00	\$211.8400	\$158,880.00	6/18/18	ADAPCO
NATULAR DT EA.	10,466.00	\$0.4168	\$4,362.23	9/9/16	CLARKE
NATULAR XRT EA.	0.00	Transferred from lab			CLARKE
STRIKE PELLETS LBS.	44.00	\$184.1500	\$8,102.60	5/10/10	ADAPCO
SUSTAIN MBG LBS.	1,162.00	\$6.9000	\$8,017.80	9/17/18	ALLPRO
TALSTAR P GALS.	26.00	\$37.1400	\$965.64	3/29/17	UNIVAR
GASOLINE GALS.	2,145.00	\$2.3473	\$5,034.96	10/30/18	L. V. HIERS
<b>TOTAL</b>	<b>36,552.90</b>	<b>\$893.92</b>	<b>\$378,197.55</b>		

PREPARED BY: Wesley DATE: 1/15/19

COST FIGURES REVIEWED BY: Jeff Jones DATE: 2/06/19

REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_





# 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

Gary Howell, Chairperson  
Jeanne Moeller, Vice-Chairperson  
Gina LeBlanc, Secretary/Treasurer  
Don Girvan, Commissioner  
Trish Becker, Commissioner



## DISTRICT DIRECTOR

Dr. Rui-de Xue



Thursday, January 10, 2019

Next Meeting(s): Thursday, February 14, 2019 - 5:00 PM

## MINUTES

The regular Board meeting for the Anastasia Mosquito Control District of St. Johns County was held on Thursday, January 10, 2019, at 5:00 P.M.

### Board members in attendance:

Mr. Gary Howell, Chairperson  
Mrs. Gina LeBlanc, Vice-Chairperson  
Mrs. Jeanne Moeller, Commissioner  
Mr. Don Girvan, Commissioner  
Mrs. Trish Becker, Commissioner

### Also in attendance:

Dr. Rui-De Xue, Director  
Mr. Wayne Flowers, Attorney  
Mr. Bill Youker, V.P., Harrell Construction Co., Inc.

Chairperson Howell called the meeting to order.

Commissioner Howell led the invocation and the Pledge of Allegiance to the flag.

**CEREMONY:** Oath of Office / Swearing in of Commissioners, Mrs. Trish Becker and Mrs. Jeanne Moeller ~ *Mr. Wayne Flowers*

- Mr. Flowers administered the Oath of Office to returning commissioner, Mrs. Jeanne Moeller and new commissioner, Mrs. Trish Becker. Group pictures were then taken of the Board for the AMCD website and historical significance.

**ROLL CALL:** Chairperson Howell noted ~ All were present

**CITIZEN PARTICIPATION:** For Items not on the Agenda ~ **PUBLIC COMMENT:** Mrs. Vivian Browning, 30 Beachcomber Way, St. Augustine, FL: Mrs. Browning congratulated the Board members and stated she wants to continue pursuing the Board changing the Anastasia Mosquito Control District of St. Johns County name to something that better represents the taxpayers. She also invited the commissioners to the Vilano Main Street ground breaking ceremony for construction of the Hyatt Place and Holiday Inn, next Wednesday at 4 P.M.

**APPROVAL OF AGENDA: Chairperson Howell called for approval of the Agenda.**

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

- Motioned by: Commissioner Moeller
- Seconded by: Commissioner LeBlanc
- VOTE accepted unanimously by all commissioners
- **MOTION PASSED UNANIMOUSLY**

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

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

- Motioned by: Commissioner Moeller
- Seconded by: Commissioner LeBlanc
- VOTE: Accepted unanimously by all commissioners
- **MOTION PASSED UNANIMOUSLY**

**Consent Items ~ APPROVAL OF:**

1. Treasurer's Report
2. Vouchers (*Cancelled Checks*)
3. Chemical Inventory
4. Minutes: Regular Board Meeting – December 13, 2018 at 5:00 PM
5. 2019 Committee Member List
6. Surplus Property FY 18/19
7. Waste and Recycle Service
8. Mosquito Mate, Inc. Contract Modification
9. Budget Amendments ~ \$15,031.79 (from interest earnings to Operating Expenditures) and \$604,396.10 (increase in Beginning Local Fund Balance)

**UNFINISHED BUSINESS:**

**Item 1: 2018 COLLABORATION PROJECTS & VISITING SCIENTISTS PROJECTS REPORT ~ Dr. Rui-De Xue**

- Dr. Xue reviewed the collaboration projects for 2017-2018; funding from DACS, SpringStar, CDC & Mosquito Mate, MGK, Lamplight Farms, IVCC, CDC/SCEVD, Navy, and Longray; Adjunct Professors from 2018-2019 were Dr. Gunther Mueller (Hebrew Univ., Israel & Univ. of Bamako, Mali), Dr. Hussein Sanchez-Arroyo (Univ. of Mexico), Dr. Emad Khater (Univ., Cairo, Egypt); Visiting Scientists: Dr. Hui-Liu (Institute of Disease Vector Control & Disinfection, Jiangsu CDC), Mrs. Kathy Shirley (Science Teacher, Valley Ridge Academy, P.V., FL), Dr. Judy Zhu (Dept. of Vector Control and Disinfection, Wuxi CDC), Dr. Shawn Shi (Dept. of Disease Control, Wuxi CDC).

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

**Item 2: DISCUSSION on MAJOR WORK PLAN for the NEXT 5 YEARS ~ Dr. Rui-De Xue**

- Dr. Xue reviewed the outline for discussion that included the 70 year anniversary celebrations, finishing all facility construction, start operational running of the aerial program in 2019, plan for Good Lab Practice (GLP) and certification, build a disease vector museum (2020-2021), and multi-county expansion to Nocatee (St. Johns County), Flagler Estates (Flagler County), and SR 13 (portion in Putnam County); after the Board's input, the plan will be brought back to the Board for approval. We are due for a program review, possibly next year.

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

## **NEW BUSINESS**

### **Item 1: REVIEW of the GOVERNMENT in the SUNSHINE LAW & ETHICS ~ Mr. Wayne Flowers**

- Mr. Flowers gave an overview of the Government in the Sunshine Law and Ethics. The Open Meetings Law summary: all meetings are to be open to the public, meetings are to be noticed, and minutes recorded, which covers all meetings of elected officials; any Board business communications outside of the meetings are against the Sunshine Law; the knowing violation is a criminal fine up to 6 days in jail and a \$500 fine; an unknown violation is a civil fine of up to \$500; any communication between 2 or more Board members on public business that will later come before the Board would be a violation of the Sunshine Law; communications can also be via phone, email, texts, etc. The public records law has retention requirement; to maintain and make the records available to the public. He stated he would be teaching at the FMCA Dodd Short Course, Commissioner's Caucus and go into more detail on the Sunshine Law and Ethics then.

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

### **Item 2: ELECTION of OFFICERS (Chairperson, Vice-Chairperson, and Secretary/Treasurer) ~ Board of Commissioners**

- Chairperson Howell asked if there were any nominations for the Chairperson and Commissioner LeBlanc nominated Commissioner Gary Howell.

#### **A. A motion was made to elect Commissioner Gary Howell as Chairperson.**

- Motioned by: Commissioner LeBlanc
- Seconded by: Commissioner Moeller
- VOTE: Accepted unanimously by all commissioners
- **MOTION PASSED UNANIMOUSLY**

- Commissioner LeBlanc nominated Commissioner Jeanne Moeller as Vice-Chairperson.

#### **B. A motion was made to elect Commissioner Jeanne Moeller as Vice-Chairperson.**

- Motioned by: Commissioner LeBlanc
- Seconded by: Commissioner Girvan
- VOTE: Accepted unanimously by all commissioners
- **MOTION PASSED UNANIMOUSLY**

- Commissioner Howell nominated Commissioner Gina LeBlanc as Secretary/Treasurer.

#### **C. A motion was made to elect Commissioner Gina LeBlanc as Secretary/Treasurer.**

- Motioned by: Commissioner Howell
- Seconded by: Commissioner Moeller
- VOTE: Accepted unanimously by all commissioners
- **MOTION PASSED UNANIMOUSLY**

### **Item 3: RECOGNITION OF 2018 CHAIRPERSON'S SERVICE ~ New Chairperson**

- Vice-Chairperson, Commissioner Jeanne Moeller presented a plaque to Commissioner Howell honoring him and his service in 2018 as chairperson. Pictures were taken.

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

**Item 4: NEW COMMISSIONER'S STATEMENT ~ Commissioner Trish Becker**

- Commissioner Becker stated that tonight, as she was sworn in, she held a Greek American Dictionary in her hand, which was the same one her father held in his hand when he arrived in the U.S. as a Greek immigrant. She thanked the St. Johns County residents for believing in her; she has been learning from the other side of the desk for the last thirteen months and thanked past Commissioner Brandhorst for her service for 8 years; she is dedicated to doing the right thing for St. Johns County residents, is excited to join the Education Committee and looks forward to what can be accomplished in the next 4 years.

**REPORTS:**

1. **Director** ~ Dr. Xue; Dept. of Health lifted the Mosquito-borne disease advisory; winter training will include CPR, Fly-In Class, & Dodd Short Courses; Dr. Dixon left for a job with the USDA, interviewed Dr. Caroline Efstathion for the Molecular Biologist position, she begins January 28, 2019.
2. **Attorney** ~ Mr. Flowers; congratulated re-elected and newly elected officers and welcomed newly elected Commissioner Becker.

**COMMISSIONER COMMENTS:**

**Commissioner Becker** ~ thanked everyone as they work hard here and the public appreciates it.

**Commissioner LeBlanc** ~ thanked the staff for everything they do.

**Commissioner Girvan** ~ when he was appointed, he was handed a huge pile of information from staff and stated it was well prepared and complimented staff. He knows we have a lot to do and he is interested in ways to save money and doing it efficiently and looks forward to it.

**Commissioner Moeller** ~ asked Mr. Bill Youker, Harrell Construction if the permit on the greenhouses was being put in this week or should we have it back this week? Mr. Youker stated that originally when the permits were put in, they were associated with building 300, so they had to do a modification for each building as stand alone, all went through at that time except for building 500, they have since cleared up those issues for building 500 and expect the permit to be approved fairly quickly if we can get the Fire Marshall to move forward on the approval.

**Commissioner Howell** ~ thanked the staff, what he hears from the public is always positive concerning staff and commissioners; thanked the board for electing him as Chairperson again but doesn't want to hold that position next year, he wants to look at the 5 year plan and approach each item; he wants to be visible to the public and more involved and looks forward to looking into the District's name change; he wants to continue to be conservative and thanked Dr. Xue for being a conservative Director.

**ATTACHMENTS: ~**

1. *None*

**ADJOURNMENT:**

Chairperson Howell adjourned the meeting at 6:26 P.M.

**ATTEST**

\_\_\_\_\_  
**Chairperson, Commissioner Gary Howell**

\_\_\_\_\_  
**Secretary/Treasurer, Commissioner Gina LeBlanc**

*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.*

DRAFT



**AMCD Fiscal Year October 1, 2019 to September 30, 2020**

**For Year End 2020 BUDGET CALENDAR**

**By Dr. Rui-De Xue**

**Form DR-420** (certification of taxable value) will be provided by the St. Johns County Property Appraiser (**July 1**, at the latest). The District must complete and return the DR-420 to the Property Appraiser, including current year proposed millage rate and a rolled-back rate. A “proposed” millage rate must be presented to the Property Appraiser within the 35 days (Before **August 4**). Therefore, the District staff must have its budget completed no later than June 30<sup>th</sup> for the Board to provide final approval and determine the tentative millage rate at its regular **July 11, 2019** Board meeting.

DACS work plan budget deadline: **July 15, 2019**. Annual certified budget due: **September 30, 2019**.

**FY 19/20 BUDGET CALENDAR**

<b><u>DATE</u></b>	<b><u>GUIDELINES FOR COMPLETING THE BUDGET</u></b>
Feb/Mar	<b>Board approves the budget calendar &amp; major work plan.</b> Input from committees, commissioners, management, & staff regarding items needed for the budget year
April	Board provides guidelines for raise (cost for living & merit raise) Prepare draft budget for operating expenses, aerial contracts and capital outlay items. Salary schedule & benefit information presented to the Board for input and approval.
May	Budget workshop Board discussion/input on draft Budget & staff finalizes the Budget
June	TRIM training/Board approves draft Budget and DACS work Plan Budget (draft)
July	District staff calculates revenue from DR-420 after receiving. The Board determines the proposed millage for filling DR-420 and budget and determines the date and time for the tentative budget hearing. <b>Board meeting is July 11, 2019, DACS Work Plan Budget is Due July 15, 2019.</b>
August	Return form DR-420 including proposed millage rate and rolled-back Rate before <b>August 4, 2019</b> .

September      **The First Public Budget Hearing Date: September 12, 2019 (5:30 P.M.),** as it must be after 5:05 P.M. Not the same day as the School Board. The District will (1) amend & adopt the tentative budget, re-compute it's proposed millage rate, and publicly announce the percentage; (2) adopt a tentative millage & budget; and (3) keep the proposed millage rate for final rate. If any increase, the District has to notify each taxpayer by first class mail. If the District reduces the rate, no action is needed.

The Final Public Budget Hearing within 15 days: **Sept 26, 2019, 5:30 P.M.),** as it must be after 5:05 P.M. The District shall advertise (St. Augustine Record) its intent to adopt a final millage rate and budget, and publish it on **September 21<sup>st</sup> or 22<sup>nd</sup>, 2019 preferably, but no earlier than 5 days or no later than 2 days before the Final Public Hearing.**

Final Public Hearing to adopt a final millage rate & budget shall be held between 2-5 days after the day the advertisement is first published.

**September 30      Annual certified budget for DACS is due.**

**September 30      Deliver the Resolution, adopting the final millage rate, to the County Property Appraiser, the Tax Collector and the Florida Department of Revenue (TRIM Division).**

**September 30      End of FY 2018-2019 Budget**

**October 1            FY 2019-2020 Budget starts.**

**October 10        Submit the completed TRIM package (Form DR-487) to Florida Department of Revenue, Property Tax Administration, TRIM Compliance Section, P.O. Box 3000, Tallahassee, FL 32315-3000**





**THE ANASTASIA MOSQUITO CONTROL DISTRICT OF ST. JOHNS COUNTY**  
**JOB DESCRIPTION**

<u>JOB TITLE</u>	<u>DEPARTMENT</u>	<u>STATUS</u>	<u>REPORTS TO (TITLE)</u>
<del>Data</del> Business Manager	<del>All Stations</del> Administration	Exempt	Director

**PURPOSE OF JOB:**

Manage all District ~~databases, as well as, all District data in a central location and database, and~~ coordinate the dissemination of all data to management and staff. ~~Manage and oversee all property and facilities, inventory, usage, and repairs, as well as, all chemical inventory data management, communications equipment, computer operations, mapping and reporting for the District.~~

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

1. Gather, monitor, update, record and maintain accurate data in the database, including ~~and~~ all route information from all ~~stations~~ related groups and/or departments, service requests, and records pertaining to property, equipment, and facilities.
2. Maintain up-to-date and historical information on all existing landing rate, light trap, rain gauge, tidal gauge and larviciding locations.
- ~~3. Monitor, update and adulticiding routes. (included in #1)~~
3. ~~4.~~ Compile, input changes and corrections to, and generate reports from the database and assist as required with projects to include, but not limited to, facility usage and maintenance, chemical usage, fuel usage, light traps, landing rate counts, rain gauges, tidal gauges, and employee work tasks and overtime. ~~and tidal gauges.~~
- ~~5. Input changes and corrections to the database as necessary. (included in old #4, new #3)~~
4. ~~6.~~ Coordinate purchases, repair, and reconfigure and update handheld-PC's devices, phones, computers, electronics, facility equipment, and cabling and data, as necessary.
- ~~7. Receive and input service request information into District database. (included in #1)~~
5. ~~8.~~ Maintain and update the Safety Data Sheet (MSDS) files, Safety Handbook and Guest House Lease and Agreement.
- ~~9. Maintain and update Safety Handbook. (combined with in old #8, new #5)~~
6. ~~10.~~ Ensure compliance with industry regulatory requirements including relevant pesticide regulations.
7. ~~11.~~ Prepare the monthly Chemical Activity ~~and Chemical Report~~ for the Department of Agricultural and Consumer Services (DACS).
8. ~~12.~~ Update and train employees as needed on the use of computer software, ~~VCMS~~ database programs and systems changes.

9. ~~13.~~ Maintain salvage inventory and coordinate sale and disposal of salvage inventory and adjustments to property inventory records.
- ~~14. Prepare reports and perform special projects as requested by the supervisors and/or the Director. (included in old #4, new #3)~~
10. ~~15.~~ Coordinate and maintain GPS and GIS mapping used in conjunction with surveillance data.
11. ~~16.~~ Act as the Chairman of the Safety Committee, addressing all safety issues raised by the members of the committee, senior management or the Board.
12. ~~17.~~ Review all accident and safety violation reports, and make suggestions for a safer workplace.
13. ~~18. Coordinate purchases and repair of cell phones and~~ (included in old #6, new #4)  
Monitor cell phone usage and costs.
14. ~~19.~~ Monitor accumulation of hazardous waste and oversee the proper disposal of waste and associated records.
15. ~~20.~~ Provide annual budget planning guidance on various safety and communications equipment.
16. ~~21.~~ Assist in the bid process.
17. ~~22.~~ Perform other related duties as assigned.

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#### QUALIFICATIONS:

1. A B.S. degree in **Business Management, Public Administration, or** entomology, biology, or biological science ~~field, business management and/or an information technology~~ related field from an accredited college or university is required.
  2. Must have a valid Florida Driver's License with an acceptable driving record.
  3. Be able to effectively communicate in English.
  4. Must hold a current Public Health Pest Control License issued by the State of Florida, Department of Agriculture and Consumer Services or be able to obtain one within six month of hire. Must maintain license in good standing.
  5. Must possess and demonstrate a proficiency in varied computer software systems. Must also have a strong background in word processing and data base applications.
  6. Minimum of two (2) years field operation experience in mosquito control.
  7. Ability to travel when necessary to attend conferences and meetings.
  8. Be able to interact efficiently and cooperatively with the public in a courteous manner in responding to service requests.
-

**WORK ENVIRONMENT/PHYSICAL REQUIREMENTS:**

The physical demands and work environment characteristics described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform essential functions.

**Physical Requirements:** Light physical activity is required on a regular basis including reaching with arms and hands, using hands and fingers to type, standing, sitting and walking and may occasionally be required to lift up to twenty pounds and climb stairs. Adequate vision to see computer screens and written documents is required on a regular basis.

**Work Environment:** The work environment normally is an office, but could occasionally include warehouses, and vehicles. Working around chemicals, which are stored, handled, applied/used and disposed of according to exact labeling instructions, is required occasionally. Occasional local travel may be required.

---

**I HAVE READ AND UNDERSTAND THIS JOB DESCRIPTION.**

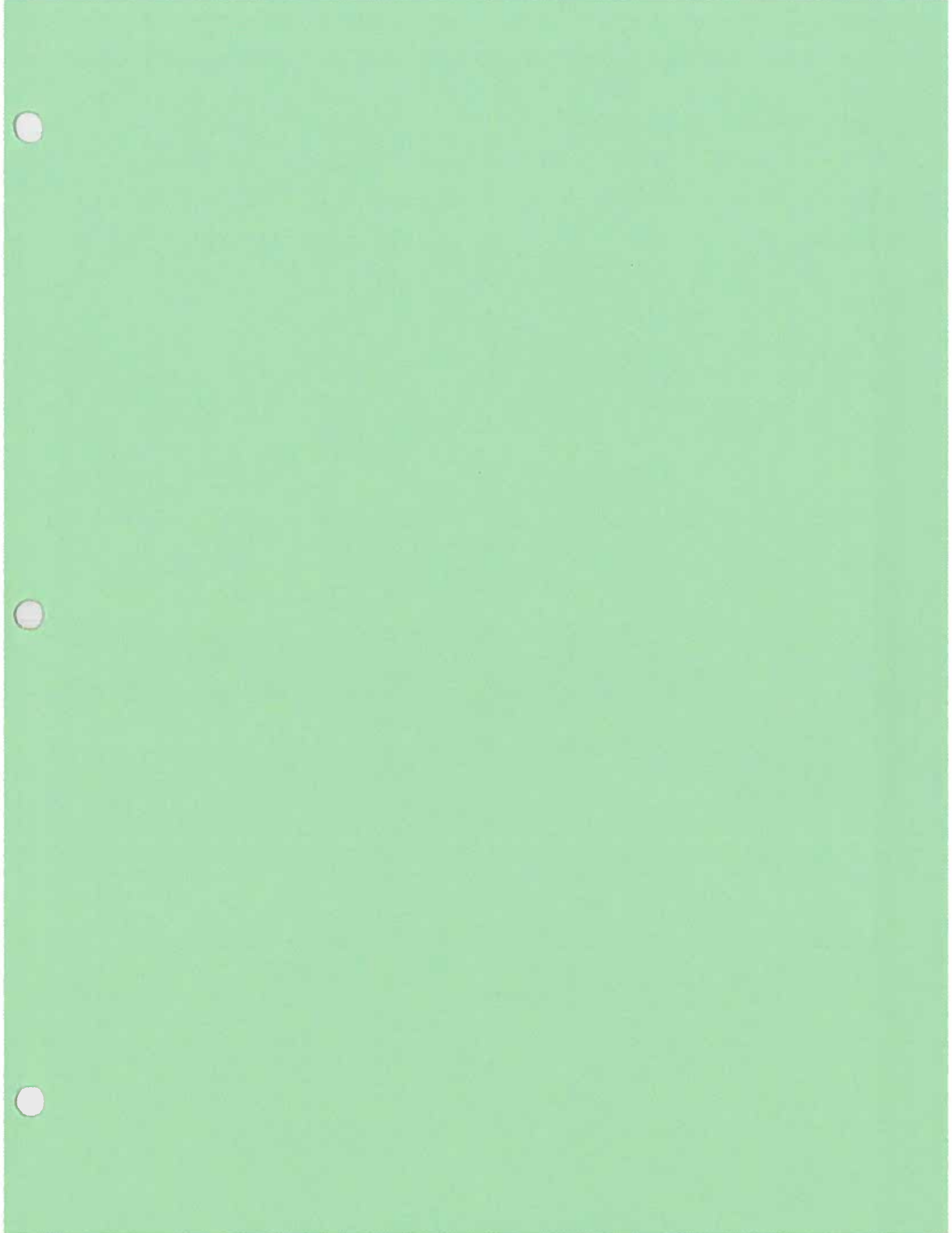
\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name







# THE ANASTASIA MOSQUITO CONTROL DISTRICT OF ST. JOHNS COUNTY

## JOB DESCRIPTION

<u>JOB TITLE</u>	<u>DEPARTMENT</u>	<u>STATUS</u>	<u>REPOTS TO (TITLE):</u>
Assistant Supervisor	All Stations	<del>Non-exempt</del> EXEMPT	Area Supervisor

### PURPOSE OF JOB:

To oversee and direct District employees under the guidance of the Area Supervisor and the Director.

### MAIN ESSENTIAL DUTIES AND RESPONSIBILITIES:

1. Coordinate and plan the station's operational goals.
2. Evaluate and monitor the station's operational performance.
3. Develop team building and working environment.
4. Practice supervisory actions that produce productive work teams.
5. Monitor, evaluate and motivate employee performance.
6. Implement and monitor operational surveillance, larvicide, adulticide and vector disease control.
7. Maintain ~~detailed~~ detailed operational and employee records.
8. Prepare and submit routine monthly reports to the Area Supervisor.
9. Oversee all maintenance and repair of station's equipment and facilities.
10. Direct and conduct monthly physical inventory of pesticides, fuel, tires, vehicles and miscellaneous equipment.
11. Train employees, plan assign and direct work; appraise performance; reward discipline employees; address complaints, resolve problems and supervise with the goal of teamwork through leadership.
12. Perform as ~~an Inspector-Sprayer~~ a Mosquito Control Technician, maintaining a larviciding and surveillance route.
13. Assist other programs, such as, surveillance, education, and applied research.
14. Assist the District in any necessary duties to achieve District goals.
15. Perform other related duties as assigned.

### ~~Non-Essential Duties and Responsibilities:~~

- ~~1. Assist the District in any necessary duties to achieve District goals.~~
- ~~2. Perform other related duties as assigned.~~

### SUPERVISORY RESPONSIBILITIES:

Responsible for the direct supervision, evaluation and performance management of the Mosquito Control Technicians, Mechanics and Seasonal Inspector/Sprayer positions.



## ~~Physical Qualifications and Activities of the Position:~~

### WORK ENVIRONMENT/PHYSICAL REQUIREMENTS:

~~Medium work: Exerting up to 50 pounds of force occasionally, and/or up to 50 pounds of force frequently and/or up to 10 pounds of force constantly to move objects.~~

~~Must closely concentrate both mental and visual attention on work for sustained periods; coordinating manual dexterity as well as mental and visual attention.~~

- ~~● **Climbing:** Ascending or descending ladders, stairs and the like using feet and legs and/or hands and arms. Body agility is emphasized.~~
- ~~● **Balancing:** Maintaining body equilibrium to prevent falling when walking, standing or crouching on narrow, slippery or erratically moving surfaces.~~
- ~~● **Stooping:** Bending body downward and forward by bending at the waist. Requires full use of the lower extremities and back muscles.~~
- ~~● **Kneeling:** Bending legs at knee to come to a rest on knee(s).~~
- ~~● **Crouching:** Bending body downward and forward by bending leg and spine.~~
- ~~● **Crawling:** Moving about on hands and knees and feet.~~
- ~~● **Reaching:** Extending hand(s) and arm(s) in any direction.~~
- ~~● **Standing:** Particularly for sustained periods of time.~~
- ~~● **Walking:** Moving about on foot to accomplish tasks, particularly for long distances, on dry land.~~
- ~~● **Pushing:** Using upper extremities to press against something with steady force in order to thrust forward, downward or outward.~~
- ~~● **Pulling:** Using upper extremities to exert force in order to draw, drag, haul or tug objects in a sustained motion.~~
- ~~● **Lifting:** Raising objects from a lower to a higher position or moving objects horizontally from position to position. Lifting does occur frequently and to a considerable degree. Lifting requires the substantial use of the upper extremities and back muscles.~~
- ~~● **Fingering:** Picking, pinching, typing or otherwise working primarily with the fingers rather than with the whole hand or arm, as in handling.~~
- ~~● **Grasping:** Applying pressure to an object with the fingers and palm of the hand.~~
- ~~● **Talking:** Expressing or exchanging ideas by means of spoken word. Those activities in which they must convey detailed or important spoken instructions to other workers accurately, loudly or quickly.~~
- ~~● **Hearing:** Perceiving the nature of sounds with no less than a 40 dB loss @ 55Hz, 1,00Hz and 2,000Hz, with or without correction. Ability to receive detailed information through oral communication, and to make fine discriminations in sound, such as when making fine adjustments on machined parts.~~
- ~~● **Repetitive motions:** Substantial movements or motions of the wrists, hands and/or fingers.~~
- ~~● **Visual:** Visual requirements equal to that for clerical administrative whose work deals with preparing and analyzing data and figures, accounting, transcription, computer terminal, reading, etc.~~
- ~~● **Environmental:** The worker is subject to all environmental conditions. Activities occur inside and outside.~~

~~4. This job description in no way states or implies that these are the only duties to be performed by the employee occupying this position. Employees will be required to follow any other job related instructions and to perform any other job related duties requested by their supervisor.~~

~~5. This document does not create an employment contract, implied or otherwise, other than an "at will" employment relationship.~~

---

I HAVE READ AND UNDERSTAND THIS JOB DESCRIPTION.

---

Signature

---

Date

---

Printed Name

ANASTASIA MOSQUITO CONTROL DISTRICT OF ST. JOHNS COUNTY IS AN EQUAL OPORTUNITY EMPLOYER





Florida Department of Agriculture and Consumer Services  
Division of Agricultural Environmental Services

Submit to:  
Mosquito Control Program  
3125 Conner Blvd, Bldg 6

**ARTHROPOD CONTROL BUDGET AMENDMENT**

ADAM H. PUTNAM  
COMMISSIONER

Section 388.361, F.S. and 5E-13.027, F.A.C.  
Telephone (850) 617-7995 Fax (850) 617-7969

STATEMENT EXPLAINING AND JUSTIFYING THE PROPOSED CHANGES SHOULD ACCOMPANY EACH APPLICATION FOR BUDGET AMENDMENT. USE PAGE TWO FOR THIS PURPOSE.

Amendment No. 2019-02

Fiscal Year: 2018-2019

Date: 2/14/2019

Amending: Local Funds  State Funds  (Check appropriate fund account to be amended. Use a separate form for each fund). The Board of Commissioners for Anastasia Mosquito Control District hereby submits to the Department of Agriculture and Consumer Services, for its consideration and approval, the following amendment for the current fiscal year as follows:

**ESTIMATED RECEIPTS**

NOTE: The budget cannot be amended to show an increase in receipts over the amount budgeted unless authorized.

Total Available Cash and Receipts	Reserves	Present Budget	Increase Request	Decrease Request	Revised Budget
\$ 11,160,227.89	\$ 4,098,834.10	\$ 11,160,227.89	\$ 46,713.44	\$ -	\$ 11,206,941.33

NAME SOURCE OF INCREASE: (Explain Decrease)

BUDGETED RECEIPTS					
ACCT NO	Description	Present Budget	Increase Request	Decrease Request	Revised Budget
311	Ad Valorem (Current/Delinquent)	\$ 5,456,434.00	\$ -	\$ -	\$ 5,456,434.00
334.1	State Grant	\$ -	\$ -	\$ -	\$ -
362	Equipment Rentals	\$ -	\$ -	\$ -	\$ -
337	Grants and Donations	\$ 25,000.00	\$ 33,666.67	\$ -	\$ 58,666.67
361	Interest Earnings	\$ 30,031.79	\$ 13,046.77	\$ -	\$ 43,078.56
364	Equipment and/or Other Sales	\$ -	\$ -	\$ -	\$ -
369	Misc./Refunds (prior yr expenditures)	\$ 13,067.00	\$ -	\$ -	\$ 13,067.00
380	Other Sources	\$ -	\$ -	\$ -	\$ -
389	Loans	\$ -	\$ -	\$ -	\$ -
TOTAL RECEIPTS		\$ 5,524,532.79	\$ 46,713.44	\$ -	\$ 5,571,246.23
Beginning Fund Balance		\$ 5,635,895.10	\$ -	\$ -	\$ 5,635,895.10
Total Budgetary Receipts & Balances		\$ 11,160,227.89	\$ 46,713.44	\$ -	\$ 11,206,941.33

**BUDGETED EXPENDITURES**

NOTE: Total increase must equal total decrease, unless the total "Present Budget" is revised.

ACCT NO	Uniform Accounting System Transaction	Present Budget	Increase Request	Decrease Request	Revised Budget
10	Personal Services	\$ 1,522,010.00	\$ 25,000.00	\$ -	\$ 1,547,010.00
20	Personal Services Benefits	\$ 780,237.00	\$ 1,912.50	\$ -	\$ 782,149.50
30	Operating Expense	\$ 459,832.79	\$ 13,046.77	\$ -	\$ 472,879.56
40	Travel & Per Diem	\$ 28,346.00	\$ -	\$ -	\$ 28,346.00
41	Communication Services	\$ 25,904.00	\$ -	\$ -	\$ 25,904.00
42	Freight Services	\$ 2,500.00	\$ -	\$ -	\$ 2,500.00
43	Utility Service	\$ 29,000.00	\$ -	\$ -	\$ 29,000.00
44	Rentals & Leases	\$ 4,500.00	\$ -	\$ -	\$ 4,500.00
45	Insurance	\$ 86,727.00	\$ -	\$ -	\$ 86,727.00
46	Repairs & Maintenance	\$ 130,500.00	\$ -	\$ -	\$ 130,500.00
47	Printing and Binding	\$ 500.00	\$ 500.00	\$ -	\$ 1,000.00
48	Promotional Activities	\$ 15,000.00	\$ -	\$ -	\$ 15,000.00
49	Other Charges	\$ 6,325.00	\$ -	\$ -	\$ 6,325.00
51	Office Supplies	\$ 22,000.00	\$ -	\$ -	\$ 22,000.00
52.1	Gasoline/Oil/Lube	\$ 91,800.00	\$ -	\$ -	\$ 91,800.00
52.2	Chemicals	\$ 379,459.00	\$ -	\$ -	\$ 379,459.00
52.3	Protective Clothing	\$ 1,500.00	\$ -	\$ -	\$ 1,500.00
52.4	Misc. Supplies	\$ 58,400.00	\$ 1,200.00	\$ -	\$ 59,600.00
52.5	Tools & Implements	\$ 5,000.00	\$ -	\$ -	\$ 5,000.00
54	Publications & Dues	\$ 15,885.00	\$ -	\$ -	\$ 15,885.00
55	Training	\$ 25,250.00	\$ 5,054.17	\$ -	\$ 30,304.17
60	Capital Outlay	\$ 2,672,630.00	\$ -	\$ -	\$ 2,672,630.00
71	Principal	\$ -	\$ -	\$ -	\$ -
72	Interest	\$ -	\$ -	\$ -	\$ -
81	Aids to Government Agencies	\$ -	\$ -	\$ -	\$ -
83	Other Grants and Aids	\$ -	\$ -	\$ -	\$ -
89	Contingency (Current Year)	\$ 698,288.00	\$ -	\$ -	\$ 698,288.00
99	Payment of Prior Year Accounts	\$ -	\$ -	\$ -	\$ -
TOTAL BUDGET AND CHARGES		\$ 7,061,393.79	\$ 46,713.44	\$ -	\$ 7,108,107.23
0.001	Reserves - Future Capital Outlay	\$ 2,680,589.10	\$ -	\$ -	\$ 2,680,589.10
0.002	Reserves - Self-Insurance	\$ -	\$ -	\$ -	\$ -
0.003	Reserves - Cash Balance to be Carried Forward	\$ 1,269,615.00	\$ -	\$ -	\$ 1,269,615.00
0.004	Reserves - Sick and Annual Leave	\$ 148,630.00	\$ -	\$ -	\$ 148,630.00
TOTAL RESERVES		\$ 4,098,834.10	\$ -	\$ -	\$ 4,098,834.10
TOTAL BUDGETARY EXPENDITURES and BALANCES		\$ 11,160,227.89	\$ 46,713.44	\$ -	\$ 11,206,941.33
ENDING FUND BALANCE		\$ -	\$ -	\$ -	\$ -

APPROVED: \_\_\_\_\_  
Chairman of the Board, or Clerk of Circuit Court

DATE \_\_\_\_\_

APPROVED: \_\_\_\_\_  
Mosquito Control Program

DATE \_\_\_\_\_

ANASTASIA MOSQUITO CONTROL DISTRICT OF ST. JOHNS COUNTY  
FISCAL YEAR ENDING SEPTEMBER 30, 2019

BUDGET AMENDMENT NUMBER 2019-02

PAGE 1 OF 1

COMPUTATIONS

**LOCAL FUND**

<b>Receipts:</b>	
Interest Earnings	13,046.77
Grant Money	33,666.67
<b>Expenditures:</b>	
Personal Services	(25,000.00)
Personal Benefits	(1,912.50)
Operating Expenses	(13,046.77)
Printing/ Reproduction	(500.00)
Misc. Supplies	(1,200.00)
Training	(5,054.17)

Budget Amendment (Net, pooled from Contingency)

\$ -

ANASTASIA MOSQUITO CONTROL DISTRICT OF ST. JOHNS COUNTY  
FISCAL YEAR ENDING SEPTEMBER 30, 2019

LOCAL FUND BUDGET AMENDMENT NUMBER 2019-02

BUDGET JOURNAL ENTRIES:

Dr) EXPENDITURES:	Personal Services	\$ 25,000.00
EXPENDITURES:	Personal Benefits	\$ 1,912.50
EXPENDITURES:	Operating Expenses	\$ 13,046.77
EXPENDITURES:	Printing/ Reproduction	\$ 500.00
EXPENDITURES:	Misc. Supplies	\$ 1,200.00
EXPENDITURES:	Training	\$ 5,054.17
	Cr) REVENUE: Interest Earnings	\$ 13,046.77
	REVENUE: Grants	\$ 33,666.67

**UNFINISHED  
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)

## MEMO

**DISTRICT DIRECTOR**

*Dr. Rui-de Xue*



**BOARD OF COMMISSIONERS:**

*Gary Howell, Chairperson*

*Jeanne Moeller, Vice-Chairperson*

*Gina LeBlanc, Secretary/Treasurer*

*Don Girvan, Commissioner*

*Trish Becker, Commissioner*

**TO: Board of Commissioners**

**FROM: Dr. Rui-De Xue, Director**

**CC: Charolette M. Hall, Administrative Assistant**

**DATE: January 22, 2019**

**RE: Update on 8 Acre South Parcel and Research Property Construction Project Report**

---

Mr. Bill Youker, Vice-President with the Harrell Construction Company, Inc. will give an updated report on the 8 Acre South Parcel and Research Property Construction project progress.









**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)

## MEMO

**DISTRICT DIRECTOR**

*Dr. Rui-de Xue*

**BOARD OF COMMISSIONERS:**

*Gary Howell, Chairperson  
Jeanne Moeller, Vice-Chairperson  
Gina LeBlanc, Secretary/Treasurer  
Don Girvan, Commissioner  
Trish Becker, Commissioner*



**TO:** Board of Commissioners

**FROM:** Dr. Rui-De Xue, Director

**CC:** Charolette M. Hall, Administrative Assistant

**DATE:** January 24, 2019

**RE:** Concept for District Expansion

---

In the past many years, we have received questions and service requests for mosquito control from citizens who are living on the border of St. Johns County, such as in Flagler Estate (which partially belongs to St. Johns County and partially belongs to Flagler County), Nocatee area (which partially belongs to St. Johns County and partially belongs to Duval County).

Due to mosquito and mosquito-borne diseases and the spreading and migration of mosquitoes and diseases, it would be better to service and treat the whole community, not just within county limitations due to county political limits, to protect the citizens of St. Johns County and other bordering county citizens living in the those communities.

I would like to propose the idea for the Board to discuss and approve the concept, and the authority for the District Attorney and Staff to conduct a study on the related laws and regulations for expansion, procedures, and process steps with a timeline for this and then, bring these back to the Board for further discussion and approval.

**UNFINISHED  
BUSINESS  
#3**


# SIT in St. Augustine, Florida

A collaboration in new technology



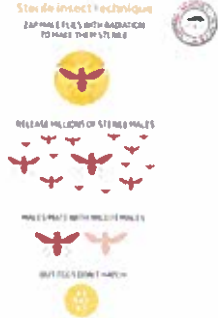
## Presentation Outline

1. **Mark Release Recapture**
2. Population Control
3. Blood Feeding
4. Conclusion




## What is the Sterile Insect Technique?

- Sterile Insect technique (SIT) is a method biocontrol
- Main focus is on mating techniques and animal behaviors
- A set of a species is sterilized and then released back into their environment to mate with the rest of the species



## Sterile Insect Technique History


- First began in the 1930s with the New World screwworm (*Cochliomyia hominivorax*)
- The first trials with mosquitoes began in the 1970s
  - Ended in the mid 1970s



### SIT in St. Augustine

#### Part 1: Mark Release Recapture

- Objective
  - Find out the maximum distance local *Ae. aegypti* will travel once irradiated
    - Fitness
    - Maximum distance assumed is 200-400m
- Methods
  - Weekly Trapping
  - Biweekly Marked Mosquito Releases



### Trapping

- 11 BGs
- Set out and collected twice a week
- Ovi cups collected once a week



### Releases and Identification

- Releases done every two weeks
- 10,000 mosquitoes released
- Identified by their colors to track their movement from original release site



### Results

- Ongoing experiment
- Maximum distance 1,560.50 ft
- Positive Results




Maximum Flight Distance for 1000 Mosquitoes

Legend  
 - Origin Point  
 - Max Flight Distance of the Mosquitoes




**Presentation Outline**

1. Mark Release Recapture
2. **Population Control**
3. Blood Feeding
4. Conclusion



**SIT in St. Augustine**  
Part II: Population Control


- Objectives
  - Test flight distances of local *Ae. aegypti* in a new location
  - Spot a reduction in *Ae. aegypti* in the new location compared to downtown
- Methods
  - Weekly Trapping
  - Biweekly Single Marking Mosquito Release
- Results
  - 90% and greater reduction in *Ae. aegypti* compared to downtown




**Quality Control Concerns**

- When pupae are sorted for radiation some females might slip through
- Releasing females into the public is bad
- It is believed that a high enough dosage of radiation could sterilize males and prevent female blood-feeding

Male



Female



**Presentation Outline**

1. Mark Release Recapture
2. Population Control
3. **Blood Feeding**
4. Conclusion



### Radiation Dose-Response

- 50gy is used by the for current SIT
- We tested seven different levels of radiation
  - 0gy-110gy

### Testing Blood feeding behaviors of irradiated *Aedes aegypti*

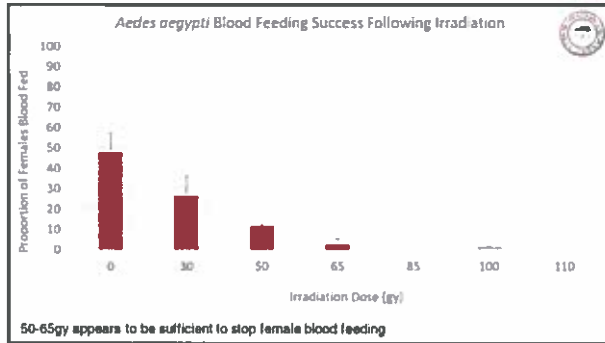
- Objective:** To see which level of radiation is making females no longer want to take a blood meal
- Materials:**
  - St. Augustine strain of *Aedes aegypti*
  - Blood provided through casing

### Procedure

- Blood fed on Tuesday
  - Allowed the blood sausage to sit in the cage for a total of 15 minutes
  - Allowed the mosquitoes to sit 30 minutes post blood feeding
- Freeze the mosquitoes and check for blood

### Lateral Compression Test

- Determine the extent at which they were blood fed
  - Not fed
  - Partially fed
  - Fully engorged



### SIT Conclusions

- MRR: Our sterile male flight range was 200-500m which is greater than we expected
- Population Control: Ongoing into 2019; current data supports 90% or greater reduction in mosquitoes for the duration of SIT releases
- Irradiated female mosquitoes: At 50Gy and above they are not likely to blood feed

### Acknowledgements

- Funded by Florida Department of Agriculture and Consumer Services
- Mosquitoes reared, sorted, and delivered by United States Department of Agriculture
- Irradiation and efficacy measures performed by University of Florida, Entomology and Nematology
- Local St. Augustine strain mosquitoes and field sites provided by Anastasia Mosquito Control
- Deployment, surveillance, and spatial mapping provided by AMCD team



**NEW  
BUSINESS  
#1**

**UPDATE ON PROGRESS OF THE ANASTASIA MOSQUITO  
CONTROL DISTRICT AERIAL PROGRAM  
AS OF 14 FEBRUARY 2018**



**N874M  
2003 BELL 206 B3  
JET RANGER  
SN # 4569**



**4 PHASE AVIONICS UPGRADE AND MODERNIZATION PROGRAM  
(FROM BUDGETED FUNDS)**



**PHASE 1:** MODERNIZE VHF RADIOS AND TRANSPONDER, ADD USB POWER SOURCE, COMPLY WITH FAA REQUIREMENT FOR ADS-B (Automated Dependent Surveillance Broadcast) INSTALLATION (DEADLINE 1 JANUARY 2020).

**PHASE 2:** INSTALLATION OF AGNAV SPRAY GUIDANCE COMPUTER, AIMMS 30 (Aircraft Integrated Meteorological Measurement System) DATA PROBE AND INTEGRATE WITH 3 ISOLAIR MODULAR SPRAY SYSTEMS

**PHASE 3:** INSTALLATION OF RADAR ALTIMETER REQUIRED FOR NVG OPERATIONS

**PHASE 4:** NVG COCKPIT MODIFICATION AND FAA CERTIFICATION







**PHASE 3**

**FREEFLIGHT RAD 40/RADAR ALTIMETER**  
**REQUIRED BY FAR FOR NVO FLIGHT**

This block contains two images. On the left, a photograph shows two people standing in a hangar, looking at an aircraft. On the right, a photograph shows a close-up of a radar altimeter display. The display has a dark background with green and red indicators and text including 'FREEFLIGHT RAD 40', 'RAD ALT', 'ALT AGL', and 'SW'.

**PHASE 4**

**ANVIS-4**  
**WHITE PHOSPHOR**

This block contains four images. Top left: A photograph of a cockpit instrument panel. Top right: A photograph of a person wearing an ANVIS-4 helmet. Bottom left: A photograph of a cockpit control panel. Bottom right: A photograph of a pair of night vision goggles. A circular inset image shows a night vision view of a landscape with green and blue colors.





**ISOLAIR 4300 GRANULAR LARVICIDE SYSTEM**  
PAYLOAD: 400 LBS (TOTAL BOTH HOPPERS)  
@ 10 LBS PER ACRE = 40 ACRES  
APPROX 4 MINUTES SPRAY TIME



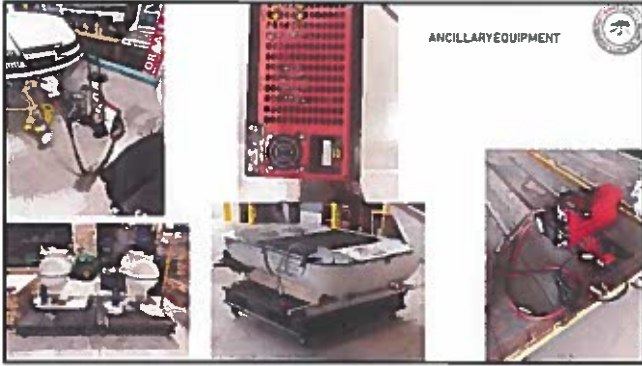
**ISOLAIR 3900 LIQUID LARVICIDE SYSTEM**  
PAYLOAD ABOUT 50 GALLONS  
@ 1 GAL PER ACRE = 50 ACRES  
SPRAY TIME ABOUT 4 MINUTES



**ISOLAIR 3900 ULV SYSTEM**  
PAYLOAD 30 GALLONS  
AT 4 OZ/ACRE = ABOUT 3750 ACRES










**FAA ADMINISTRATIVE REQUIREMENTS/PROCESSES**



Federal Aviation  
Administration

CONGESTED AREA PLAN (CAP) SUBMITTED AUGUST 2018, APPROVED DECEMBER 2018

OFFICIAL CALL SIGN AND DISCREET TRANSPONDER CODE SUBMITTED AUGUST 2018,  
DECEMBER 2018 "MOSQUITO ONE" SQUAWK 0347 APPROVED

PART 137 CERTIFICATE APPLICATION PROCESS SUBMITTED JULY 2018, TENTATIVE SUMMER 2019

NVO COCKPIT MODIFICATION CERTIFICATION AWAITING FAA SCHEDULING CONFIRMATION



**NEW  
BUSINESS  
#2**

**THE 16<sup>TH</sup> ARBOVIRUS SURVEILLANCE  
AND MOSQUITO CONTROL WORKSHOP**

**in CONJUNCTION with the NE 1443 REGIONAL PROJECT'S  
5<sup>TH</sup> ANNUAL MEETING and the FMCA'S NE REGIONAL MEETING  
(18 CEU's)**

**Sponsored by AMCD, USDA/CMAVE, & NE 1443 Regional Project Committee**

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

**MARCH 26-28, 2019**

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

*to include:*

**AMCD's 70<sup>TH</sup> ANNIVERSARY CELEBRATION**

**PROGRAM AGENDA (tentative)**

**MONDAY, MARCH 25, 2019**

1:00pm Tour of AMCD's new facility and laboratory

**TUESDAY, MARCH 26, 2019**

7:30am Registration ... AMCD Staff

**PANEL SESSION:**

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

8:25am Welcome & Introduction ... Chairperson Mr. Gary Howell, AMCD's Board of Commissioners; Dr. Ken Linthicum, Center Director, USDA/CMAVE, and Mr. Donald Powers, President-Elect of the FMCA

8:30am **KEYNOTE SPEAKER:** The trends in the mosquito-borne diseases and control technology ... Dr. Stanton Cope, Vice President, Technical Products and Services, Atlantic Paste & Glue, Past President of the American Mosquito Control Association (AMCA)

9:10am **GUEST SPEAKER:** An update on the Salt Lake City Mosquito Abatement District from research to innovations ... Dr. Ary Faraji, Executive Director & Entomologist, Salt Lake City Mosquito Abatement District, President-Elect of the AMCA

9:30am **GUEST SPEAKER:** Outbreak of dengue fever and its control effort in Sri Lanka ... Dr. Vindhya S. Aryaprema, Medical Entomologist, Ministry of Health, Sri Lanka

**9:50 A.M. - BREAK (CUTTING of the CAKE for AMCD'S 70 ANNIVERSARY CELEBRATION)**

**INTERNATIONAL SESSION:**

**Moderator: Dr. Uli Bernier, National Program Leader, USDA/ARS, Washington DC**

10:10am Outbreak of Dengue and its vector mosquito control in Saudi Arabia ... Dr. Abdulaziz D.M. Althbyani, Professor & College Dean, University of Tabuk, Saudi Arabia

- 10:30am The prevalence and diversity of autogenous *Culex pipiens molestus* in Taiwan ... **Dr. Kun-Hsien Tsai**, Associate Professor, College of Public Health, National Taiwan University, Taipei, Taiwan
- 10:50am Evaluation of spatial and contact repellents against vector mosquitoes ... **Dr. Hitoshi Kawada**, Associate Professor, Institute of Tropical Medicine, Nagasaki University, Japan
- 11:10am ATSB and bait stations for control of malaria vector mosquitoes in Mali ... **Dr. Sekou F. Traore**, Director, Malaria Research & Training Center, University of Bamako, Mali
- 11:30am ATSB and bait stations for control of *Aedes albopictus* in St. Augustine, FL ... **Dr. Gunter Muller**, Professor, University of Bamako, Mali and Hebrew University, Israel
- 11:50am Impact of 5 kinds of mosquito adulticides on non-target honey bees ... **Dr. Hussein Sanchez-Arroyo**, Professor, Colegio de Postgraduados, Mexico
- 12:10pm New products from UNIVAR for 2018 ... **Mr. Jason E. Conrad**, Industry Specialist, UNIVAR

**12:20 PM - LUNCH BREAK** (in the **Helicopter Hangar**) (provided by UNIVAR)

**PROGRAMS & ASSOCIATIONS:**

**Moderator: Dr. John C. Beier**, Professor & Section Chair, Department of Public Health & Environmental Sciences, University of Miami, Miami, FL

- 1:20pm The Florida DACS mosquito control program update ... **Mrs. Caitlin Gill**, Environmental Specialist III, Entomology and Pest Control Section, DACS, Tallahassee, FL
- 1:35pm Update on the American Mosquito Control Association ... **Mr. Christopher Lesser**, SE Regional Director, Assistant Director, Manatee County Mosquito Control District
- 1:50pm Update on the SOVE ... **Dr. Uli Bernier**, President of the SOVE & National Program Leader, USDA/ARS, Washington, DC
- 2:05pm Overview of the DACS's DPI programs ... **Dr. Greg Hodges**, Assistant Director, DACS/DPI, Gainesville, FL
- 2:25pm Update on the FMCA ... **Mr. Donald Powers**, President-Elect of the FMCA, and Sale Representative, FMC
- 2:40pm Program overview of the Tangipahoa Mosquito Abatement District, LA ... **Mr. Dennis Walette**, Director, TMAO, Hammond, LA

**3:00 P.M. - BREAK**

**DISEASE SURVEILLANCE:**

**Moderator: Dr. Nathan Burkett-Cadena**, Assistant Professor, University of Florida, Florida Medical Entomology Laboratory, Vero Beach, FL

- 3:20pm Biology of EEE ... **Dr. Michael Turell**, Senior Arbovirologist (retired), US Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD

- 3:40pm The host interactions and ecological niches of *Culex melanura* and the wintertime transmission risk potential of EEE ... Ms. Kristi Miley & Dr. Tom Unnasch, Department Director, University of South Florida, Tampa, FL
- 4:00pm Is real-time arbovirus surveillance a dream or a reality? ... Dr. Nathan Burkett-Cadena, Assistant Professor, University of Florida, Florida Medical Entomology Laboratory, Vero Beach, FL
- 4:20pm Arbovirus surveillance report in Florida, 2018 ... Dr. Andrea Morrison, Arbovirus Surveillance Coordinator, Bureau of Epidemiology, DOH, Tallahassee, FL
- 4:40pm Mosquito-borne disease surveillance in Texas, 2018 ... Dr. Whitney Qualls, Medical Entomologist, Texas Department of Health Services, Zoonosis Control Branch, Austin, TX
- 5:00pm Arbovirus and mosquito population surveillance in San Gabriel Valley, California ... Ms. Melissa Doyle, Scientific Program Manager, San Gabriel Valley Mosquito & Vector Control District, West Covina, CA
- 5:20pm Overview of research on surveillance and adulticiding in Manatee County Mosquito Control District ... Mr. Chris Lesser, Assistant Director & Entomologist, Manatee County Mosquito Control District, FL
- 5:40pm Simultaneous detection of CHIKV, DENV and ZIKV in mosquitoes by RT-PCR ... Dr. Steven Su, Scientific Director, West Valley Mosquito & Vector Control District, Ontario, CA
- 6:00pm **DINNER & LECTURE (HELICOPTER HANGAR) (ALL PARTICIPANTS):** Overview of the National Estuarine Research Reserve, GTM program ... Dr. Michael Shirley, Director, Guana, Tolomato, Matanzas Estuarine Research Reserve, Florida DEP, St. Augustine, FL

**WEDNESDAY, MARCH 27, 2019**

**BIOLOGY & ECOLOGY:**

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

- 8:25am Transcriptional profile of *Aedes aegypti* Leucine-rich repeat proteins in response to arbovirus ... Dr. Liming Zhao, Research Assistant Professor, University of Florida, IFAS/FMEL, Vero Beach, FL
- 8:40am Mosquito colonies maintained at USDA-ARS, CMAVE, Gainesville, FL ... Dr. Dan Kline, Research Entomologist, Matthew (Haze) Brown and Tyler Carney, USDA/CMAVE, Gainesville FL
- 9:05am Does smoke equal fire? Investigating natural *Wolbachia* infections in an *Aedes aegypti* population from Florida ... Dr. Derrick Mathias, Assistant Professor, University of Florida, FMEL, Vero Beach, FL
- 9:20am Community composition and year-round abundance of vector species of mosquitoes make Miami-Dade County, Florida, a receptive gateway for arbovirus entry into the United States ... Dr. Andre Wilke, Post Doctorate Associate, University of Miami, Miami, FL
- 9:35am Impacts of water level in the bromeliad plant packets on oviposition and egg hatching of *Aedes aegypti* ... Dr. Christopher Bibbs, Entomologist, AMCD, Mr. Parker Brown, Intern, and Dr. Rui-De Xue, Director, AMCD, St. Augustine, FL
- 9:50am DENV4 infection of local *Aedes aegypti* in the absence of a human index case ... Mr. Sean Boyles and Dr. Rhoel D.R. Dinglasan, Center Director, CDC Southeastern Center for Excellence in Vector-borne Diseases, UF/EPI, Gainesville, FL

10:00am What's happening in Volusia County ... Mrs. Sue Bartlett, Director, Volusia Mosquito Control District, New Smyrna, FL

10:10am Brevard County's unique local partnership between UF's extension office and Mosquito Control ... Mr. Joe Walter, Agricultural Agent, UF/IFAS and Joseph M. Faella, Department Director, Brevard County Mosquito Control

**10:20 A.M. - BREAK**

**ATTRACTANT / TRAP / REPELLENT:**

**Moderator:** Dr. Carolina Efstathion, Molecular Biologist, AMCD, St. Augustine, FL

10:35am Update on fly traps against biting and filth flies ... Dr. Jerry Hogsette, Lead Scientist & Research Entomologist, USDA/ARS/CMAVE, Gainesville, FL

10:50am Summary report on the AGO studies against *Aedes aegypti* in the past several years ... Dr. Noel Hahn, Entomologist, Department of R & D, SpringStar Inc., WA

11:05am Prototype for evaluation of Dynatrap for mosquito control ... Dr. Karen E. McKenzie, Director of Entomology, Dynamic Solutions Worldwide, LLC

11:15am Semi-field evaluation of three light traps against *Aedes aegypti* ... Mr. Niccholas Acevedo, Dr. Christopher Bibbs, & Dr. Rui-De Xue, AMCD, St. Augustine, FL

11:25am Evaluation of a novel rotated trap, modifying AGO trap with a suction fan, and modifying 00ZZZero trap ... Dr. Rui-De Xue, AMCD, Dr. Shawn Shi & Dr. Judy Zhu, Wuxi CDC, Dr. Emad Khater, Ain Shams University, Egypt, Dr. Christopher Bibbs, Dr. Daniel Dixon, AMCD, St. Augustine, FL

11:45am Large-scale deployment of CDC/AGO traps for control of *Aedes* mosquitoes in 2018 ... Mrs. Dena Autry, Assistant Supervisor, AMCD, St. Augustine, FL

11:55pm New products and technology from ADAPCO for 2018 ... Mr. Chris Pederson, ADAPCO, Sanford, FL

**12:05 P.M. - LUNCH BREAK** (provided by ADAPCO & FMCA)

**THE FMCA'S NORTHEAST REGIONAL ROUNDTABLE MEETING** ... Dr. Peter Jiang, FMCA's NE Regional Director

**LARVAL & ADULT CONTROL:**

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

1:10pm Update on sterile insect technique (SIT) for control of *Aedes aegypti* ... Dr. Daniel A. Hahn, Professor, Department of Entomology & Nematology, University of Florida, Gainesville, FL

1:30pm Field evaluation of *Wolbachia*-infected male mosquitoes against natural populations of *Aedes albopictus* and *Ae. aegypti* ... Dr. Stephen Dobson, Professor, Department of Entomology, University of Kentucky & MosquitoMate, Inc.

1:50pm Evaluation of residual larvicide treated plant saucers against *Aedes albopictus* larvae in semi and field

conditions ... **Dr. Peter Jiang, Entomologist & Director, Gainesville City Mosquito Control Division, Gainesville, FL**

- 2:00pm Evaluation of CocoBear and Aquatain AMF to control larval *Culex quinquefasciatus* in organically enriched aquatic habitats ... **Dr. James Cilek, Entomologist and Department Head Testing and Evaluation Department, Navy Entomology Center of Excellence, Jacksonville, FL. Mr. R. Aldridge, Mr. J. Fajardo, Dr. S. Britch, Dr. K. Linthicum, USDA/CMAVE, Gainesville, FL**
- 2:15pm Public Health Practice: Vector-borne disease preparedness in Miami-Dade County, Florida ... **Dr. John Beier, Professor & Section Chair, Department of Public Health and Environmental Science, University of Miami, Miami, FL**
- 2:35pm Evaluation of pyrethroid and botanical barrier insecticides against *Aedes albopictus* in the laboratory and field ... **Mr. Steven T. Smoleroff, Biotech, Dr. Christopher Bibbs, Entomologist, and Dr. Rui-De Xue, Director, AMCD, St. Augustine, FL**
- 2:45pm Update on Nanoceria-based pesticides ... **Dr. Mona Mathew, Postdoctoral Scholar and Dr. Bradley Willenberg, Assistant Professor, Department of Internal Medicine, University of Central Florida, Orlando, FL.**

### **3:00 P.M. - BREAK**

### **INSECTICIDES AND RESISTANCE:**

**Moderator: Dr. Christopher Bibbs, Entomologist, AMCD, St. Augustine, FL**

- 3:20pm Resistance to repellents and pyrethroids in the Puerto Rico strain of *Aedes aegypti* ... **Dr. J. R. Bloomquist, Professor, Dept. of Entomology and Nematology, EPI, University of Florida, Dr. K. Linthicum, Center Director, USDA/CMAVE, Dr. L. Yang, UF, Dept. of Entomology & Nematology, Gainesville, FL, Uli Bernier, National Program Leader, USDA/ARS**
- 3:40pm New products and formulations of larviciding and adulticiding from MGK for public health pest control in 2019 ... **Dr. Jennifer Williams, Entomologist, MGK, MN**
- 3:55pm Bifenthrin resistance and *Culex* vectors in Beach Mosquito Control District ... **Mr. Michael Riles, Entomologist, Beach Mosquito Control District, Panama, FL**
- 4:10pm Insecticide resistance evaluation using the CDC bottle bioassay with spatial repellent compound-metofluthrin against susceptible and resistant strains of *Aedes aegypti* ... **Dr. Christopher Bibbs, Entomologist, AMCD, Dr. Emad Khater, Ain Shams Univ. of Egypt, Dr. Judy Zhu, Wuxi CDC, and Dr. Rui-De Xue, AMCD, St. Augustine, FL**
- 4:25pm Update on artificial blood meal for mosquito feeding ... **Dr. Christopher Batich, Professor, Department of Materials Science and Engineering, University of Florida, Gainesville, FL**
- 4:40pm Fir needle plant essential oil significantly increases knockdown, but not toxicity, of diverse public health insecticides against *Aedes aegypti* ... **Dr. Ed Norris, Post Doctorate, Dr. J. R. Bloomquist, Professor, University of Florida, EPI, Gainesville, FL**

### **5:00 P.M. END OF THE SESSION**

**THURSDAY, MARCH 28, 2019**



Moderator: Dr. Paul T. Leisnham, Associate Professor, University of Maryland, College Park, Maryland

**NE-1443: BIOLOGY, ECOLOGY & MANAGEMENT OF EMERGING DISEASE VECTORS (5th Annual Mtg.)**

- 8:30am: **KEYNOTE SPEAKER:** Overview of USDA/ARS, Medical, Veterinary, and Urban Entomology Programs ... Dr. Uli Bernier, National Program Leader, USDA/ARS, Washington DC
- 9:00am: The efficacy of UV LED mosquito and fly traps ... Dr. Phil Koehler, Professor, Department of Entomology & Nematology, University of Florida, Gainesville, FL
- 9:20am: Parameter estimation for modeling *Rhipicephalus sanguineus* L. residential infestations ... Ms. Yuexun Tian, Ph.D. Student, Dr. Cynthia Lord, Associate Professor, Dr. Phillip Kaufman, Professor, Department of Entomology & Nematology, University of Florida, Gainesville, FL
- 9:30am: Overview of the AMCD intern and visiting scientist program ... Ms. Molly Clark, Education Specialist, AMCD, St. Augustine, FL
- 9:50am: Preliminary Business Meeting
  - o Chairperson's Report
  - o CSREES Representative's Report
  - o Administrative Advisor's Comments
- 10:20 am: Introductions - Each participant briefly introduces themselves and their interests
- 10:30 am: **BREAK**
- 11:00 am: A new software for mobile phone application to improve customer service ... Mr. Richard Weaver, Business Manager, AMCD, St. Augustine, FL
- 11:20am: Review of Major Objectives and Goals
  - Objective 1: Development of parasitic arthropod catalogue/resources
  - Objective 2: Integrated tick management and community-centered approaches, including understanding the biology and ecology of novel and emerging tick-borne pathogens
- 11:50am: New products from Central Life Sciences for 2018 ... Mr. Zane McCallister, Central Life Sciences
- 12:00 pm: **LUNCH BREAK (provided by Central Life Sciences)**
- 1:00 pm: The mosquito tracheal system: structure/function analyses of carbon dioxide handling and larval development ... Dr. Paul Linser, Professor, University of Florida, Whitney Laboratory, St. Augustine, FL
- 1:15 pm: Review of Major Objectives and Goals (*continued*)
  - Objective 3: *Ae. albopictus* and *Ae. aegypti*, with a focus on surveillance, range expansion, ecology, genetics, climate change and disease risk
  - Objective 4: New Control Tools, including socio-ecological approaches
  - Objective 5: Training and training tools
- 3:00 pm: **BREAK AND GROUP PHOTO**
- 3:30 pm: Group discussions on potential funding sources and development of prospective collaborative proposals
- 4:30 pm: Wrap-up including discussion of 2020 Annual Meeting site, dates, venue and agenda
- 5:00 pm: **ADJOURN AND WORKSHOP END**

For additional information about NE 1443 meeting, see the NE 1443 Website at:  
<http://www.nimss.org/projects/view/mrp/outline/16677>

Or contact Dr. Paul T. Leisnham at [leisnham@uind.edu](mailto:leisnham@uind.edu)

**NEW  
BUSINESS  
#3**

# 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)

## MEMO

DISTRICT DIRECTOR

Dr. Rui-de Xue

BOARD OF COMMISSIONERS:

Gary Howell, Chairperson  
Jeanne Moeller, Vice-Chairperson  
Gina LeBlanc, Secretary/Treasurer  
Don Girvan, Commissioner  
Trish Becker, Commissioner



TO: Board of Commissioners

FROM: Dr. Rui-De Xue, Director

CC: Charolette M. Hall, Administrative Assistant

DATE: January 31, 2019

RE: FMCA Tallahassee Legislation Meeting Items and Travel Approval, March 18-19, 2019

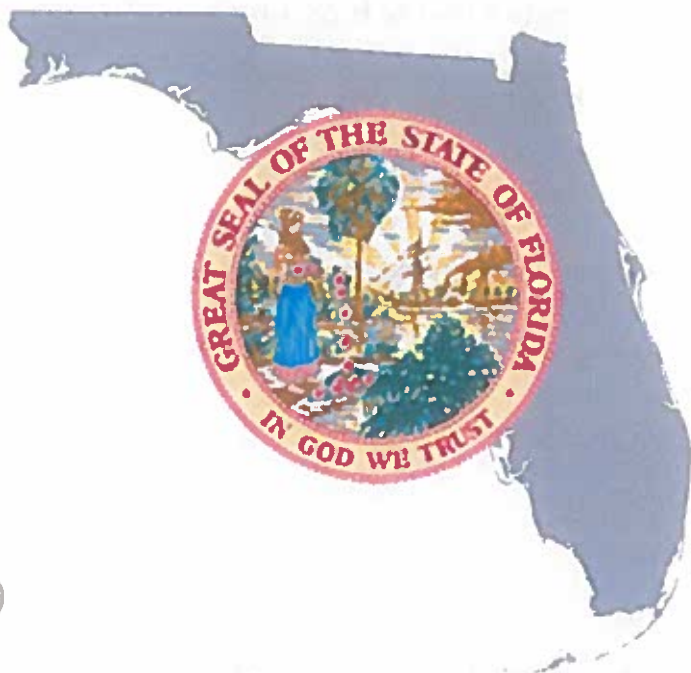
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Commissioner Jeanne Moeller will head up a discussion for the FMCA Tallahassee Legislation Meeting items. The dates for the meeting are March 18-19, 2019.

The Board will have discussion and approve the travel and the Commissioners that will be going.



## 2019 Tallahassee Days



Registration is required but there is no fee. See below for Details

## Tallahassee Days - March 18<sup>th</sup> & 19<sup>th</sup>, 2019

### What is Tallahassee Days?

Each year, FMCA members go to Tallahassee to meet with state legislators (or their aides) to encourage them to continue to support funding for mosquito control in Florida. Over the past several years, this has been a request totaling \$2.66 million dollars, which includes \$1.66M to support individual programs, \$500K for a competitive research grant program and \$500K to support three positions at the Florida Medical Entomology Laboratory who are working on subjects relevant to mosquito control.

### Why should you attend?

Does your program receive state funding or benefit from the research projects funded each year? If so, we need your voice in Tallahassee to share with your legislators the strong need for their continued

support, to ensure your program continues to receive state funding to support your efforts and protect public health!

## Tallahassee Days Schedule

March 18<sup>th</sup> – Arrive at Georgio’s restaurant at 6 pm to update all participants on the important topics, review the talking points and receive the latest team assignments with the legislators.

March 19<sup>th</sup> – A full day of visiting our legislators at the Capitol complex.

## Registration Information

There is no registration fee for this event. However, we would like for you to register as an attendee on the FMCA Events website.

## Hotel Accommodations

**Residence Inn Tallahassee Universities at the Capitol**

**600 W Gaines Street, Tallahassee**

**1-800-331-3131**

**IMPORTANT: FMCA has secured 30 rooms at the Residence Inn Tallahassee Universities at the Capitol at the block rate of \$184 plus applicable taxes per night, which includes parking. For phone reservations, contact 1-800-331-3131. BE SURE TO TELL THEM THE GROUP ROOM BLOCK IS UNDER TALLAMOSQUITO.**

When

3/18/2019 - 3/19/2019

**NEW  
BUSINESS**

**#4**

# 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)

## MEMO

DISTRICT DIRECTOR

Dr. Rui-de Xue



BOARD OF COMMISSIONERS:

Gary Howell, Chairperson  
Jeanne Moeller, Vice-Chairperson  
Gina LeBlanc, Secretary/Treasurer  
Don Girvan, Commissioner  
Trish Becker, Commissioner

TO: Board of Commissioners

FROM: Dr. Rui-De Xue, Director

CC: Charolette M. Hall, Administrative Assistant

DATE: January 31, 2019

RE: AMCA Washington, DC, Meeting Items and Travel Approval, May 13-16, 2019

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The AMCA Washington, DC, Conference is being held in Washington, D.C. on May 13 through May 16, 2019.

The registration fee is \$70 each. The hotel room rate will be \$251 each per each night.

The Board will discuss and approve the travel and which Commissioners will be going to this.

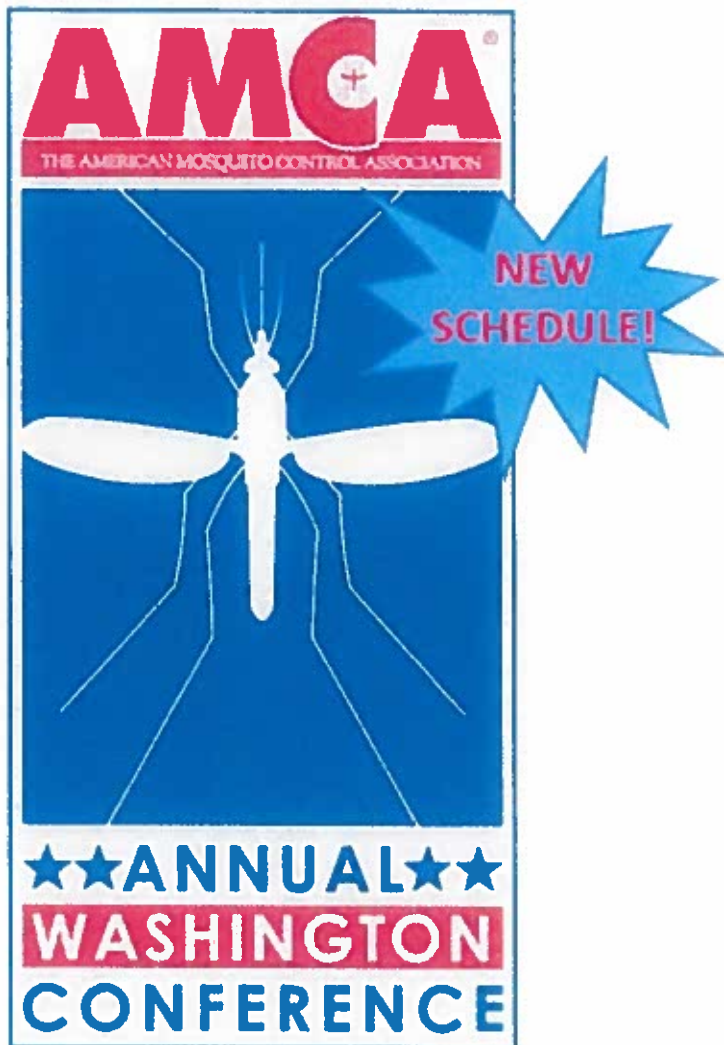


## Charolette Hall

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**From:** Dr. Rui-De Xue <xueamcd@gmail.com>  
**Sent:** Wednesday, January 23, 2019 4:49 PM  
**To:** 'Charolette Hall'  
**Subject:** Information for Feb Board book

# THE 21ST ANNUAL WASHINGTON CONFERENCE



**TUESDAY, MAY 14-WEDNESDAY, MAY 15, 2019**

**THE HILTON ALEXANDRIA OLD TOWN  
WASHINGTON, DC**

## REGISTRATION:

- Member Rate: \$70
- Non-member Rate: \$90
- Guest Tickets: \$25 each  
*Guests will be able to attend any meal functions included in attendee ticket*

***REGISTRATION AND HOUSING WILL BE AVAILABLE IN FEBRUARY!***

## QUICK LINKS:

- [Schedule](#)
- [Housing](#)
- [Informational Conference Call](#)
- [2019 Mentoring Program](#)
- [Position Papers](#)
- [CLS Travel Stipends](#)
- [Sponsors](#)

## TENTATIVE SCHEDULE:

### ***NEW SCHEDULE FOR 2019!***

#### **Monday, 5/13:**

- Registration open in the evening

#### **Tuesday, 5/14:**

- Breakfast
- All day sessions
- Evening reception

#### **Wednesday, 5/15:**

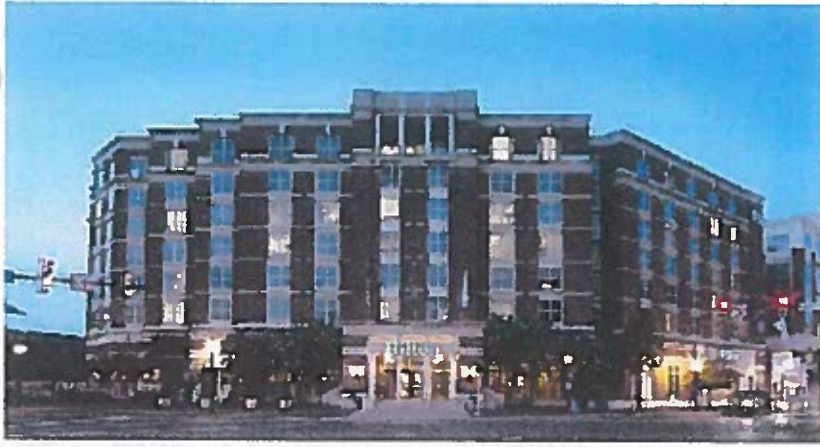
- Breakfast
- Hill visits

#### **Thursday, 5/16:**

- *Depart!*

**\*\* Schedule is subject to change**

## HOUSING:



Hilton Alexandria Old Town  
1767 King Street  
Alexandria, Virginia 22314  
Phone: +1-703-837-0440

A special block of rooms has been secured for the AMCA Washington Conference attendees at The Hilton Alexandria Old Town Hotel, AMCA's official headquarter hotel for the conference.

AMCA is pleased to offer the following AMCA room block discounted hotel rates for our attendees: Single/Double occupancy: \$251.00 per room, per night

*Housing will be available in February!*

*Room rates are in USD(\$) and DOES NOT include the state and hotel tax of 14.5% (subject to change).*

**The housing deadline is April 11, 2019.** Please note that your reservation may be modified or cancelled up to 72 hours prior to arrival. If you would like to extend your stay outside of May 12-16 please contact the hotel directly.

## INFORMATIONAL CONFERENCE CALL

### GEARING UP FOR WASHINGTON

If you'd like to participate at the 2019 Washington Conference but are apprehensive about meeting with congressional offices, the AMCA will be hosting a conference call to answer questions and prepare you for a meaningful visit to D.C.

**CALL DATE WILL BE SCHEDULED SOON!**

## 2019 MENTORING PROGRAM

If you have been participating in the conference for a few years and are willing to share your knowledge and experience, please consider volunteering to mentor to a new attendee.

As a mentor you will:

- Help set up Congressional appointments
- Participate in informational sessions on Tuesday, May 14
- Guide your mentee to the Hill
- Join your mentee for at least the first couple of Hill visits

New members requesting assistance and potential mentors — contact Angela Beehler via email [angela@mosquitocontrol.org](mailto:angela@mosquitocontrol.org) or call 509-967-2414 to be paired up today!

## **POSITION PAPERS:**

*2019 Position papers will be available soon!*

## Charolette Hall

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**From:** Dr. Rui-De Xue <xueamcd@gmail.com>  
**Sent:** Wednesday, January 23, 2019 9:54 AM  
**To:** 'Charolette Hall'  
**Cc:** g-chowell@att.net; 'Jeanne Moeller'; Gina LeBlanc; 'TBecker4AMCD'; 'Don Girvan'; 'Wayne Flowers'  
**Subject:** FW: 2019 AMCA Washington Conference Dates

This will be on the Feb Board meeting agenda for discussion and approval of the delegates and travel. If you are interested to join the DC legislation meeting, please let me know. I do not plan for this meeting this year due to travel to China for a meeting and vacation from May 18 to June 2. Thanks, Rudy

**From:** Chris Lesser [mailto:Christopher.lesser@manateemosquito.com]

**Subject:** 2019 AMCA Washington Conference Dates

Good morning –

Attached below is the final agenda for the 2019 AMCA Washington Conference. Different from past years, notice the change in schedule from a Monday – Wednesday (with Hill visit's on Tuesday), to a Tuesday – Thursday schedule with Hill visits on Wednesday.

The tentative schedule is below:

### Monday, 5/13:

- Potential meetings with federal agencies
- Registration open in the late afternoon/evening

### Tuesday, 5/14:

- Breakfast
- All day training sessions/discussions
- Evening reception

### Wednesday, 5/15:

- Breakfast
- Hill visits

### Thursday, 5/16:

- *Depart!*

The AMCA had secured the hotel over the summer in accordance with the traditional schedule. Due to the change of the date pattern and the committee's need to adjust the schedule, the room rate did increase slightly to \$251/night. Registration and housing will be open in February 2019.

Some of you may have heard of the Alexandria Metro line being closed in 2019. We have had extensive conversations with both the hotel and the city and at this time the closure will not take place until Memorial Day – well after our event. We have a plan B in place should we encounter any changes with a Metro closure.

If you have any questions, please ask.

Thanks-  
Chris

AMCA South Atlantic Regional Representative



Virus-free. [www.avg.com](http://www.avg.com)

# REPORTS

## Director Report (January 2019)

### Program Management:

1. Customer and professional service: AMCD answered 8 service requesters. Dr. Xue reviewed 2 manuscripts for the Journal of Insects and Acta Tropica at the editor's request.
2. Surveillance: St. Johns County left for mosquito-borne illness advisory by the DOH. BG traps still continues for Aedes mosquito surveillance and caught a few mosquitoes.
3. Operation control: AMCD MCTs inspected and made the treatments for larvae when they found larvae. Helicopter spraying equipment have been installed and tested flight. Old AGO traps in South St. Augustine serval areas have been removed due to MosquitoMate project.
4. Applied research: Received \$15K from MGK about spatial repellent and resistance strain test. Received \$18K for 3 types of spatial repellent devices for evaluation. Work with ThermCell repellent device testing protocol with company. Prepare for MosquitoMate project in St. Augustine South. Billed \$20K for the PBO project to MGK. Received the signed contract/agreement from MosquitoMate for \$30K testing project in St. Augustine South.
5. Education: All employee training about CPR has been done. One intern and the new Molecular Entomologist training have been started. Received the training funding at \$16K from the NACCHO. Distribute flyers about Wolbachia infected male mosquito release project.

### Business Management:

6. Serve to the Board of Commissioners: Staff prepared for January 10's Board meeting documentations. Assisted the Board members for registration of Dodd short courses and booked hotel rooms. Mrs. Trish Becker as the new commissioner and Mrs. Jeanne Moeller, re-elected Commissioner started on January 10.
7. Budget and auditor: Staff collaborated with CPA to prepare for auditor report.
8. Insurance: staff proceeded all renewal of insurances.
9. Contract: Board approved the agreement with MosquitoMate for continuing testing of Wolbachia infected male mosquito release against Aedes mosquitoes in St. Augustine. The MosquitoMate will pay \$30K for the testing in 2019 through a CDC collaboration grant.
10. Inventory: The surplus list has been sent to DACS and further process.
11. Annual program report has been done and will be presented to the Board in Feb.
12. HR. One intern started from January 14, 2019. New Molecular Entomologist started on January 28. Assistant Supervisor has been interviewed and will start from Feb 11. Tom Columbus job title has been changed to Field Biologist and Steve Smoleroff has been promoted to Biotech and all effective from Feb 11. All employee performance evaluation have been done.

### Meeting:

Jan7. PM. Met staff about Board meeting preparation.



Jan 8. AM. Tele conversation with Commissioner Mrs. Moeller about agenda and Dodd course. Reviewed 2 manuscripts for Acta Tropica and Insects.

Jan 9. 9am. Interviewed Molecular Entomologist.

Jan 10. 5pm. Attended Board meeting.

Jan 15. 9am. Interviewed Assistant Supervisor.

Jan 16. Attended teleconference about MosquitoMate project.

Jan 17. Attended Kiwanis meeting about school project and visited field.

Jan 19. 9am-4pm. Attended insect systematic conference at UF/Natural Museum.

Jan 22. Work on annual program report, 16<sup>th</sup> workshop program, and Feb Board meeting agenda.

Jan 23. Met Pilot about helicopter mechanic.

Jan 24. Field visiting.

Jan 28. Arrange testing project with staff.

Jan 29. Attended CPR training whole day.

Jan 30. Met Tom Columbus and Kay Gaines about performance evaluation issue with MTs.

Jan 31. 9:30am. Attended MosquitoMate teleconference about testing project. 10am. Held staff meeting. 2pm. Met Commissioner Mrs. Moller about FMCA and Dodd course.

**Dr. Rui-De Xue**

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**From:** 中国科协生命科学学会联合体 <secretariat@culss.org.cn>  
**Sent:** Monday, January 21, 2019 2:33 AM  
**To:** xueamcd  
**Subject:** Thanks from 2018 World Life Science Conference

Dear Professor Xue,

On behalf of the Organizing Committee and Scientific and Program Committee, we are very grateful for your participation and support to the 2018 World Life Science Conference in Beijing. It is our great honor to have you give the wonderful plenary talk, which contributed a lot to the success of this conference. We believe the achievements and success of this conference have greatly promoted the progress of life sciences in China and the cooperation with foreign scientists in the world.

On the arrival of Chinese Spring Festival, we would like to express our gratitude and sincere blessings to you and your family.

Yours sincerely,

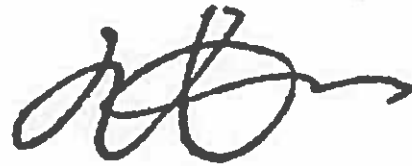


Xuetao Cao

Co-Chair of the Organizing Committee

[caoxt@immunol.org](mailto:caoxt@immunol.org)

n



Zihe Rao

Co-Chair of the Scientific & Program Committee

[raozh@mail.tsinghua.edu.c](mailto:raozh@mail.tsinghua.edu.cn)

# Treatment Summary January 2019

**From Date :** 01-01-2019      **To Date :** 01-31-2019  
**Zone :** All      **Material :** All  
**Task :** All

Material	Amount	Area Treated	Application Rate	Times
Allosid WSP	86 ea	0.27 acre	322.68 ea / acre	1 times
Allosid XR	16 ea	0.04 acre	435.54 ea / acre	3 times
Aquabac XT	4480 fl oz	560 acre	8 fl oz / acre	53 times
B.i.i. Briquets	61 ea	0.14 acre	435.54 ea / acre	9 times
Cocobear	866 fl oz	2.26 acre	384.02 fl oz / acre	15 times
Duet 50%	608 fl oz	387.26 acre	1.57 fl oz / acre	9 times
Natular DT	26 ea	0 acre	6666.67 ea / acre	3 times
Sustain MBG	362 lb	48.27 acre	7.5 lb / acre	8 times
Talstar P	1.48 gal	4.39 acre	0.34 gal / acre	17 times

## Task Time Summary January 2019

From Date : 01-01-2019

To Date : 01-31-2019

Zone : All

Employee Name : All

<b>Task Time Summary</b>			
Task	Total Time	Total Timesheets	Total Time
Administrative	991:07 hrs	168	
Admin Leave	260:00 hrs	26	
Adulticide	21:11 hrs	23	
AM Briefing	71:19 hrs	141	
Annual Leave	458:45 hrs	84	
Assist	15:59 hrs	6	
Building & Grounds Work	525:00 hrs	138	
Chicken Program	13:17 hrs	15	
Computer Repair	100:30 hrs	15	
Daily Paperwork	21:57 hrs	77	
Field Experiment	75:23 hrs	20	
Fish Program	00:25 hrs	1	
Hand Adulticide	12:10 hrs	24	
Holiday	510:00 hrs	51	
Insectary	124:15 hrs	26	
Inventory	12:56 hrs	8	
Lab Experiment	07:30 hrs	3	
Larvicide	131:46 hrs	92	
Mechanics Time	209:44 hrs	24	
Meeting	51:46 hrs	37	4948:45 hrs
Mosquito Trap BG	32:25 hrs	94	
Mosquito Trap ID	21:20 hrs	6	
Mosquito Trap OV	02:02 hrs	23	
Mosquito Traps Misc	67:52 hrs	22	
Produce Papers & Programs	218:48 hrs	55	
Public Relations	04:30 hrs	2	
Public School Program	03:15 hrs	1	
Resupplying Trucks	25:13 hrs	55	
Sick Donated Leave	10:00 hrs	1	
Sick Leave	146:45 hrs	20	
Sick/Personal Leave	16:00 hrs	2	
Site Inspect	344:59 hrs	210	
Source Reduction (tires)	04:01 hrs	3	
Supervisory	150:00 hrs	17	
Training Classroom	206:28 hrs	29	
Training Field	03:15 hrs	2	
Travel	12:15 hrs	4	
Vehicle Maintenance	64:37 hrs	23	

BG Traps January 2019					
1/1/2019					
To :					
1/31/2019					
Trap Type :					
BG					
2019 01					
Species Name	8	15	23	29	Species Total
Ae aegypti	4	0	7	0	11
Ae albopictus	5	1	4	0	10
Ae atlanticus	0	0	0	0	0
Ae canadensis	0	0	0	0	0
Ae fulvus pallens	0	0	0	0	0
Ae infirmatus	259	72	40	1	372
Ae mitchellae	0	0	0	0	0
Ae signifera	0	0	0	0	0
Ae sollicitans	0	2	4	1	7
Ae taeniorhynchus	0	0	0	0	0
Ae triseriatus	0	0	0	0	0
Ae vexans	21	4	1	0	26
An atropos	0	0	0	0	0
An bradleyi	0	0	0	0	0
An crucians	3	4	4	0	11
An perplexens	0	0	0	0	0
An punctipennis	0	0	0	0	0
An quadrimaculatus	0	0	0	0	0
An walkeri	0	0	0	0	0
Cq perturbans	0	0	0	0	0
Cs inornata	0	0	0	0	0
Cs melanura	0	1	0	0	1
Cx coronator	0	0	0	0	0
Cx eraticus	0	0	0	0	0
Cx nigripalpus	48	172	88	0	259
Cx quinquefasciatus	3	12	42	14	69
Cx restuans	0	0	0	0	0
Cx salinarius	0	0	0	1	1
Cx territans	0	0	0	0	0
Ma dyari	0	0	0	0	0
Ma titillans	0	0	0	0	0
Or signifera	0	0	0	0	0
Ps ciliata	0	0	0	0	0
Ps columbiae	0	0	1	0	1
Ps cyanescens	0	0	0	0	0
Ps ferox	1	0	0	0	1
Ps howardii	0	0	0	0	0
Tx rutilus	0	0	0	0	0
Ur lowii	0	0	0	0	0
Ur sapphirina	0	0	0	0	0
Wy Mitchellii	0	0	0	0	0
<b>Daily Total</b>	<b>343</b>	<b>268</b>	<b>141</b>	<b>17</b>	<b>769</b>

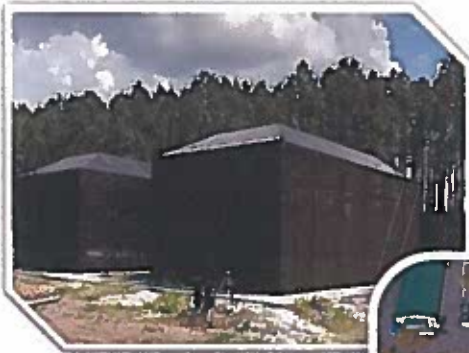
Malaria vector
WNV/SLE vector
EEE vector
Dengue, yellow fever, chick-v, Zika

# ATTACHMENTS

# ANASTASIA MOSQUITO CONTROL DISTRICT OF ST. JOHNS COUNTY



## 2018 ANNUAL PROGRAM REPORT



**Screened  
Enclosures**



**Chicken Coops  
for Chicken  
Surveillance  
Program**



**Research Property Construction**

**Aerial View 1-17-19**



**Left: Gravid Traps**



**Right: AGO Traps**



**Bell 206B3 Helicopter for  
AMCD Aerial Capability  
July 12, 2018**



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## A MESSAGE FROM THE CHAIRPERSON



We have had a very successful year in mosquito control in 2018. The District purchased a surplus helicopter from the Lee County Mosquito Control District and we started to build our hangar to have our aerial program running in 2019. St. Johns County residents have been free of locally-acquired mosquito-borne diseases for the past 15 yrs. The District attracted & received approximately 300 thousand dollars in grants, materials, labor, and other funds to assist the District's programs. We increased the millage rate by a small amount and utilized our best efforts to control the mosquitoes and mosquito-borne diseases. Most of the phase II construction project has been almost completed and the Board approved the concept to build a Disease Vector Museum for promotion of public education and outreach. Mr. Don Girvan was appointed on December 7 to the Board to replace Jacqueline Rock, who resigned on December 2, 2018 and Commissioner Jeanne Moeller was re-elected. Mrs. Trish Becker was elected in November to replace Mrs. Catherine Brandhorst in January 2019. Thank you to our Board members, all of AMCD's employees, and all of St. Johns County's citizens for their support.

## A MESSAGE FROM THE DIRECTOR

In 2018 there were higher numbers of sentinel chickens (83) that tested positive for arbovirus in St. Johns County, compared with 2016 (1) and 2017(1). Also, we had two EEE horses and 1 pool of mosquitoes positive for WNV. AMCD received and provided more than 1,600 service requests.



St. Johns County is continuing in 15 years without any locally acquired mosquito-borne diseases. AMCD, as a collaborator, received partial grants or equal value for labor or materials worth about \$300,000 from SpringStar/NIH, CDC, DACS, and other companies, to support our programs. AMCD collaborated with the USDA, FMCA's NE Regional Director, and the NE 1443 Regional Project Committee to successfully organize and hold the 15<sup>th</sup> annual workshop and attracted 180 registrants from outside of AMCD. AMCD provided the training and supported 8 intern students and 7 visiting scientists through different fund resources. Two employees received AMCA and FMCA awards & scholarships. I was elected as the Executive Director for the World Mosquito Control Association and successfully served the FMCA as the past President and served the Florida Entomology Society as President for the 2<sup>nd</sup> time. Even though I lost the election, I had been nominated to run for the AMCA Vice President election again. Thank you to our Board of Commissioners, all employees, all collaborators and related organizations and agencies for their cooperation and supporting our programs.



# ANASTASIA MOSQUITO CONTROL DISTRICT OF ST. JOHNS COUNTY BOARD OF COMMISSIONERS



**Mr. Gary  
Howell**  
Seat 5  
2013-2020



**Mrs. Gina  
LeBlanc**  
Seat 1  
2017-2020



**Mrs. Catherine  
Brandhorst**  
Seat 4  
2011-2018



**Mrs. Jeanne  
Moeller**  
Seat 2  
2007-2018

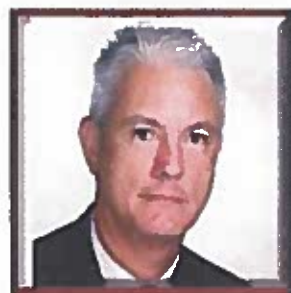


**Mrs. Jacqueline  
Rock**  
Seat 3  
2017-2018  
Resigned 12-2-18



**Mr. Don Girvan**  
Seat 3  
2018-2020  
Appointed 12-7-18  
through 12-30-20

## ANASTASIA MOSQUITO CONTROL DISTRICT APPOINTED OFFICERS



**Mr. Wayne Flowers,**  
Attorney, since: 11-9-10



**Ms. Julieann Klein, CPA**  
since: 9-11-03



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



# AMCD FULL-TIME EMPLOYEES

## OPERATIONS CONTROL




**Kyle Arber,**  
Mosquito Control Technician  
Hired: 5-01-17



**Cathy Hendricks,**  
Mosquito Control Tech.  
Hired: 7-08-02



**Patrick Kendrick,**  
Mosquito Control Tech.  
Hired: 4-07-03



**Steven Smokcraft,**  
Mosquito Control Technician  
Hired: 10/2/17



**Ricky Stockley,**  
Mosquito Control Tech.  
Hired: 2-04-13



**Michael Vaughn,**  
Mosquito Control Tech.  
Hired: 3-03-14



**Athen "Tom" Columbus,**  
Supervisor  
Hired: 2-6-17



**Morgan Duett,**  
Mosquito Control Tech.  
Hired: 2-06-17




**Jerry Iser,**  
Mosquito Control Tech.  
Hired: 2-02-15



**Barry Scott,**  
Mosquito Control Tech.  
Hired: 3-03-14



**Steven Salena,**  
Mosquito Control Technician  
Hired: 4-24-00  
Resigned: 3-6-19



**David Strickland,**  
Mosquito Control Tech.  
Hired: 3-10-97



**Jeremy Wholforth,**  
Mosquito Control Tech.  
Hired: 2-06-17

## SURVEILLANCE, ENTOMOLOGY, & EDUCATION




**Dr. Daniel Dixon,**  
Molecular Biologist  
Hired: 3-18-18  
Resigned: 1-03-19



**Dena Autry,**  
Mosquito Control Technician  
Hired: 8-24-15



**Joseph D'Amato,**  
Biological Technician  
Hired: 4-18-14  
Resigned: 10-28-16



**Christopher Bibbs,**  
Biologist  
Hired: 6-02-14



**Carlye Mosquera,**  
Mosquito Control Technician  
Hired: 8/8/17



**Molly Clark,**  
Education Specialist  
Hired: 2-06-17



## ADMINISTRATION




**Rui-De Xue,**  
Director (2005)  
Hired: 4-14-03



**Charolette M. Hall,**  
Admin. Assistant  
Hired: 11-05-07



**Kay Gaines,**  
Operations Manager  
Hired: 8-07-00



**Scott Hanna,**  
Accountant  
Hired: 7-03-07



**Richard Weaver,**  
Data Manager  
Hired: 4-14-03



**Peter Paul Leone,**  
Pilot  
Hired: 10-22-18

## MECHANICS



**James Wynn,**  
Mechanic  
Hired: 3-04-96



**John Freddie Allen,**  
Mechanic  
Hired: 7-08-02

## - ADMINISTRATION - PERSONNEL & RECOGNITIONS

**PERSONNEL:** Our voluntary visiting scientists: Mrs. Hui Liu, from Jiangsu Provincial CDC, from 5-2-18 through 7-30-18, Dr. Ding Zhu and Dr. Chao Shi, from Wuxi CDC, Jiangsu Province, China, from August 1<sup>st</sup> through October 26, 2018, Mrs. Kathy Shirley from Valley Ridge Academy Science Education from 6-4-18 through 7-10-18, Dr. Emad Khater from Ain Shams University in Cairo, Egypt from 9-4-18 through 11-7-18, and a visiting scientist from the University of Mexico join us as a Post Doctorate who worked with AMCD and UF, Dr. Hussein Sanchez Arroyo (8-1-18 to 7-31-19).

There were 8 seasonal interns in 2018: Morgan Smith (1-8-18 to 2-23-18), Lagan Mullin (5-1-18 to 8-17-18), Dillon Streuber (5-14-18 to 7-31-18), Courtney Cunningham (5-8-18 to 10-31-18), Catherine Chase (5-14-18 to 7-17-18), Parker Brown (5-15-18 to 06-26-18), Caroline Blunck (7-12-18 to 12-20-18) and Nicholas Acevedo (8-3-18 to 12-20-18).

From May through October, we had 3 returning seasonal (6 mo.) inspector sprayers: Ray Gaulden (4<sup>th</sup> yr.), Phillip Vaughn (3<sup>rd</sup> yr.), and John Blalock (2<sup>nd</sup> yr.), also, 3 new inspector sprayers: Dazmond Hackney (5-1-18 to 10-31-18), Shannon Bentley (05-21-18 to 10-31-18) and Brenda Surratt-Robertson (5-1-18 to 6-25-18).

Mr. Joseph D'Amato, Biological Technician, resigned on 10-26-18 to advance his career in an environmental position with the Navy, Mr. Steven Solana, MC Technician will retire on 1-04-19 after eighteen and a half (18 ½) years of service with AMCD and Dr. Daniel Dixon will resign on January 3, 2019 after three years with AMCD to obtain a position with the USDA, and on October 22, 2018 AMCD hired a Pilot, Mr. Peter Paul Leone III.

### RECOGNITIONS AND AWARDS:



Christopher Bibbs, AMCD Biologist, received the AMCA 2<sup>nd</sup> Place Student Paper Competition Award at the AMCA annual meeting in Kansas City, MO., February 26-27, 2018. He was also one of three students in Florida who received the Florida Entomological Society (July 2018) and the FMCA (Nov. 2018) Ph.D. Student Paper Award.



James Wynn, AMCD Mechanic, received the AMCA Boyd- Ariaz Grassroots Award for 2018 at the AMCA Annual Meeting in Kansas City, MO. February 26-27, 2018.

Carlye Tulley received a scholarship for the FMCA Dodd Short Course from the CDC Southeastern Center for Excellence in Vector borne diseases in January 2018.

The following AMCD personnel received awards for their years of service with the District: Mr. Patrick Kendrick, Mosquito Control Technician; Mr. Richard Weaver, Data Manager; and Dr. Rui-De Xue, Director; each for 15 years of service and dedication to the District and the Managements Choice Awards were presented to Richard Weaver and James Wynn with bonuses for all extra work this year and for their significant contributions and dedication to the District.



# 2018

## SEASONAL (6 MONTH) EMPLOYEES

6



**Raymond Gaudin,**  
Inspector  
Sprayer  
5/1/18-  
10-31-18  
(4 yrs.)



**Phillip Vaughn,**  
Inspector  
Sprayer  
5/1/18-  
10-31-18  
(3 yrs.)



**John Bielack,**  
Inspector  
Sprayer  
(Lab)  
5/1/18-  
10-31-18  
(2 yrs.)



**Shannon Bentley,**  
Inspector  
Sprayer  
5/21/18-  
10-31-18



**Dazmond Heckney**  
Inspector  
Sprayer  
5/1/18-  
10-31-18



**Brenda Surratt-  
Robertson**  
Inspector  
Sprayer  
5/1/18-  
06-25-18

## INTERNS & VOLUNTEERS



**Morgan Smith,**  
Lab Tech,  
Intern  
1/9/18-  
2-25-18



**Courtney Cunningham**  
Intern  
5/8/18-  
10-31-18



**Catherine Chase,**  
Intern  
5/14/18-  
7-17-18



**Dillon Stueber,**  
Intern  
5/14/18-  
7-27-18



**Parker Brown,**  
Intern  
5/15/18-  
06/26/18



**Logan Mullin**  
Intern  
5/1/18-  
6-17-18



**Caroline Blunk,**  
Intern  
7/12/18-  
12-20-18



**Nicholas Acevedo,**  
Intern  
8/03/18-  
12-20-18

## VISITING

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**Dr. Ding Ding**  
Visiting  
Scientist,  
Hengsu  
Province  
07/15/18-  
10-26-18



**Kathy Shirley,**  
Visiting  
Scientist,  
Valley High  
Academy  
Science Ed.  
06/04/18-  
07-10-18



**Mrs. Hui Liu**  
Visiting  
Scientist,  
Hengsu  
Provincial  
CDC  
05/23/18-  
07-30-18



**Dr. Ernad Elshar,**  
Visiting  
Scientist,  
Ain Shams  
Univ., Cairo,  
Egypt  
9-4-18 to  
11-07-18



**Dr. Cheo Sh**  
Visiting  
Scientist,  
Hengsu  
Province  
07/15/18-  
10-26-18

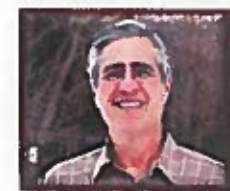


**Dr. Nazain  
Sanchez  
Arroyo,**  
Visiting  
Scientist,  
Univ. of  
Manila  
8-1-18 to  
7-31-19

## ADJUNCT PROFESSORS



**Dr. Dexter Muller,**  
Adjunct  
Senior  
Vector  
Ecologist  
October  
2018



**Dr. Michael  
Turell,**  
Adjunct  
Senior  
Arthro-  
virologist,  
October  
2018

## COMMITTEE MEMBERS 2018

### SAFETY COMMITTEE:

*Data Manager (Safety Coordinator):*  
Mr. Richard Weaver, (Chair)  
*Operations Manager:* Mrs. Marcia Kay  
Gaines  
*Supervisor:* Mr. Athan Tom Columbus  
*MC Technicians:* Mr. Ricky Stockley;  
Mr. John "Freddie" Allen,  
and Mr. Steven Solana

### APPLIED RESEARCH COMMITTEE:

*Commissioner:* Mrs. Jeanne Moeller  
(Chair)  
*Molecular Biologist:* Dr. Daniel Dixon  
*Data Manager:* Mr. Richard Weaver  
*Biological Tech.:* Mr. Joseph D'Amato  
*Biologist:* Mr. Christopher Bibbs  
*Education Specialist:* Ms. Molly Clark  
*MC Technician:* Ms. Dena Autry

### EDUCATION COMMITTEE:

*Commissioner:* Mrs. Jacqueline Rock,  
(Chair)  
*Biologist:* Mr. Christopher Bibbs  
*Education Specialist:* Ms. Molly Clark  
*Molecular Biologist:* Dr. Daniel Dixon  
*Operations Mgr.:* Mrs. Marcia Kay  
Gaines  
*Biological Tech.:* Mr. Joseph D'Amato  
*MC Technician:* Mr. Patrick Kendrick

### PLANNING COMMITTEE:

*Commissioner:* Mrs. Gina LeBlanc,  
(Chair)  
*Director:* Dr. Rui-De Xue  
*Biologist:* Mr. Christopher Bibbs  
*Operations Mgr.:* Mrs. Marcia Kay  
Gaines  
*Data Manager:* Mr. Richard Weaver  
*Supervisor:* Mr. Athan Tom Columbus

### FINANCIAL/AUDIT COMMITTEE:

*Commissioner:* Mrs. Catherine  
Brandhorst, (Chair)  
*Director:* Dr. Rui-De Xue  
*Accountant:* Mr. Scott Hanna  
*Data Manager:* Mr. Richard Weaver  
*Admin. Assist.:* Ms. Charolette M. Hall  
*Operations Mgr.:* Mrs. Marcia Kay  
Gaines

### EMERGENCY RESPONSE COMMITTEE:

*Operations Mgr.:* Mrs. Marcia Kay  
Gaines (Chair)  
*Supervisor:* Mr. Athan Tom Columbus  
*Data Manager:* Mr. Richard Weaver,  
*Biologist:* Mr. Christopher Bibbs  
*Admin. Assist.:* Ms. Charolette M. Hall  
*Education Specialist:* Ms. Molly Clark

### OPERATIONAL COMMITTEE:

#### GROUND/AERIAL

*Commissioner:* Mr. Gary Howell  
(Chair)  
*Director:* Dr. Rui-De Xue  
*Supervisor:* Mr. Athan Tom Columbus  
*Oper. Mgr.:* Mrs. Marcia Kay Gaines,  
*Data Manager:* Mr. Richard Weaver  
*Molecular Biologist:* Dr. Daniel Dixon  
*MC Technician:* Mr. David Strickland

#### AERIAL COMMITTEE:

*Commissioner:* Mr. Gary Howell  
(Chair)  
*Director:* Dr. Rui-De Xue  
*Operations Mgr.:* Mrs. Marcia Kay  
Gaines  
*Data Manager:* Mr. Richard Weaver  
*Pilot:* Mr. Peter Paul Leone  
(Volusia MCD)  
*Pilot (Ret'd):* Mr. Brad Gunn  
(Beach MCD)



# 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 leading Districts for mosquito control and the people in St. Johns County will be among the healthiest in the nation – a well served community, enjoyed by all and supported by all partners.

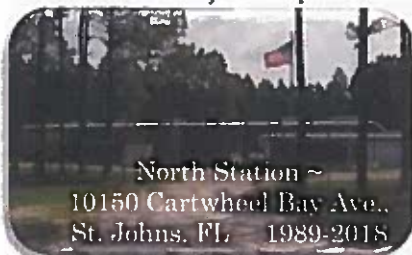
### OUR PROGRAMS:

Customer Service, Operations (including Surveillance and Control), Education, and Applied Research.



AMCD staff were all located in the Base Station Complex at 120 EOC Drive. Harrell Construction Co., Inc. anticipates the completion of the construction of the eight acre south parcel and research property in the middle of February of 2019, which will increase the efficiency at AMCD.

AMCD purchased a Bell 206B3 helicopter after approval of the contract by the Board of Commissioners on July 12, 2018, from used surplus from the Lee County Mosquito Control District, for aerial capability for the citizens of St. Johns County.



The North Station property, located at 10150 Cartwheel Bay Ave., St. Johns, FL 32259 was sold on March 15, 2018 to Blue Star Veterinary Hospital for \$650,000.00.

AMCD continues providing many services to the citizens of St. Johns County, including, but not limited to: conducting inspections; mosquito control; working with and conducting public education and assistance for local organizations, schools, homeowners associations, and the community in general – to help with surveillance and control of the populations of mosquitoes; to reduce the chance of human virus association and to protect the environment; conducting larviciding and adulticiding especially during the mosquito season from March through November; conducting applied research to test ideas and products to reduce the mosquito population; and providing employee training to keep up with modern technology to help in the control of mosquitoes and mosquito-borne diseases.

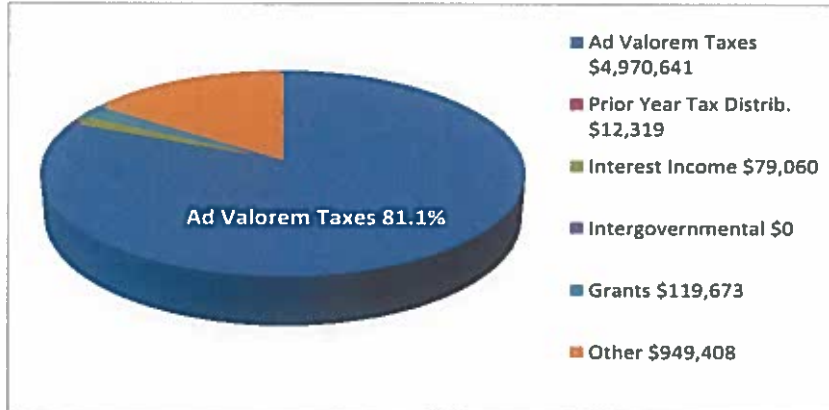
In the November 6, 2018 midterm elections; Mrs. Panagiota K. Trish Becker won seat 4, over incumbent Mrs. Catherine Brandhorst. Mrs. Becker's term will begin on Tuesday, January 8, 2019. After Mrs. Jacqueline Rock resigned her Seat 3 on December 2, 2018, the Commissioner of Agriculture, Mr. Adam Putnam appointed Mr. Don Girvan to Seat 3, beginning December 7, 2018 and he will serve the remainder of that term through December 31, 2020. Commissioner Jeanne Moeller, Seat 2, was re-elected in November for another 4 year term.

# CHAPTER 1: BUDGET

## FINANCIAL SUMMARY

Fiscal Year - Oct. 1, 2017 through Sept. 30, 2018

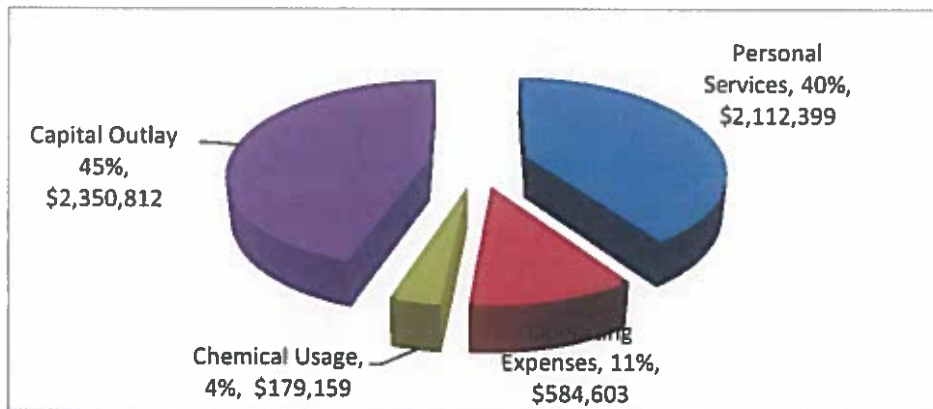
### TOTAL DISTRICT REVENUES



Ad Valorem (real property) Current Year Taxes, the primary source of revenue, \$4,970,641, comprised of approximately 81.1% of the total Revenues of \$6,131,101. Grant Revenues, from Applied Research, Totaling \$119,673, shows continued growth. Miscellaneous Revenues, atypical in nature, comprised of \$650,000 for the sale of the District's Northwest sub-station (part of the consolidation process), and \$260,691 in FEMA reimbursements. The District's millage rate remained the same at 0.2150 for the second consecutive year.

### TOTAL DISTRICT EXPENDITURES

\$5,226,973



Expenditures for the year were comparatively less than Revenues. The majority were attributed to Personal Services, 40%, and Capital Outlay, 45%, two thirds of which was used for continuation of Phase II of the District Facility Project to be completed in the following 18/19 Fiscal Year.

**BOARD BUSINESS:** AMCD staff provided many documents to Board members and the attorney for Board and Committee meetings in 2018 and supported 12 Board meetings, including the annual First and Final Public Hearings in September for the fiscal year budget and millage. The Service Request Phone App was made available this year to all smart device users in the public for free from the Google Play Store and Apple Apps Store, through GeoMosquito (MGIS). Commissioner Jacqueline Rock informed the Board in May, 2018 that she was resigning her Seat 3 to run for the City of St. Augustine Mayor. Her resignation became effective December 2, 2018. Agricultural Commissioner, Adam Putnam appointed Mr. Don Girvan to Seat 3, effective December 7, 2018 through the rest of the term, December 30, 2020.

**INVENTORY:** The annual physical inventory, monthly tire inventory, and chemical inventory were done regularly. One vehicle were approved for surplus, along with various equipment and other items April 12, 2018.

**DACS INSPECTION:** The Dept. of Agriculture and Consumer Services conducts a "Mosquito Control Pesticide Use Inspection" every 2 years: AMCD's done in 2015 and 2017 reflected no deficiencies. It is due again in 2019.

**CONTRACTS:** After approval from the Board, many annual contracts were renewed for 2018 or sent out for bid, RFP, or by utilizing the state contracts to assure the District was obtaining the best services at the best possible prices. Some of these included, but were not limited to, the Auditor Contract in May 2018 (continually from 2003) with Julieann Klein from Lombardo, Spradley & Klein; Application Dynamics for small area aerial spraying and with VDCI for large areas adulticiding for 2018; The Board approved; the purchase of a helicopter in May 2018 and the contract for it in July 2018 and the Cintas Uniform contract was approved at the September 13, 2018 Board meeting; AV Fuel Corp. contract for purchase of Jet-A Fuel was approved Oct. 18, 2018 and a contract was approved with St. Johns County Aug. 30, 2018, to rent their hangar to temporarily house the helicopter; Resolution 2018-01 for the 2018 Elections was approved February 15, 2018, as was Resolutions 2018-02 for the millage rate (0.2200) and 2018-03 for the Budget on September 27, 2018 at the Final Public Hearing.

**INSURANCE:** The Board renewed the dental, life, and health, as well as fleet and Worker's Compensation insurances at the December 13, 2018 Board meeting, again with little differences from the last couple of years; the annual renewals of the Tank Liability Insurance, Fleet Liability and Workers Compensation Ins. at the Sept. 13, 2018 Board meeting, Aviation Hull and Liability Insurance was approved Oct. 12, 2018.

**POLICIES:** The Board approved the updated version of the Commissioner's Handbook on April 12, 2018 and staff continued updating the District's Policy Manual and Employee Handbook in 2018 as policies were changed or added

### AMCD WEBSITE:

The AMCD's website: [www.amcdsjc.org](http://www.amcdsjc.org) continued to provide helpful, important information, such as: important links, public notices, meeting dates, along with, illness advisories, training and workshop information, mosquito biology, as well as document access, public education and employment opportunities, & much more. AMCD is also active on Facebook and Twitter and hosts an online survey to determine customer satisfaction.

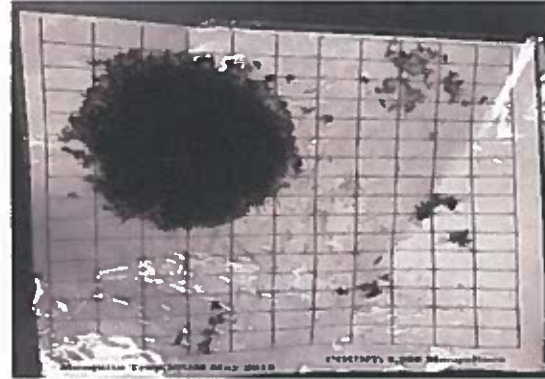
During 2018, AMCD continued utilizing the GeoMosquito database computer software program through the website for customer service requests and fogging and now in 2018, GeoMosquito released the free AMCD Phone App for the St. Johns County citizens to now use their Android or I-Phone and smart devices to enter service requests and/or check fogging and service request information via their smart phones and tablets.

We frequently updated our website in 2018 to enable our St. Johns County residents to be informed and to check to see if their address was scheduled for fogging and to enter service requests.



AMCD continues to follow Florida Statutes, Chapter 388, 5E-13, DACS's, EPA labels and Safety Data Sheets, and the District's policies and procedures while providing necessary inspections, adulticiding and larviciding.

AMCD answered 1,567 service requests in 2018 from local residents by phone, online through our website, by e-mail, fax, and walk-ins.



AMCD held an Open House on May 24, 2018 which was open to all the citizens of St. Johns County. Many were invited, including the Bee Keepers Association, Master Gardeners, the aerial committee members and pilots, as well as, the citizens of St. Johns County who were interested in what we do and who we are. We also had a Media Information Open House on June 26<sup>th</sup> during National Mosquito Control Awareness week, to get information out on EEE advisory's in St. Johns County.

AMCD continued to provide service and to educate residents on adult mosquitoes, larvae, adulticiding and larviciding. Staff also dispensed valuable information pertaining to pesticide safety, identification of mosquitoes & other insects, mosquito prevention and pesticide applications, and personal protection methods, as well as commercial mosquito traps, repellents and insecticides, assisting residents with concerns about no treatment areas, such as, bee-keepers properties or personal conditions that warrant no treatment.

Staff also assisted the public by distributing *Gambusia*, the mosquito larvae eating fish.

## CHAPTER 4 - COOPERATIVE ORGANIZATIONS *PROFESSIONAL SERVICES*

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The Anastasia Mosquito Control District of St. Johns County works in cooperation with a number of related local, state, federal agencies, even international, private and commercial organizations, and members of the medical community. Those listed below briefly describe the work associations with AMCD in 2018 to prevent and control vector-borne diseases in Florida.

### INTERNATIONAL COOPERATION AND ACTIVITIES:

Continue collaboration with Dr. Gunter Muller, the Hebrew University of Jerusalem, Israel and University of Bamako, Mali on attractive toxic sugar baits and ecology of vector mosquitoes.

Continue collaboration with the Western LLC, Israel, on attractive toxic sugar baits and bait station.

AMCD hosted international visitors: Dr. Emad Khater from Saudi Arabia for 2 months, Dr. Hui Liu from Jiangsu CDC, Dr. Zhu Ding, and Dr. Shi Chao from Wuxi CDC, China for 3 months, and Mr. Chun-Hua Shen, CEO, and Mr. Alan Zhang, World Sale Manager of LongRay, China, and Mr. Brian Liang, Manager, American LongRay for visiting.



Dr. Gunter Muller

Collaborated with Dr. Tong-yan Zhao to organize the 6<sup>th</sup> International Forum for Surveillance and Control of Mosquitoes and vector-borne Diseases, Xiamen, China, May 26-30, 2019.

Dr. Xue attended the RB's Vector Control Group meeting in Geneva in early Feb, 2018.

Dr. Xue attended the Asian Vector Control meeting in Beijing, late March 2018.

Dr. Xue visited Jeddah City, Saudi Arabia for dengue vector control consulting in late April, 2018.

Mr. Chris Bibbs gave the panel lecture about vaporizing insecticide at the Australia Mosquito Control Association in early September, 2018



Dr. Xue visited and gave lectures at Jiangsu Provincial CDC, Zhangjiang International Travel Health Center, Beijing Institute of Microbiology and Epidemiology, China, October, 2018.

Dr. Xue attended and gave presentation at the 7<sup>th</sup> International Forum for sustainable management of disease vectors, Ningbo, China, October 22-24, 2018 and gave talking about *Aedes* vector control new technology at the 2<sup>nd</sup> Congress of the World Life Sciences, Beijing, China, October 27, 2018.

Ms. Molly Clark visited/gave a lecture about AMCD's education and outreach at Wuxi CDC and Jiangsu CDC

Mr. Chris Bibbs gave the invited presentation and student paper at the ESA annual meeting, Vancouver, Canada, middle of November 2018.

AMCD signed MoUs about exchanging visitors, training, and applied research with Wuxi CDC, Zhejiang International Travel Health Center, and Dallah, Saudi Arabia

## CHAPTER 4 - COOPERATIVE ORGANIZATIONS PROFESSIONAL SERVICES (CONT'D)

### NATIONAL AND FEDERAL AGENCIES & ASSOCIATIONS:

Collaborated with the USDA/CMAVE to continue organizing the annual workshop and evaluation of traps & repellents, and Stern Insect Technology for control of *Aedes aegypti*.

Continued to collaborate with NECE, Jacksonville, FL to evaluate spray influencing factors and ovitraps.



Continued collaborating with the NE 1443 project committee to organize the annual workshop.



AMCD is a sustaining member of the AMCA and AMCA/EPA's PESP member and provided the annual report. AMCD provided training for 12 people from CDC system in May, 2018. AMCD provided a booth on equipment and gave a presentation about vector control response at the Vector Control Workshop organized by the NACCHO in Orlando, middle of March 2018. Dr. Xue organized bridging the gap between research and operation symposium for the AMCA annual meeting, Kansas City, February 2018.

Dr. Xue continues to serve the SOVE Board. Commissioner Mrs. Moeller and Dr. Xue attended the SOVE 48<sup>th</sup> Annual meeting in California. Dr. Xue reviewed numerous numbers of manuscripts for the Entomological Society of American's Journals, AMCA's JAMCA, SOVE's JVE, Acta Tropica, PLoS One, and Environmental Health. Mr. Bibbs attended the ESA annual meeting and Tropical Medicine and Hyg annual meeting.

### STATE AGENCIES AND SERVICES:

The FMCA: Dr. Xue, as Past President, and Commissioner Jeanne Moeller, as a Board member, served the FMCA in 2018. Five commissioners and 11 employees attended the FMCA Dodd Short Courses, two commissioners and 2 staff members attended the FMCA Tallahassee Legislation meeting. Two Commissioners and Dr. Xue attended the AMCA's DC legislation meeting in May. Four staff members attended the FMCA Biologist/Entomologist workshop. Mr. Weaver, as FMCA financial committee members attended the FMCA financial meeting. Two commissioners and 9 employees attended the FMCA annual meeting and gave 8 presentations.

The Florida Entomology Society (FES): Dr. Xue was the President of the FES for 2<sup>nd</sup> year and AMCD host the 101st annual meeting, St. Augustine, FL, July 22-25, 2018.. Dr. Xue organized a vector control response symposium. One commissioner and seven staff attended the meeting, Dr. Xue gave the Presidential address and Mr. Bibbs and Dr. Xue gave two presentations at the symposium and student competition. Mr. Bibbs continued to serve the FES Board as a student representative.

## CHAPTER 4 - COOPERATIVE ORGANIZATIONS PROFESSIONAL SERVICES (CONT'D)

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### STATE AGENCIES AND SERVICES: (Cont'd)

The District renewed the contract with the FDACS and arthropod control agreement with the DEP and State Parks. Dr. Xue continued to serve the FCCMC Research Review Committee to review 19 grant applications.

The District collaborated with the State and St. Johns County DOH to responded to suspected imported cases in St. Johns County in 2018 and release news for mosquito-borne illness advisory. Dr. Xue, as a council member, to continue to serve the County health leadership.

### COMPANIES AND OTHER DISTRICTS:

AMCD continued to cooperate with Central Life to evaluate of larvicide, MGK to evaluate new formulation of adulticide, spatial repellents & resistance, American LongRay for a novel rotated trap testing, SpringStar for AGO trap large deployment in St. Augustine, MosquitoMate for release of Wolbachia infected male mosquitoes in St. Augustine, and several other companies for spatial repellent and trap testing, and Gainesville Mosquito Control for barrier spraying on honey bee impacts.



### AGENCIES AND UNIVERSITIES:

AMCD cooperated with University of Florida Dr. Phil Kaufman to conduct vapping insecticide study and Ph.D. student training. Dr. Don Hahn for SIT study, Dr. Li-Ming Zhao for insecticide evaluation, Dr. R. Dinglasan for the CDC Southeastern Center for Excellence in Vector-borne Diseases' project and intern student training, and Phil Koehler for non-target impacts.

University of Miami, Dr. Xue as a Voluntary Professor for the school of Medicine continues to cooperate with Dr. John Beier for ATSB and biology and control of mosquitoes.

University of Kentucky, Dr. Xue and Dr. D. Dixon cooperated with Dr. Steven Dobson about MosquitoMate for control of *Aedes aegypti*

University of New Mexico. Dr. Xue and Dr. Dixon cooperated with Dr. John Xu for *Aedes aegypti* collection for Wabochia isolation.



MOSQUITO-BORNE DISEASES:

AMCD cooperates with the Florida Department of Health to monitor imported mosquito-borne diseases. St. Johns County was under mosquito-borne illness advisory due to many positive sentinel chickens tested positive for West Nile Virus (WNV), Eastern Equine Encephalitis Virus (EEE).

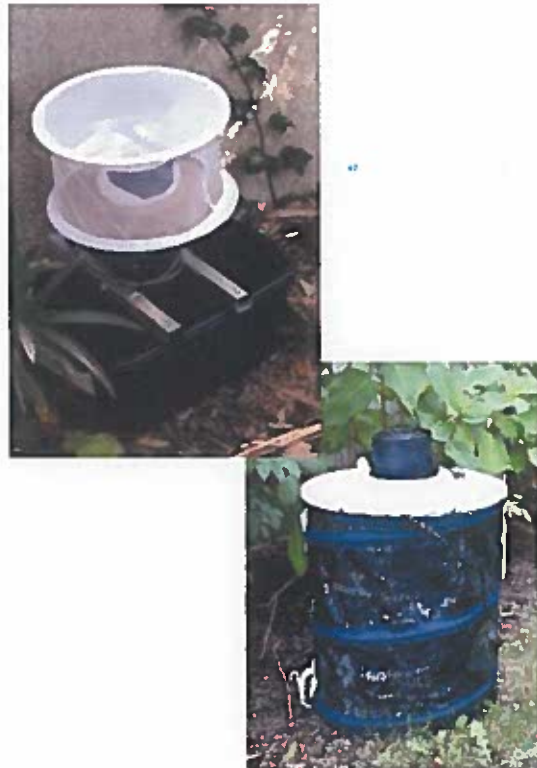
AMCD monitored WNV, EEE, Saint Louis Encephalitis Virus (SLE), Highland James Virus (HJV) and California Group Virus, using 10 sentinel chicken sites around St. Johns County. AMCD personnel bled chickens every Monday, from April 4<sup>th</sup> to December 17<sup>th</sup> and sent the blood samples to DOH's Arbovirus Laboratory in Tampa for testing.

In 2018, a total of 82 sentinel chickens tested positive for arboviruses, 39 for EEE and 43 for WNV and 2 horses for EEE. In addition to sentinel chickens, mosquito pools were also tested this year. Pools were sent to two locations: the DOH's Arbovirus Laboratory in Tampa for WNV, EEE, and SLE testing and the Bronson Animal Disease Diagnostics Laboratory (BADDL) for Dengue, Chikun-gunya, and Zika Virus testing. 151 mosquito pools were submitted this year (139 to DOH Tampa Lab, 12 to BADDL), and only 1 was positive for WNV. In 2018, there were no locally acquired human cases of mosquito-borne diseases in St. Johns County.

MOSQUITO POPULATION:

The adult mosquito population was monitored by 32 CDC light traps baited with Octenol from April to November, 2018 and a total of 42,061 mosquitoes (27 species) were collected. Twelve (12) BG traps, baited with BG Lure and CO<sub>2</sub>, were used for *Aedes albopictus* and *Aedes aegypti* for a total of 13,879 mosquitoes collected from January to December, 2018. A total of 55,940 mosquitoes were trapped by both methods.

Larvae surveys were conducted on a daily basis by dipping flooded areas as needed. A total of 56,556 dips were conducted and 4,608 dips were positive with 133,563 larvae found.

ENVIRONMENTAL PARAMETERS:

Rainfalls were monitored by 32 rain gauges once a week.



### LARVICIDES AND LARVICIDING:

In 2018, the District primarily used Bti to kill mosquito larvae, as well as methoprene products in areas where BTI was not applicable.

Mosquito Control Technicians and Inspector/sprayers treated 1,982 times on a total of 10,785.9 acres for larval control.



### ADULTICIDES AND ADULTICIDING:

Mosquito Control Technicians and Inspector/Sprayers continued to use Aqualure 20-20 (Permethrin) and Mosquitomist Two for ground ULV spraying and treated 292 times on a total of 223,666.8 acres for adult mosquito control. DUET was used for hand thermal fogging for service requests and other areas 119 times on a total of 6,236.91 acres. Talstar P was used for barrier treatments in parks, special areas and for service requests 409 times for a total of 132.75 acres for adult mosquito control. Most of this was conducted for mosquito populations and control of the Zika vector.



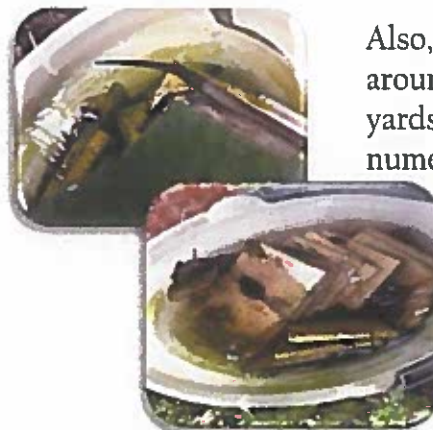
### Larvicides and Adulticides Used in 2018

Larvicide	Amount Used	Area Treated	Times Applied
Altosid WSP	13901 ea	43.06 acre	302
Altosid XR	928 ea	2.14 acre	94
Altosid XRG	4689 lb	781.53 acre	122
Aquabac XT	76630 fl oz	9578.75 acre	964
B.t.i. Briquets	3671 ea	8.42 acre	181
Cocobear	10532 fl oz	27.41 acre	213
Natular DT	611 ea	0.09 acre	55
Natular XRT	73 ea	0.16 acre	4
Sustain MBG	2583 lb	344.35 acre	47
ADULTICIDES	AMOUNT USED	AREA TREATED	TIMES APPLIED
Aqualure 20-20 1:5	41134.3 fl.oz.	159229 acres	226
Duet 50%	9792 fl.oz.	6236.91 acres	119
Mosquitomist Two	42529 fl.oz.	64437.8 acres	66
Talstar P	44.74 gal.	132.75 acres	409

### SOURCE REDUCTION & BIOLOGICAL CONTROL:

A total of 423 used tires were collected and removed through-out the year by AMCD staff and personnel, for source reduction.

AMCD provided the public with the mosquito larvae eating fish (named: (Gambusia), for use in retention ponds and ditches, 578 times.



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

### AUTOCIDAL GRAVID OVITRAP (AGO) MASS DEPLOYMENT:

The Autocidal Gravid Ovitrap (AGO) is a non-chemical, lethal mosquito oviposition trap for use in residential settings. Last year, these traps were tested in a collaboration with AMCD and Springstar, the manufacturing company providing the traps, to launch over 550 traps across three neighborhoods for a combination of surveillance and control of domestic mosquitoes in St. Johns County. This year, AMCD expanded and repeated this study to assess over 1700 of these traps in downtown Saint Augustine and Saint Augustine South. The operations team, surveillance team, interns, and visiting scientists of AMCD all worked together to deploy, maintain, and keep records on these traps until the end of the season. The public was positive about the effort, and many residents not only supported the project, but firmly believe the traps to be a beneficial addition to their areas. Funding for this was by a sub-award from NIH/ SpringStar, Inc.

### OPTIMIZATION OF AUTOCIDAL GRAVID OVITRAPS:

AGO traps were shown to be effective in an urban setting in Puerto Rico, resulting in an 80% reduction of mosquitoes in the area where they were mass deployed. These traps passively target gravid mosquitoes through the use of infusion water and visual color stimuli (i.e. a black bucket). Considering mosquitoes that are actively searching for a blood-meal are the most pestiferous to Saint Johns County residents, AMCD tested methods to attract host-seeking mosquitoes to AGO traps in a cost-effective long-lasting manner.

To test this, AMCD's visiting scientists Hui Liu, Shi Chiao, and Zhu Ding used BG lure, octenol, and carbon dioxide (dry ice) as supplemental attractants for the AGO traps. AMCD determined that BG lure and CO<sub>2</sub> were the most effective lures when used with an AGO trap. AMCD also tested if the incorporation of a suction fan enhanced the effectiveness of AGO traps. The field test still needs to be continued.

One of the issues associated with AGO traps is they capture a lot of non-target organisms (flies, moths, beetles, ants, etc.), and some of these organisms may be beneficial. Consequently, an AMCD intern, Lagan Mullis, sought to test different infusion waters compared to tap water to find one that is less attractive to non-target organisms but still captures mosquitoes. Lagan determined that tap water and orchard grass infusion collected the lowest number of non-targets while still collecting mosquitoes.



## CHAPTER 7 - APPLIED RESEARCH (CONT'D)

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### EVALUATION OF MOSQUITOMATE'S WOLBACHIA-INFECTED MOSQUITOES FOR *Aedes albopictus* CONTROL:

Similar to the AGO trap, there are other tools that take advantage of mosquito behavior. One of those tools is the Incompatible Insect Technique (IIT). IIT utilizes a process wherein male mosquitoes infected with a bacteria called Wolbachia are not compatible to produce offspring after mating with females. Considering mosquitoes mate only once, this represents a new avenue of non-chemical control against adult mosquitoes. This process has been used successfully in Miami, FL and was tested this year in the West King Street area of Saint Augustine. In collaboration with MosquitoMate, interns Catherine Chase and Caroline Blunck tested if Wolbachia-infected *Aedes albopictus* could reduce the native *Ac. albopictus* population. 120,000 of MosquitoMate's ZAP mosquitoes were released every week for the trial period from April until Late September. Populations were monitored weekly with BG traps in treatment and control areas throughout the study. Preliminary results suggested that the releases were successful and resulted in a reduction of the *Ac. albopictus* population. This was funded by a sub-award from MosquitoMate/CDC

### EVALUATION OF IRRADIATED MOSQUITOES FOR STERILE INSECT TECHNIQUE AGAINST *Aedes aegypti*:

Sterile insect technique (SIT) has been used for nearly a century to control noxious fly pests. In the early age of SIT, male flies were irradiated to make them unable to reproduce in the wild, which ruined female reproduction because of the female habit of being monogamous to their male mate. In collaboration with the USDA/CMAVE & UF, this technology was resurfaced for *Aedes aegypti* management where it has been shown that pesticide resistance prevents effective control. With the help of interns Courtney Cunningham and Parker Brown, locally acquired St. Augustine strain *Ae. aegypti* were sterilized with radiation, reared to adulthood, and then brought to *Ae. aegypti* infested areas of St. Johns county for weekly releases in an effort to determine flight ranges of the irradiated males, and resultant population reduction in the local area. After releases starting in April and extended through November, it was found that every area that received irradiated male *Ae. aegypti* returned a 100% reduction in viable field eggs within 1-2 weeks. Furthermore, fluorescent marked males were found to travel as much as 1,700ft away from their release point. When comparing populations to untreated areas, the SIT releases appear to have reduced the *Ae. aegypti* in test areas by 80% or more.



### NON-TARGET IMPACT VALIDATION WITH OPERATIONAL MOSQUITO ADULTICIDES:

When managing outbreaks of mosquitoes, we must be considerate of non-target organisms that may be caught up in the operation. Overwhelmingly, honey bees are a recurring risk when trying to avoid environmental impact. To better understand how our operationally used adulticides may affect honey bees, visiting scientist Dr. Hussein Sanchez-Arroyo is helping AMCD collaborate with the University of Florida to screen our products against both honey bees and mosquitoes to create a side-by-side comparison of sensitivity. This work has so far determined that honey bees require 3 times as much volume of insecticide to come into contact with them to observe the same signs of toxicity as in a mosquito. Even at the increased exposure volume, honey bees have anywhere from 2-6 times greater tolerance to the insecticides as the mosquitoes, and may even have as high as 83 times the tolerance to some mosquito control adulticides. This ongoing project is now evaluating field applied ultra-low volume sprays and outdoor residual (barrier) sprays to determine the likelihood of negative effects in the field. This was funded by a DACS grant to UF.

### NEW TRAPPING TECHNOLOGY: ADVANCEMENTS IN SURVEILLANCE AND USING TRAPS FOR MANAGEMENT:

Trap technology for mosquito management is rapidly developing. This year, visiting scientists Shi Chao & Zhu Ding evaluated a novel 12-jar rotator trap from American Longray. This trap nearly doubles the sampling resolution of the previously used John Hock rotator trap and improves the ability to detect fine intervals of mosquito activity throughout the day.

Light traps in general have many makes and models, some of which are designed for home use. Intern Nick Acevedo tested the Dyna Trap XL insect trap, which uses UV light and a proprietary lure for catching mosquitoes and other pests around the home. When compared to CDC light traps, the Dyna Trap was found to catch more *Ae. aegypti* and to perform comparably to the CDC light trap in the field against a mix of wild mosquitoes.

A third trap, the 00ZZZero, uses a combination of permethrin and pyriproxyfen on the interior of this mostly enclosed cast-molded polymer shell. When visiting scientist Dr. Emad Khater used it and modified it with a sheet of sticky paper in the field, the combined action of killing mosquitoes with permethrin and sticky paper, and then larvicide resulted in mean reduction of *Ae. aegypti* by 99.97 in a semi-field test.



COLLABORATIVE, ONGOING, AND COMPLETED APPLIED RESEARCH PROJECTS FOR 2018

Sub-lethal effects of metofluthrin on resistant and field strains of <i>Ae. aegypti</i>	JennyPro bait station prototypes for ATSB field deployment in Elkton tire pile
Environmental aging assessment of formulated metofluthrin residual	Non-target impact validation with operational mosquito adulticides
Field efficacy of metofluthrin formulated for outdoor residual treatments	Trial efficacy of the 00ZZZero adulticidal and larvicidal mosquito trap
Synergy of formulated metofluthrin in multi-active ingredient outdoor residuals	Mosquito light trap comparisons with the all-purpose Dyna Trap for insect removal
Metofluthrin resistance ratio against <i>Ae. aegypti</i>	Evaluation of a novel 12-jar rotator trap from Longray
ULV proof-of-concept for FIFRA exempt NatureCide	AGO modification with host-baited lures
Blood feeding competence of irradiated female <i>Ae. aegypti</i>	AGO modification with DC-powered fan motor
<i>Aedes aegypti</i> oviposition preferences in common bromeliads containing variable water levels	AGO modification with alternative infusion cocktails and varied fermentation intervals
Naval Entomological Center of Excellence vertical drift assessment for truck-ULV	Assessment of AGO non-target collection from peridomestic environments
Screening for native <i>Wolbachia</i> presence in St. Johns County mosquitoes	Trial of the MosquitoMate ZAP, <i>Wolbachia</i> infected <i>Ae. albopictus</i>
Mark-release-recapture study of irradiated male <i>Ae. aegypti</i> in St. Augustine	Tolfenpyrad efficacy against pyrethroid resistant <i>Ae. aegypti</i>
Population reduction trial with irradiated male <i>Ae. aegypti</i> in St. Augustine	Novel ATSB trials with alternative insecticide classes for mosquito control
Novel infusion water mixtures for improving <i>Ae. aegypti</i> rgg surveillance	Comparative efficacy of the AGO versus the 00ZZZero trap for controlling <i>Ae. aegypti</i>

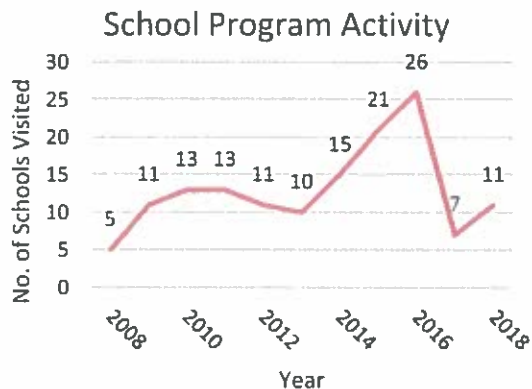




Group photo of the 12 CDC employees after participating in the field activities and completing the classroom case study led by Christopher Bibbs, CDC/AMCA Master Trainer, and Dr. Caroline Efstathion, FDACS regional Mosquito Control Representative.

COMMUNITY EVENTS/PUBLIC OUTREACH:

The AMCD was involved in 27 public outreach programs in 2018. District employees worked to inform citizens about the new service request app. The app has been downloaded 346 times since its release in April 2018. Much community outreach effort focused on the three large scale experiments being conducted by the research team this year. Neighborhood door campaigns were conducted for the AGO, SIT, and MosquitoMate projects. Despite the fact that Zika is no longer a common concern for the citizens of St. Johns County. AMCD continues to work with The St. Johns County Department of Health. The outreach program reached 14,013 people in 2018.



AMCA/CDC CROSS TRAINING EVENT:

In May 2018, AMCD was selected to assist with a CDC cross training event. Twelve representatives from the CDC's Division of Vector-Borne Diseases, Arboviral Diseases Branch, Entomology and Ecology Team were sent to Florida to train with NECE and AMCD. CDC representatives were paired with mosquito control technicians, interns, research staff, the surveillance team, as well as the data manager and the education specialist. The experiences, in combination with a classroom case study allowed the CDC's team to learn incident management from Dr. Caroline Efstathion, FDACS regional mosquito control specialist and IMT first responder, and Christopher Bibbs, CDC/AMCA Master Trainer and St. Johns County Department of Health IMT member.



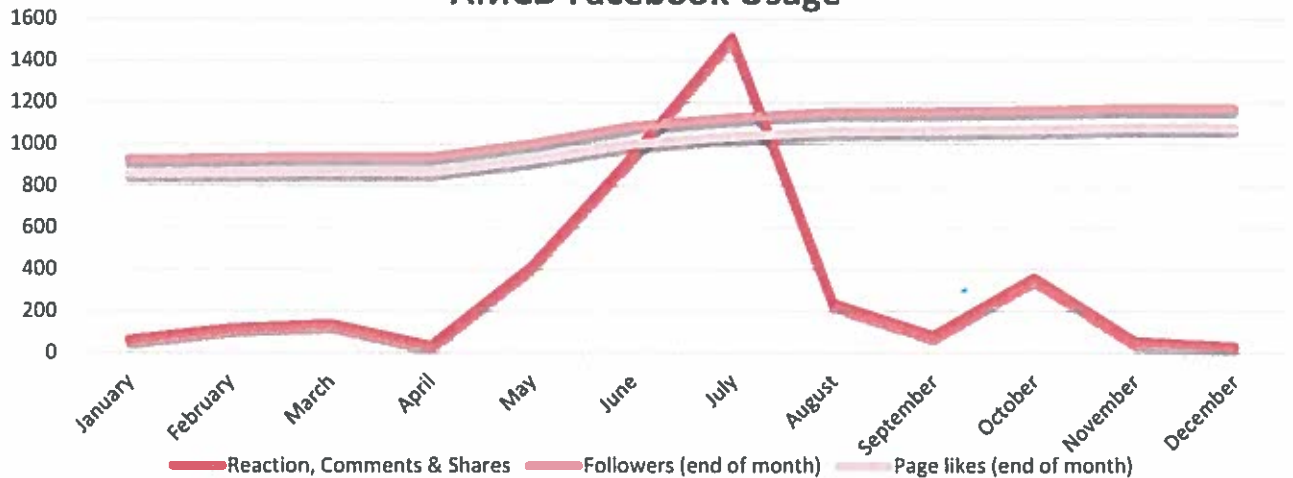
Paul Leone, Pilot, and Molly Clark, Education Specialist, at a Civil Air Patrol meeting to teach the cadets about helicopters, their use in mosquito control, and educate the cadets about general mosquito control and prevention.

ST. JOHNS COUNTY SCHOOL PROGRAMS:

In 2018 the AMCD taught at 11 different schools in St. Johns County, reaching 1812 students across K-11th grade. Participating Elementary schools included: Crookshank, MK Rawlings, RB Hunt, Valley Ridge Academy, and Wards Creek Elementary Schools. Participating Middle Schools included Valley Ridge Academy and St. John's Academy. Participating High Schools included Ponte Vedra High, Creekside and St. Johns Technical. The District was once again asked to judge the St. Johns County STEM Fair and is currently on the advisory board for the Academy of Coastal and Water Management at St. Johns Technical High School and the Academy of Biotechnology and Medical Research at Ponte Vedra High School.

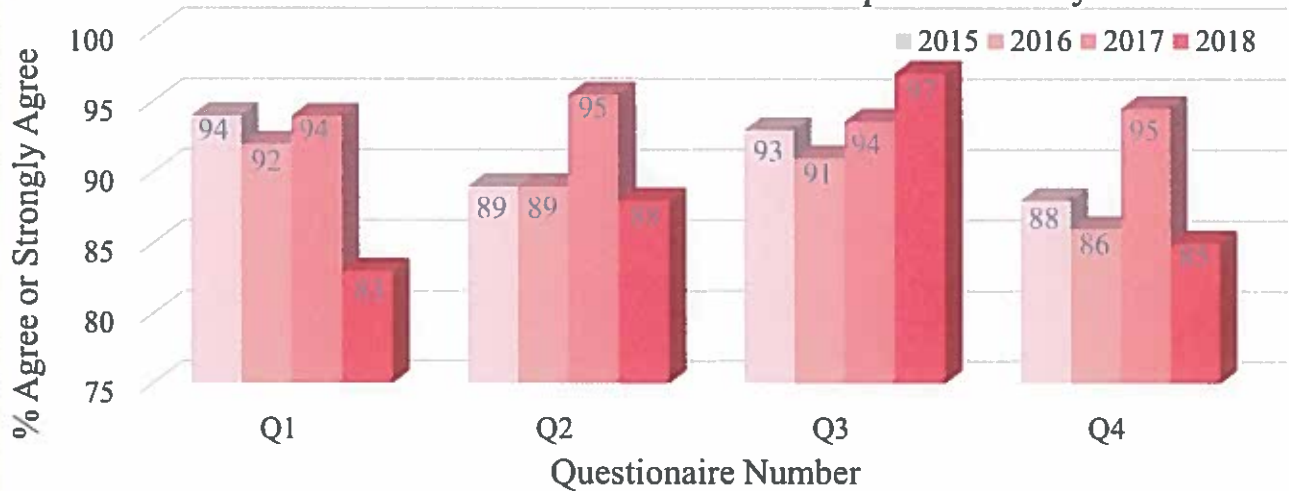
**PUBLIC RELATIONS:** The Districts continued to increase presence on social media in 2018. The Anastasia Mosquito Control District Facebook page now has over 1100 followers and 1000 page likes. We have continued to publish daily spray maps on Facebook, Twitter, and the District's website. Residents have reported checking our social media pages to see if we will be out in their neighborhood before embarking on evening activities outdoors. The District's social media following increased steadily throughout 2018 with substantial increases resulting from mosquito activity June through July.

**AMCD Facebook Usage**



**2018 CUSTOMER SATISFACTION SURVEY RESULTS:** AMCD continues to gauge customer satisfaction using both physical and internet surveys. For 2018 there were 56 physical surveys returned and 4 internet surveys returned, for a total of 60 returned surveys, many of which contained praise for the knowledgeability and professionalism of inspectors.

**Customer Satisfaction Response History**



**Question**

1. The goal of AMCD is to preserve and protect the community from mosquitoes and mosquito-borne diseases by reducing nuisance and disease spreading mosquito populations.
2. AMCD staff is informative and professional.
3. AMCD responds to my service requests within the standard 1-2 business days.
4. I am aware of and actively participate in DRAIN and COVER methods.

Organized and attended by AMCD staff and commissioners:

- Jan 9-10: Dr. Xue & R. Weaver attended the FMCA Aerial Short Course, Ft. Myers, FL
- Jan 12: Dr. Xue attended UF/Dept. of Entomology & Nematology's seminar about malaria vaccine
- Jan 22-24: Ten employees & 5 Commissioners took different classes at the FMCA's Dodd Short Courses, Orlando, FL. Commissioner Moeller organized the course for the Commissioner's session
- Feb 5-9: Dr. Xue attended the RollBack Malaria Vector Control working group mtg., Geneva, Switzerland
- Feb 15: M. Smith attended the UF/EPI Research Day and presented a poster about activity patterns
- Feb 16: K. Gaines, R. Weaver, & Dr. Xue attended the UF/EPI Seminar about CDC's SECEVD & Career Day
- Feb 26-Mar 2: Dr. Dixon, C. Bibbs and Dr. Xue attended the AMCA annual meeting where Dr. Xue organized a symposium on bridging the gap between research and operations, Kansas City, MO
- Mar 13: D. Autry, M. Clark, & Dr. Xue attended the Vector Control Workshop organized by the NACCHO and AMCA. Dr. Xue taught at the workshop
- Mar 19: Dr. Xue, as President, organized & held the Florida Entomological Society Exec. Director mtg.
- Mar 20-22: AMCD organized and held the 15<sup>th</sup> annual workshop at AMCD, St. Augustine, FL
- Mar 26-29: Dr. Xue attended the Asian Vector Control meeting, funded by the IZI/IVCC, Beijing, China
- Apr 17: Three employees attended the 4<sup>th</sup> FMCA Biologist/Entomologist workshop where C. Bibbs taught
- Apr 21-27: Dr. Xue visited Jeddah for control of Dengue Fever vector and funded by Dallah.
- May 14-16: Commissioners' Moeller & Rock, and Dr. Xue attended the AMCA Legislation meeting, Washington DC
- May 17: AMCD hosted CDC's workshop and training and had 12 staff attend
- May 22: Dr. Xue attended the FCCMC research selection committee mtg., USDA/CMAVE, Gainesville, FL
- June 14: AMCD hosted and held the AMCD & DOH annual collaboration meeting
- June 25: AMCD held a seminar for intern student Parker Brown, on bromeliad plants & mosquito oviposition
- June 28: Commissioner Moeller and Dr. Xue attended the FMCA Board meeting, St. Petersburg, FL
- Jul 10: AMCD held a seminar for a visiting scientist about ULV spray of Naturcide against mosquitoes
- Jul 13: AMCD held a seminar for a Univ. of Miami intern student about Wolbachia-infected mosquitoes
- Jul 22: AMCD held the FES Board meeting, St. Augustine, FL
- Jul 23-25: Dr. Xue attended the FES annual meeting and gave the Presidential address, St. Augustine, FL
- Jul 24: AMCD held symposium "Biology & Control of Human Disease Vectors" at FES mtg., St. Aug., FL
- Jul 26: AMCD held a seminar for visiting scientist, Hui Liu about AGO & lures and an intern student about ATSB
- Aug 2: AMCD held a seminar for a Post doc. & visiting scientist, Dr. Hussein Sanchez-Arroyo on new traps
- Aug 17: AMCD held a seminar for intern student, Lagan Mullin about infusion & Ago traps
- Sep 3: C. Bibbs gave a plenary presentation at the Australia Mosquito Control Assoc., funded by their association, Australia
- Sep 20: Commissioner Moeller and Dr. Xue attended the DACS & FMCA legislation meeting in Apopka, FL
- Oct 7-11: Dr. Xue and Commissioner Moeller attended the SOVE annual meeting, Yosemite, CA
- Oct 12: Commissioner Moeller and Dr. Xue visited Consolidated Mosquito Control District, Fresno, CA
- Oct 18: AMCD held a seminar for 3 visiting scientists and one intern student
- Oct 22-24: Dr. Xue attended the 7<sup>th</sup> International Forum for Sustainable Management of Disease Vectors in Ningbo and organized, moderated, and gave a presentation at the symposium for new technology
- Oct 25: Dr. Xue attended & gave a lecture on mosquito-borne disease increase at the Zhejiang International Travel Health Center's Integrated Management of Disease Vector Workshop, Hangzhou, China
- Oct 27-28: Dr. Xue co-organized and moderated the vector control symposium for the 2<sup>nd</sup> World Life Science Congress, Beijing, China. The conference provided funding
- Oct 31: Dr. Xue and Molly Clark attended and taught at the Jiangsu Vector Control and Disinfection Association annual meeting, Nanjing, China
- Nov 4: Dr. Xue attended the FMCA Board meeting, St. Petersburg, FL
- Nov 5-7: Dr. Xue, along with 7 employees, 2 visiting scientists, and Commissioner LeBlanc attended the FMCA annual meeting
- Nov 12-14: C Bibbs attended the ESA annual meeting and gave 2 presentations, Vancouver, Canada



- **Bibbs, C. S. and R. D. Xue.** Welding together a multi-stage workforce pipeline: a southeastern US dossier. Entomological Society of America Meeting; Training the Next Generation of Vector Biologists Symposium – November 14<sup>th</sup>, 2018.
- **Bibbs, C. S., J. R. Bloomquist, D. A. Hahn, P. E. Kaufman, and R. D. Xue.** Gone in 60 seconds: impaired behavior and fecundity after exposing lab and field strains of *Aedes aegypti* to metofluthrin vapors. Entomological Society of America Mtg.; Student 10-minute Paper Competition – November 12<sup>th</sup>, 2018.
- **Aldridge, R., J. Kline, S. Britch, C. S. Bibbs, M. E. Clark, D. Dixon, R. D. Xue, D. A. Hahn, and K. J. Linthicum** Mark-release-recapture of irradiated male *Aedes aegypti* in northern Florida as part of a Sterile Insect Technique control program. Entomological Society of America Meeting; 10-minute Submitted Paper Symposium – November 12<sup>th</sup>, 2018.
- **Shen, Y., R. D. Xue, and C. S. Bibbs.** Relative insecticidal efficacy of three spatial repellents against *Aedes aegypti*. Entomological Society of America Meeting – November 12<sup>th</sup>, 2018.
- **Bibbs, C. S., J. R. Bloomquist, D. A. Hahn, P. E. Kaufman, & R. D. Xue.** Flying under the influence: Impaired fitness of susceptible, resistant, and field strains of *Aedes aegypti* after 60 second exposures to metofluthrin vapors. 90<sup>th</sup> Florida Mosquito Control Association Conference – November 7, 2018.
- **Xue, R.D.** Seminar: Mosquitoes and plant relationship. Department of Vector Biology and Control. Beijing Institute of Microbiology and Epidemiology, Beijing, March 29, 2018.
- **Xue, R.D.** Seminar: Dengue vector control technology. Department of Environmental Protection. Jeddah, Saudi Arabia, April 28, 2018.
- **Aldridge, R., J. Kline, S. Britch, C. S. Bibbs, M. E. Clark, D. Dixon, R. D. Xue, D. A. Hahn, & K. J. Linthicum.** Mark-release-recapture of irradiated male *Aedes aegypti* in northern Florida as part of a Sterile Insect Technique control program. 90<sup>th</sup> Florida Mosquito Control Association Conference – November 6, 2018.
- **Xue, R. D., D. Dixon, and C. S. Bibbs.** Resurgence of Zika Vector Mosquitoes *Aedes aegypti* (Diptera: Culicidae) and its Control Efforts at Anastasia Mosquito Control District, Northeastern Florida, USA. 7<sup>th</sup> International Forum for Sustainable Vector Management, Chinese Centers for Disease Control and Prevention, Ningbo, Zhejiang – October 22-24<sup>th</sup>, 2018.
- **Xue, R.D.** Imported vector-borne diseases, Integrated Vector Management Workshop, Zhejiang International Travel Health Center, Hangzhou, China, October 25, 2018.
- **Bibbs, C. S., P. E. Kaufman, J. R. Bloomquist, D. A. Hahn, and R. D. Xue.** Multi-modal toxicants: greater than the sum of repellency and mortality. 13<sup>th</sup> Annual Mosquito Control Association of Australia Conference; Invited Plenary Speaker for Novel Mosquito Control Technology – September 3<sup>rd</sup>, 2018.
- **Bibbs, C. S., D. A. Hahn, P. E. Kaufman, and R. D. Xue.** Downstream biotic shifts in container-inhabiting mosquitoes after sub-lethal exposure to transfluthrin vapors. 101<sup>st</sup> Annual Florida Entomological Society Meeting; Student Competition – July 22<sup>nd</sup>, 2018.
- **Bibbs, C. S., M. K. Gaines, D. Dixon, C. Efstathion.** Mosquito control operations and incident management team training workshop for CDC-ONDIEH-NCEZD-NCEH personnel. CDC/AMCA Florida Hub, Anastasia Mosquito Control District, Saint Augustine, FL – May 17<sup>th</sup>, 2018
- **Bibbs, C. S., P. E. Kaufman, J. R. Bloomquist, D. A. Hahn, and R. D. Xue.** Acute toxic effects of spatial repellent pyrethroids and potential utility for mosquito management. 4<sup>th</sup> Annual Florida Mosquito Control Association DODD Entomologist/Biologist Workshop – April 17<sup>th</sup>, 2018
- **Bibbs, C. S., D. A. Hahn, P. E. Kaufman, and R. D. Xue.** Can sub-lethal exposure to spatial repellents affect mosquito fecundity or oviposition behavior? 15<sup>th</sup> Annual Arbovirus Surveillance and Mosquito Control Workshop; Insecticides & Resistance Symposium – March 21<sup>st</sup>, 2018.
- **Smith M. L., D. Dixon, C. S. Bibbs, D. Autry, and R. D. Xue.** From Dusk 'Till Dawn: Diel activity patterns of *Aedes aegypti* in St. Augustine, Florida. 15<sup>th</sup> Annual Arbovirus Surveillance and Mosquito Control Workshop; Disease Surveillance Symposium – March 20<sup>th</sup>, 2018

**Bolded Names are AMCD Staff and Employees**

- Bibbs, C. S., D. A. Hahn, P. E. Kaufman, and R. D. Xue.** Can sub-lethal exposure to spatial repellents affect mosquito fecundity or oviposition behavior? 84<sup>th</sup> Annual American Mosquito Control Assoc. Conference – February 27<sup>th</sup>, 2018
- Smith, M. L., D. Dixon, C. S. Bibbs, D. Autry, and R. D. Xue.** Diel activity patterns of *Aedes aegypti* after resurgence in St. Augustine, Florida as collected by a mechanical rotator trap. Emerging Pathogens Institute Research Day 2018 – February 15<sup>th</sup>, 2018
- Gaines, M.K.** Mosquito population outbreak and control efforts after hurricane Irma in St. Johns County, Florida. 15<sup>th</sup> Annual Arbovirus Surveillance and Mosquito Control Workshop, March 20, 2018
- Autry, D.** Large-scale deployment of CDC/AGO traps for control of *Aedes* mosquitoes. 15<sup>th</sup> Annual Arbovirus Surveillance and Mosquito Control Workshop, March 21, 2018
- Dixon, D.** Field comparison of CDC's AGO traps & In2Care traps for control of *Aedes* mosquitoes in St. Augustine, FL. 15<sup>th</sup> Annual Arbovirus Surveillance and Mosquito Control Workshop, March 22, 2018
- Dixon, D., J. D'Amato, R.D. Xue.** Surveillance and control of *Aedes aegypti* and *Aedes albopictus* in St. Johns County, FL. 84<sup>th</sup> American Mosquito Control Association (AMCA) Annual Meeting, Kansas City, MO. Feb 26-March 2, 2018.
- Xue, R.D.** Collaboration and applied research benefit to Anastasia Mosquito Control Operation. 84<sup>th</sup> AMCA annual meeting, Kansas City, MO, Feb 26-March 2, 2018.
- Kuhns, E., S. Whiteside, D. Murdock, I. Unlu, R.D. Xue, D. Dixon, D. Ward, D. Wesson, and M. Banfield.** Evaluation of a commercialized AGO for control of *Aedes aegypti* and *Aedes albopictus* in three regions of the US. 84<sup>th</sup> AMCA annual meeting, Kansas City, MO, Feb 26-March 2, 2018.
- Xue, R.D.** Overview of the Asian SOVE. 48<sup>th</sup> Annual SOVE Conf., Yosemite, CA., October 7-11, 2018.
- Xue, R.D., H. Liu, D. Dixon, and D. Autry.** The CDC autocidal gravid ovitraps combined with attractants increase collection of *Aedes aegypti*. 48<sup>th</sup> Annual SOVE Conference, Yosemite, California, October 7-11, 2018.
- Xue, R.D.** Influence of three common aquatic plants on survival of *Anopheles quadrimaculatus* and ATSB efficacy against the adult mosquitoes. 13<sup>th</sup> RB Malaria Vector Control Work Group Meeting, Geneva, Feb 6, 2018.
- Xue, R.D.** Presidential address: why have the vector-borne diseases increased recently? 101<sup>th</sup> Florida Entomology Society Annual Meeting, St. Augustine, FL, July 24, 2018.
- Xue, R.D.** CDC's AGO incorporation with attractants for control of gravid and host-seeking *Aedes aegypti*. 90<sup>th</sup> Annual Meeting of the FMCA, St. Petersburg, FL, Nov 4-7, 2018.
- Xue, R.D.** New technology for vector *Aedes* mosquitoes control at St. Johns County, FL. 2<sup>nd</sup> World Life Science Conference, Beijing, China, October 27, 2018.
- Xue, R.D.** Seminar: What is next for mosquito-borne diseases?, Beijing Institute of Microbiology, Beijing, China, October 28, 2018.
- Xue, R.D.** AMCD vector control response, Jiangsu Conference of Vector Control and Anti-Infection Association, Jiangsu CDC, Nanjing, China, October 30, 2018.
- Clark, M.** Laboratory evaluation of two new active ingredients for ATSB against mosquitoes. 90<sup>th</sup> Annual Meeting of the FMCA, St. Petersburg, FL, Nov 4-7, 2018.
- Clark, M.** Seminar: Overview of AMCD's education and public relation program, Wuxi CDC, China, Oct. 27, 2018
- Clark, M.** AMCD outreach and education program, Jiangsu Conference of Vector Control and Anti-infection Association, Jiangsu CDC, Nanjing, October 30, 2018.
- Dixon, D.** Comparison of different infusions with AGO traps to collect mosquitoes and its impact on non-target organisms. 90<sup>th</sup> Annual Meeting of the FMCA, St. Petersburg, FL, Nov 4-7, 2018.
- Sanchez-Arroyo, H.** Laboratory bioassay of four adulticides against mosquitoes and its impact on honey bees. 90<sup>th</sup> Annual Meeting of the FMCA, St. Petersburg, FL, Nov 4-7, 2018.
- Weaver, R.** New application (mobile solution) for AMCD service requests. 90<sup>th</sup> Annual Meeting of the FMCA, St. Petersburg, FL, 2018.

1. Ledesma, NA, Kaufman, PE, **Xue, RD**, Leyen, C, Macapagal, MJ, Winokur, OC, Harrington, LC. 2017. Entomological and socio-behavioral components of dog heartworm (*Dirofilaria immitis*) prevalence in two Florida Communities. Proceedings and Papers of the Mosquito and Vector Control Association of California 85:1—3.
2. Bibbs CS, Anderson CS, Smith ML, **Xue RD**. 2018. Direct and indirect efficacy of truck-mounted applications of s-methoprene against *Aedes albopictus* (Diptera: Culicidae). International Journal of Pest Management 64:19-26.
3. Farooq M, Gibson-Corrado, J, Knap, J, **Xue, RD**, Smith ML, Briley AK, Richardson A, Cilek J. 2018. Effect of travel speed on dispersion of Aqualuer 20-20 sprayed by truck-mounted ULV sprayer against caged *Aedes aegypti*. JAMCA 34:70-74.
4. **Blore K**, Beier JC, **Xue RD**. 2018. Impact of three species of aquatic plants on survival of *Anopheles quadrimaculatus* and its effect on the efficacy of boric acid sugar baits. JAMCA 34:50-52.
5. **Xue RD**, Lippi C, Drake L. 2018. Species composition of mosquitoes and invertebrates in common Bromeliad plant axils (Family: Bromeliaceae) and the plant impacts on survival of vector mosquito, *Aedes albopictus* (Diptera: Culicidae). China Tropic Medicine 18:6-10.
6. Smith ML, Dixon D, Bibbs CS, Autry D, **Xue RD**. 2018. Diel patterns of *Aedes aegypti* (Diptera: Culicidae) after resurgence in St. Augustine, Florida as collected by a mechanical rotator trap. J Vector Ecology 44:201-204.
7. Bibbs CS, Tsikolia M, Bernier UR, Bloomquist JR, **Xue RD**, Kaufman PE. 2018. Vapor toxicity of five volatile pyrethroids against *Aedes aegypti*, *Ae. albopictus*, *Culex quinquefasciatus*, and *Anopheles quadrimaculatus* (Diptera: Culicidae). Pest Management Science, 74:2699-2706. DOI: <https://dx.doi.org/10.1002/ps.5088>
8. Bibbs CS, Crosier JE, D'Amato JM, Gibson-Corrado J, **Xue, RD**. 2018. Bromeliad targeted foliar treatments with Aqualuer® 20-20 for hot spot mitigation using three hand sprayers against *Aedes albopictus* (Diptera: Culicidae). JVE 43:215-219.
9. Bibbs CS, Hahn DA, Kaufman PE, **Xue RD**. 2018. Sublethal effects of a vapor-active pyrethroid, transfluthrin, on *Aedes aegypti* and *Ae. albopictus* (Diptera: Culicidae) fecundity and oviposition behavior. Parasites & Vectors 11:486.
10. Zhu JW, Cermak SC, Kenar JA, Brewer G, Haynes KF, Boxier D, Baker PD, Wang DS, Wang CL, Li AY, **Xue RD**, **Shen Y**, **Wang F**, Agramonte NM, Brenier UR, de Oliveira Filho JG, Borges LMF, Friesen K, Taylor DB. 2018. Better than DEET repellent compounds derived from Coconut oil. Scientific Reports 8:14053.
11. Kline, DL, Muller, GC, Junnila, A, **Xue, RD**. 2018. Chapter 5. Attractive toxic sugar baits (ATSB): a novel vector management tool. Advances in the Biorational Control of Medical and Veterinary Pests, ed. By Norris et al. ACS symposium Series, American Chemical Society, Washington , DC, 2018. P. 63-73.
12. **Bibbs CS**, Kaufman PE, Bloomquist JR, Hahn DA, **Xue, RD**. 2018. Breathe deep, get excited, taking care of some mosquitoes. Mosquito Bites 13(1):8-11.

\* **Bolded Names are AMCD Staff and Employees**

# ANNUAL PROGRAM REPORT COMMITTEE MEMBERS



Clockwise from Bottom Left: Mr. Christopher Bibbs (Biologist), Mr. Athan Tom Columbus (Supervisor), Dr. Daniel Dixon (Molecular Biologist), Mr. Richard Weaver (Data Manager), Mrs. Marcia Kay Gaines (Operations Manager), Ms. Charolette M. Hall (Administrative Assistant), Mr. Joseph D'Amato (Biological Technician), Mrs. Dena Autry (Mosquito Control Technician -Surveillance), Ms. Molly Clark (Education Specialist), Mr. Scott Hanna (Accountant)

## IN APPRECIATION



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 2018.