The mission of the FMCA is to promote effective and environmentally sound control of disease-transmitting and pestiferous mosquitoes and other arthropods of public health importance, develop and enhance public interest, awareness, and support for the control of mosquitoes, and provide for the scientific advancement of members through our meetings, training and education.
Southeast Region Report by Terry Torrens
Osceola County Mosquito Control

Osceola County Mosquito Control, Terry Torrens, Director

What a crazy year it has been here in Osceola County. Two things we are grateful for is that we have had no local transmission of any arbovirus to humans and Hurricane Matthew, last minute made two little jogs to the right that spared us a direct hit over what would have been most of our county. However, this season has not been without its significant challenges, we are currently leading the state in two areas, both of which were not excited about. We have had 5 horses euthanized this year due to EEE, one poor horse managed to have both EEE and WNV, also we lead the state in travel cases of Zika per capita. These seasons has been a real nail biter for all of us and were seriously hoping to have a good long cold winter.

We have also been impacted with the onslaught of hysteria generated by all the media coverage of both the presence of Zika in the Miami Dade area as well as their aerial applications. In response to exponential growth in our trap counts as well as EEE circulating in our community we experienced unprecedented back lash, mostly from a select few but social media has given rise Google scientist who manage to get our community so riled up with false information and lies that threats were made and law enforcement along with the FBI responded.

This year has given me much to think about regarding the future of our industry and some things I think we as an industry need to do a better job with. At the top of the list is the fact that people are no longer aware of the dangers that mosquitoes pose to human health, in fact it’s quite the opposite, they are now more afraid of bug repellant such as DEET and Picaridin. People do not know that mosquitoes kill more people worldwide than anything else on the planet, and when presented with that fact are happy to point out that this is not occurring in the US, but are failing to link the fact that it is because of the Mosquito Control Industry. This is a major problem.

The other glaring issue that I believe is a result of the similar missing or incorrect information is the fact that people believe wholeheartedly that we are the primary source of the decline of the pollinators, this includes beekeepers and the general public. Another area where I think we as an industry, along with chemical and equipment manufacturers and perhaps the University should focus serious energy is communication on everything from the dosage, timing and efforts made by our industry to avoid and minimize the threat to pollinators. If we are out in front of these emergencies with the correct information, when the public is presented with lies and incorrect information they will be more prepared to dismiss it rather than become enraged by it.

I can’t say enough great things about my staff during this emergency, I am sure that there are many days they thought about leaving or just not coming in to work but they all managed to stick it out as a team and come together to be even stronger than they were before. Coming in day after day, despite many days of 100 plus degree temperatures, and nonstop residential inspections, ensuring that our residents and visitors remained safe. So KUDOS to all the boots on the ground State-wide, you’re the real heroes this year thank you for all you do, and continue to do.

Martin County Mosquito Control, submitted by Mosquito Control Manager Kylie E. Zirbel

We have had a busy season in Martin County between travel-related Zika cases and Hurricane Matthew. Inspectors have been out and about in the community conducting surveillance while also promoting our door to door domestic mosquito inspection program. We have been encouraging residents to tip and toss containers and have received significant positive support from our community. The heightened awareness from the emergency declaration has really provided the momentum needed for community engagement in these efforts. The Martin County Health Department continues to work closely with us on prevention and response planning. After Hurricane Matthew we have seen an increase in our floodwater species but as things have dried up our counts are decreasing. We still have a lot of repair work to our mosquito impoundments ahead of us and expect to have a busy (and hopefully DRY) winter. mosquito control activities.
Indian River Mosquito Control District, submitted by Sherry Burroughs, Biologist II, IRMCD

Indian River County received hurricane force winds that caused significant beach erosion, cracked and crumbled sidewalks and asphalt, downed trees and limbs and caused widespread power outages, but it could have been much worse. The northern part of the County, near the Pelican Island National Wildlife Refuge and the Sebastian Inlet, was the hardest hit. The high tide, accompanied by the storm surge significantly undermined the concrete slab of the pump station at Inlet State Park and washed away over a foot of soil from the surface of the impoundment dike. Staff have been busy clearing downed vegetative debris along the dikes and inspection trails and assessing damage along the barrier islands. Tides and storm surge washed away the dike, exposing the discharge pipe and undermined soil from around and under the pump station slab.

Dr. Roxanne Connelly is working on a grant project that is focused on distribution and resistance of both *Ae. aegypti* and *Ae. albopictus* throughout the state. She recently completed CDC bottle bioassay testing (using the new criteria) of *Ae. aegypti* in Indian River, Pinellas and Miami-Dade counties, using mosquitoes reared from eggs collected locally as well as a lab colony to serve as a control. The results of the bottle bioassay indicated that *Ae. aegypti* was resistant to permethrin, deltamethrin, d-phenothrin (sumithrin), and etofenprox in all three counties. In 2014, IRMCD performed bottle bioassay testing on both species (using the previous standard) which indicated that both were susceptible to permethrin. As a result of the differences in the results, staff are making preparations to conduct field cage tests to compare to the latest bottle bioassay data. We look forward to seeing you at the FMCA conference!

Northwest Region Report by Cindy Mulla

Beach Mosquito Control

Fall Finale: Arbovirus, Budget, Drought and Hurricane… Oh my!

The months of September and October have made it a challenging journey for mosquito control to complete the year along the Emerald Coast and other parts of Northwest Florida.

Bay County Mosquito Control District Director: Fred Wakefield

We made it through another budget season. I am so thankful for the Zika funding we received from the Florida State Department of Health. With this money, I was able to purchase four new backpack sprayers that were so desperately needed for our larvicide technicians. Our trap count numbers are beginning to go down as the weather continues getting drier. We are looking forward to cooler weather arriving soon. We would like to welcome aboard technician Gary Elmer from Okaloosa County. He has been a great fit for our team!

Beach Mosquito Control District: James Clauson

Our district set a new millage rate, finalized and approved the budget for the 2016-17 fiscal year and is in the process of closing on a new property for the relocation and expansion of our future facility. We are currently still under a West Nile Virus alert. This is attributed to the number of positive mosquito pools; sentinel chicken conversion percentages plus in September there was a confirmed Human West Nile case in Bay County. The Arbovirus/Surveillance Section has been very busy. It is still working on a solution for the reconstruction of the sentinel flock site since the bear’s last visit.
BMCD has been on a roll promoting mosquito control and prevention with their brand new education trailer making stops at the local fall events. Pilot Brad Gunn flew the district helicopter to four events for all to visit. The aircraft was also temporarily converted into the Flying Dutchman for the local area’s Pirates on the High Seas Parade and was manned by the motley BMCD Mosquito Crew. Pirates ARR We!

The public relations & education calendar has been booked solid with events, public speaking engagements and school programs. In house, we designed a double-sided informative mosquito prevention protection postcard that was sent to all area residents in the district.

Operations running smoothly but have slightly switched gears due to the drought conditions. Therefore, we’ve started some winter projects a bit earlier this year.

Calhoun County Mosquito Control: Director Michael DeVuyst

The county has experienced a super dry September. However, the mosquito trapping count numbers were the highest for the year. Five out of the six trapping areas resulted in being above spray threshold with the Scott’s Ferry Community having the most mosquitoes (2,496 total). Fifty-four percent of the mosquitoes trapped during September were Cx. *nigripalpus*. Eight other species were collected including *Ae. albopictus*. A total of eight pools of *Ae. albopictus* were submitted for testing. All results returned back negative with no virus detected. On October 1st I officially passed the mosquito control hat to Jace Ford. Congratulations!

Gadsden County Mosquito Control, Director: Jamison Spencer

Hurricane Hermine impacted our area. Even though it has been very dry here since the hurricane; we are still receiving service requests for treatment.

Gulf County Mosquito Control, Director: Austin Horton

Due to excessive rain fall during the end of August and into the early part of September our mosquito trap counts were high in September. Hurricane Hermine arrived and impacted our area. However, we were able to gain control of the mosquito populations early in October. Fortunately, our area still has had no reported human arbovirus cases this year. Unfortunately, our sentinel chicken surveillance program was cut a few years ago due to the lack of funding. Even though Hurricane Hermine impacted our area with rainfall we currently are parched and experiencing drought conditions.

In September we purchased a brand new ground ULV machine. We recently had a part-time employee leave our program for a better opportunity. We hope to have a new replacement early next week.

Leon County Mosquito Control, Director Glenn Pourciau

Leon County was struck by Hurricane Hermine and the days following the storm mosquito control staff worked twelve hour shifts assisting with downed tree removal and road clearing activities. During the months of September and October we received and responded to more than 3,000 service requests.

We are conducting adult surveillance and testing for the Zika virus and continue to find Aedes albopictus in our trap collections but no Aedes aegypti have been present. The sentinel flocks continue to show West Nile Virus is still present and circulating in the county. During the October 18th County Commission Meeting the Board approved a new ordinance which codified mosquito control activities which can be undertaken when Leon County is under a public health emergency.

Okaloosa County Mosquito Control, Director: Scott Henson

Pleased to have received Zika funding from the Florida Department of Health. We are grateful for the funding because we’ve been able to recoup costs. We have had a total of ten suspected cases of travel related Zika cases five were confirmed. In addition, we had one confirmed travel related Malaria Case and one confirmed Human Case of West Nile virus. Our area is also experiencing drought conditions.

Announcement: We are currently looking to fill a vacant spray technician position for our program.

As ambassadors of mosquito public health and safety, I want to share a disturbing experience. Recently, while receiving medical care from a local hospital; I became curious and began asking the attending physician questions about mosquitoes
and Zika transmission. He understood that certain mosquitoes are responsible for transmitting the virus. However, he said; “Only females can contract the Zika Virus.” I then replied; you mean only the female mosquitoes. Right? His next response was; “No only human females can get Zika.” I couldn’t believe what I was actually hearing! Especially from a medical care provider who is suppose to be current with medical topics. Even with the amount of media exposure about Zika, the campaigns and educational materials available to everyone; why was this professional was misinformed? How can this possibly be? How did this professional fall between the cracks and not have the correct information about Zika? How many other professional medical care providers lack or have incorrect important information pertaining Zika?

**North Walton Mosquito Control District: Brenda Hunt**

Weather conditions have been extremely dry and hot. We’ve had a total of eight confirmed positive sentinel chickens during the month of September and October. We’ve received very few customer service requests from the public but our trap count numbers are high enough to justify treatment. We are currently setting two BG traps that we received from the state to monitor for the *Aedes albopictus*. We are anxiously looking forward to cooler temperatures!

We will be hosting an open house at our new facility on December 1 at 11:00 am. Please contact us if you are interested in attending.

**South Walton County Mosquito, Director: Ben Brewer**

The number of adult mosquitoes has been low throughout the district and we have seen little to no rain throughout the months of September and October. However, we’ve had a higher than average number of sentinel chickens seroconvert for West Nile Virus and have been under a Mosquito Borne Illness Advisory since September 13, 2016. We are proud to announce that we have recently added two new members to our staff: Tony Kaufman, technician and Harley Sampson, supervisor. They are both new arrivals to the state of Florida and are looking forward to introducing them to the FMCA during this year’s annual meeting in Sandestin. We are also proud to be co-hosting the Regional DODD Short Course entitled: “Looking for Zika in all the right places.”

**Wakulla County Mosquito Control, Director: Padraic Juarez**

The input of funds from the Florida Department of Health permitted us to purchase a backpack sprayer and larvicide to assist with operations. We are continuing our to monitor our area for Zika and are fully prepared to respond if any cases arise.

**Southwest Region Report by Aaron Lloyd**

**Pasco County Mosquito Control District: Director, Dennis Moore**

Pasco County Mosquito Control District is continuing to trap and map the populations of *Aedes aegypti* and *Ae. albopictus* throughout Pasco County. We continue to evaluate the resistance of these mosquitoes to determine which products will be the most effective. As many other Florida programs have found, we’ve determined significant resistance of our populations of *Ae. aegypti* to permethrin products. We have fortunately retained the continued use of Malathion which has been shown to still be effective as an adulticide.

Our temperatures and rainfall have both begun to decline resulting in lower trap counts of most mosquito species, including *Ae. aegypti*. This is a welcomed trend that hopefully continues as we proceed into the winter months. It will be interesting to see if the Zika local infections in the state decline over the next few months and if there will be a resurgence in the Spring of 2017.

As we roll into the winter months our shop will begin their major maintenance program on the spray equipment to keep things in good operational order. The major maintenance performed on the equipment during the winter months dramatically reduces the problems that occur during the summer when we are in full operational mode. This has proven to be time well spent to keep our equipment looking good and always being available for the next mission.
Hernando County Mosquito Control District: Director, Sandra Fisher

Things in Hernando County have really slowed down as of the time of this submittal. We remain free of positive chickens for WNV or EEE, and have received no new Zika traveler cases since the end of July. In compiling a FY 2016 report for the County, we observed trap counts for the season through the end of September with half as many mosquitoes trapped as compared to the same time period in 2015. Cooler temperatures at this time have also reduced our truck missions to fewer than 5 per week, so the season is definitely winding down.

Otherwise we are gearing up to bring on a new database system to the department. This new database system will replace our current system with more mapping capabilities and better overall management of data with less effort by admin staff. The system required us to upgrade our truck spray system, so this off season will be busier than usual getting all staff trained and ready to go on the database for the new 2017 season. We are also taking a look into setting up multiplex testing capabilities for arboviruses posing a threat to our residents. Such testing would allow us to monitor our mosquitoes, as well as provide far better lead times in addressing the introduction of these viruses to protect our residents.

Manatee County Mosquito Control District: Assistant Director, Chris Lesser

The Manatee County Mosquito Control District is wrapping-up the busy portion of the mosquito season but continues to address lingering populations of Mansonia and Culex. Research continues in our Biology Department with Eva/Ambyr/Katie organizing research projects on aerial applications of DeltaGard (deltamethrin), application of Fyfanon (malathion) at sub-label rate, and field evaluation of aerial applications/long-distance drift. Additionally, the Biology Department completed data collection for a field validation of the “In-2-Care” (autocidal gravid ovitrap – AGO) trap. This was a season-long research project taking place with a 5-acre plot located on Anna Maria Island. Last, Barbie Bayer, manager of the Entomology Department continues a season-long evaluation of a new LED light trap.

Mark Latham was in the African country of Burkina Faso for much of October participating in a Gates Foundation sponsored malaria eradication research project. Chris Lesser participated in a CDC-AMCA sponsored round-table for developing new Best Management Practices (with an eye towards Ae. aegypti/Ae. albopictus control).

Lee County Mosquito Control District: Field Validation Biologist, Rachel Morreale

In addition to the colonies of Ae. aegypti, Ae. albopictus, Ae. taeniorhynchus and Cx. quinquefasciatus kept at Lee County, we also have a colony of Tx. r. rutilus. It was founded in the summer of 2014 with larvae collected by Ed Foley and myself. Since then it has grown to several hundred adults and larvae. We conduct releases of larvae, pupae, and adults in suitable habitats around Lee County, especially in areas with many bromeliads and in cemeteries. The larvae are also used frequently by our teachers when they go to classes or attend education events. As the colony grew, they had to be moved out from the main insectary as females would escape their screen enclosure anytime the door was opened, laying eggs in trays of other larval mosquitoes. They currently have their own insectary so that no escapees can impact our regular colonies. Due to the high amounts of eggs laid over a 24-hour period (regularly over 100 eggs, often much more), our larvae are reared together with cohorts from the same time of egg collection. The toughest part of having a “Tox” colony is keeping enough larvae to feed so many hungry mouths!

Pinellas County Mosquito Control & Vegetation Management: Entomology & Education Support Specialist, Rob Krueger

Whew… what a mosquito season we have had thus far! The arrival of Zika virus has definitely put us on the map again and we quickly rose to the “most wanted list” with mass media outlets. Our message remained the same as we diligently reminded our citizens to drain containers around their homes. It seemed as though we had things wrapped up nice and neat until the Governor announced that we had our first non-travel related Zika case within our area of responsibility. Here, a focal point of transmission could not be ascertained and no further local transmission occurred. However, our service calls skyrocketed and we experienced record highs of up to 300-400 service requests per day. With an amazing effort by our spray techs, all of these were handled in a timely manner and we were back on track in about 12 days. Throughout the season, we
remained confident in our solid relations with the Public Health Department for continuous accurate information regarding 62 persons under investigation where 18 were deemed positive for Zika, 2 for CHIKV, and 1 for dengue fever (at the time this message was composed). The key to success, so far, has to be our “boots on the ground” response efforts where we canvas potential virus epicenters and manually check for mosquitoes. This labor intensive movement educates citizens, drains and treats containers, and sets up a strict regimen of follow up and surveillance. We have put in the work to develop new strategies and improve standard operating procedure and are very happy with our results. Now, if we could just get citizens to drain those containers! That’s just the tip of the iceberg… and speaking of ice… this cooler weather coming in has already reduced our trap counts and we hope the trend continues. What a season it has been.

Thank you as always for all your support with the numerous conference call participations, the sharing of ideas, and teamwork throughout the arbovirus community. We also wish you and your families a happy holiday season! Until next time… Pinellas County Mosquito Control, out!

Northeast Region Report by Jim McNelly
Volusia County Mosquito Control

Anastasia Mosquito Control District (AMCD)

Dr. Xue writes “Due to hurricane and flooding, mosquito population outbreaks in St. John's County in middle of October. AMCD received and answered more than 3,000 service requests and conducted aerial spraying for about 100,000 acres, the most hot spots. The outbreak of mosquitoes had been controlled by ground and aerial applications after a week of efforts. The capability and quick response for aerial spraying to cover a large acreage from contractor and communications between AMCD and public need to be improved in the future. All seasonal employees, two intern students, and a visiting scientist left AMCD after 6 months services. Thanks all employees' hard work and board of commissioners' supports during the efforts of control of mosquito population outbreak.”

Volusia County Mosquito Control (VCMC)

World War Z, news from the front: We’re up to 10 confirmed cases as of 10/26, no others under investigation. Fortunately, this is the time of the year when we see our peridomestics “call it a year” and hatch rates – at least for Aedes albopictus – are greatly reduced (we did some diapause work last year that focused on Ae. albopictus). The Zika “fire hose” slowed to a large extent in September – and was replaced by tropical storm activity and Hurricane Matthew. Rainfall from Matthew kick started production of floodwater Aedes and Psorophora species of a magnitude not experienced since October of 2012. In response and in addition to elevated truck larviciding and adulticiding, we engaged our emergency aerial contractor Clarke/Dynamic Aviation and aerially sprayed approximately 140,000 acres with naled.

VCMC also engaged the services of Helicopter Applicators Inc (HAI) to again provide aerial larviciding utilizing Vectobac WDG at two sites. In part, this work was performed to validate positive results achieved previously when making applications at night. The folks at HAI bent over backward to accommodate our desire to perform these applications, and HAI Chief Pilot Dan Rudsill is a true professional. We also appreciate the support of Valent Biosciences that afforded the ability to access Benzon Research for bioassay work. Dr Chen will be reporting on these efforts and results in November at the FMCA Annual Mtg.

Two interns returned to full time school responsibilities; Mason Sylvester (Daytona State College) came on board in October to help fill the void. Entomological Aide Miranda Tressler earned a well-deserved promotion to the position of Environmental Specialist I – congrats Miranda! We expect to be advertising an Aircraft Mechanic position before year’s end.

East Flagler Mosquito Control District (EFMCD)

Assistant Director Mark Positano writes that “Many employees of the District evacuated before Hurricane Matthew made land fall. After the storm had passed us by it was evident that erosion of the coastline, downed trees, and missing roof shingles comprised the majority of the damage. However, due the extent of tree damage we were without power for Friday,
Saturday, Sunday, Monday and part of Tuesday in parts of Palm Coast where most staff reside. Operationally we were unaffected and have been busy since.” Mark continues “At this point, most of the adult mosquitoes have been beat back inside the District. The real problem will be reopening trails to inspection areas on the salt marsh that have disappeared under fallen debris. It will be a busy winter.”

**Jacksonville Mosquito Control’s (JMCD)** Richard Smith reports that “Jacksonville was battered by Hurricane Matthew (HM). Many trees and power lines were downed. Storm debris is widespread and chainsaws can still be heard working in some neighborhoods until dark. Most MCD employees survived without great loss, but one family’s home was destroyed by a large tree; an anguishing situation and we feel for them during this difficult recovery.”

More than 10 inches of rain fell in southeast Duval County during HM. Conservation areas and preserves filled with fresh water while the subsequent nor'easter helped push the fall high tides into the upper marshes. Broods of floodwater mosquitoes emerged the following week. Service requests told the story. There were only 25 service requests following HM, but during the next week, 15-21 October, 1,917 service requests were logged. Things began settling down the next week with only 749 requests. The largest concentration was the south portion of the county where the rainfall was greatest. One CDC trap captured 10,000 mosquitoes in one night! Aerial spraying was effectively suppressing adult mosquitoes, but controversy over application of naled during morning rush-hour forced a moratorium in an abundance of caution until after November 6 when Eastern Standard Time (EST) returns and sunrise occurs 59 minutes earlier. EST may provide sufficient window for treatment before conflicting human and non-target activity.

Several employees marked recent employment anniversaries with the City of Jacksonville. August anniversaries: MC Tech II Eddie Owens (34), Operations Supervisor Paul Hilbrant (18), MC Lead Tech Tony Buni (23), Aviation Supervisor Ken Pearson (4). September anniversary: Entomologist Marah Clark (17). October anniversaries: MC Tech I Tom Barnes (26), MC Tech II Louis Vargas (16). William Biggins (10) accepted a promotion from MC Tech II to Equipment Maintenance Technician. During this busy time, William has been helping out with service requests while also routinely servicing the fog trucks and maintaining other machines. The City is recruiting to fill other vacancies as posted on the website, www.coj.net/jobs. Duval County Health Dept. reports nine confirmed travel-related Zika cases, one WN case and various persons under investigation (PUIs). We appreciate the updates from FDACS each week on the conference call.

**EMPLOYMENT OPPORTUNITY – City of Jacksonville – Chief of Mosquito Control**

**Salary Range: ($70,566.60 - $115,210.44 Annually )**

This position is appointed by the Mayor, subject to confirmation by the Council and shall serve at the pleasure of the Mayor. This position reports to the Operations Director - Neighborhoods. The primary purpose of this position is to oversee the administration and operation of the mosquito control activities whose major elements include education, surveillance, inspection and treatment activities employing ground and aerial operations targeting larval and adult mosquitoes with the aim of protecting the health of the citizens of the Consolidated Government. In addition, this position oversees the Clean It Up, Green It Up activity and provides support to the Keep Jacksonville Beautiful Commission and other special projects as required.

Primary responsibilities include the following: Directs senior staff on Division operations, activities, budgeting and personnel issues. Oversees the monitoring of mosquito borne disease transmission. Determines extent of mosquito problems, targets breeding areas and develops appropriate response. Plans, coordinates and monitors aerial, ground and surveillance program activities along with physical plant needs. Represents the Division at Department, Council, committee, OGC, budget, HR and purchasing meetings and provides media response and community presentations. Schedules, coaches, assigns, reviews and evaluates the work of subordinates. Directs and supervises the Clean It Up, Green It Up activity in support of operations, activities, budgeting and personnel issues. Plans, programs and promotes volunteer beautification program objectives throughout the community. Coordinates with members, businesses and organizations as Mayor's appointee to the Keep Jacksonville Beautiful Commission in support of organizational objectives as expressed in Executive Order. Communicates clear direction, manages for results and leads organizational change. Assigns responsibility, takes corrective action, demonstrates leadership in evaluating, developing and motivating employees.

Open Requirements/Supplemental Information: The Chief shall have a bachelor's degree or higher from an accredited college or university and: At least five years of experience in mosquito control.

Per Chapter 388, F.S., 5E-13.032, candidate must possess a valid Public Health Pest Control license. Per Chapter 388, F.S., 5E-13.032, candidate must possess a State Director's Certification prior to appointment or obtain the Director's Certification within six (6) months of employment. ONLINE APPLICATION REQUIRED. Apply at www.coj.net.
EMPLOYMENT OPPORTUNITY - Pasco County Mosquito Control District

Position: Entomologist
Salary Range: ($52,208-$78,291 - DOQ)
Closing date for applications: February 20, 2017
Anticipated start of employment: March 27, 2017

Minimum Requirements: Bachelors Degree in the Biological Sciences/Entomology and 3 years of experience in a mosquito control program or related field. Possession of an advanced degree (MS) and supervisory experience is highly desirable, although not required. Must be legally permitted to work in the United States. Must obtain a Florida drivers License and a Public Health Pest Control License issued by the state of Florida within 3 months of employment.

Job Description: Position entails a high level of technical and professional work: planning, coordinating and implementing entomological research, surveillance and control programs. The entomologist will:
· Help to coordinate evaluation of pesticides and application equipment, control practices and surveillance methods.
· Develop operational procedures on the District’s geographical information system (GIS) for surveillance and control programs.
· Conduct bioassays to monitor mosquito population resistance to insecticides used.
· Develops analysis procedures for information collected in the larval and adult surveillance programs.
· Participate in the daily decisions related to control operations.
· Establish work plans and offer suggestions to increase efficiencies within the District.
· Initiate or participate in mosquito related research projects.

Knowledge, Skills, and Abilities: Thorough knowledge of entomology, ecology of arboviruses, research techniques related to mosquito control; ability to accurately interpret and apply applicable rules and regulations; ability to direct, supervise and coordinate various operational functions of the District; ability to apply scientific principles to practical situations; ability to establish and maintain effective working relationships with other employees and the public; ability to effectively communicate scientific information to peers and the public; experience in the use of office software such as Excel, Word, Power Point, and GIS software such as MapInfo or ArcGIS; ability to prepare reports, graphs, charts, or other visual data.

Send application and resume to: Dennis Moore – Director, Pasco County Mosquito Control District
2308 Marathon Rd., Odessa, FL 33556-3421

2017 FMCA Aerial Short Courses (FLY-IN)

The Fly-In will be held Tuesday, January 10, 2017, 1:00 PM to Thursday, January 12, 2017, 12:00 PM at Lee County MCD, Buckingham Army Airfield, 15191 Homestead Road, Lehigh Acres, FL.

The hotel has changed from last year, so make note. We are going to try the Hilton Garden Inn Fort Myers Airport/FGCU, located at 16410 Corporate Commerce Way, Fort Myers, FL 33913. Room rate is $145 per night.

We are requesting presentations related to aerial programs in any way.
-Mark Latham, Director, Manatee County Mosquito Control

The City of Clewiston is looking for contractors that can provide aerial ULV applications using fixed wing aircraft for adult mosquito control over the populated areas of Clewiston and the neighboring community Harlem. For more information, please contact Sean Scheffler at sean.scheffler@clewiston-fl.gov
The Collier Mosquito Control District is seeking an innovative and motivated laboratory/vector biologist to execute a district-wide vector-borne disease surveillance program. The successful candidate will work closely with the field biologist and research entomologist to ensure that mosquito specimens are trapped, identified, processed and tested for the presence of mosquito-borne diseases using RT-qPCR, PCR and other biochemical and molecular tests as appropriate. The successful candidate will also be responsible for administering mosquito resistance assays, maintaining appropriate insect colonies, and maintaining laboratory inventories of reagents and materials. This position involves opportunities to research and develop new arboviral surveillance methodologies and techniques as well as opportunities to present original research at meetings and symposia. The successful candidate will be able to demonstrate experience with nucleic acid extractions, RT-qPCR methodologies, viral surveillance/detection and molecular biology laboratory techniques. This position begins no earlier than October 1st, 2016.

1) A cover letter that demonstrates how your experience matches the job requirements. 2) A CV or resume that outlines your experience as it pertains to the position description. 3) A completed CMCD application (http://www.cmcd.org/wp-content/uploads/2014/11/Employment-Application.pdf)

PURPOSE OF JOB: Position exists to aid the Research Entomologist in the vector-borne disease surveillance program and participate in a wide range of operational and research activities.

ESSENTIAL DUTIES & RESPONSIBILITIES:
1) Participates in the design and execution of the vector-borne disease surveillance program for the District under the guidance of the CMCD Research Entomologist. 2) Conducts diagnostic tests for the presence of vector-borne diseases in mosquitoes including RNA/DNA extractions, PCR, RT-qPCR, and other biochemical and molecular tests as appropriate. 3) Prepares and maintains an inventory of laboratory reagents, chemicals and testing materials for disease surveillance. 4) Assists in the field collection of adult and larval mosquitoes for disease surveillance purposes. 5) Prepares pools of mosquitoes for testing and maintains an accurate inventory of processed specimens. 6) Responsible for maintenance of appropriate laboratory equipment and the research laboratory. 7) Maintains insectary and rears various species of mosquitoes for resistance testing. 8) Conducts routine bioassay and molecular resistance testing on various species of field-caught and laboratory-reared mosquitoes. 9) Gives presentations related to District research and operations, and may train mosquito control personnel in-house or at FMCA short courses. 10) Assists the Public Information Department when appropriate. 11) Prepares timely reports and updates to CMCD staff about the status of insecticide resistance and disease surveillance in the District. 12) Participate in the maintenance of the District’s website and social media. The above statements describe the general nature and level of work performed and is not intended to be a complete list of duties—additional responsibilities may be assigned by management.

EDUCATION/EXPERIENCE/TRAINING REQUIRED: Must have at least a B.S. degree (M.S. preferred) in Entomology, Biology or a related natural science from an accredited college or university. Must be certified in Public Health Pest Control within 12 months of employment. Must have a valid Florida driver’s license. Knowledge of basic mosquito identification, biology and control is preferred. Experience with molecular biology techniques including RT-qPCR and nucleic acid extractions.

KNOWLEDGE/SKILLS REQUIRED: General mechanical ability and operating knowledge of basic hand held and power operated tools. Should be computer literate and familiarity with word processing, database and spreadsheet use is preferred. Ability to use microscopes, micropipettes, thermocyclers, fluorimeters and other laboratory equipment. Ability to accurately and completely follow instructions.

WORK ENVIRONMENT: Research is performed in the laboratory and in the field. The incumbent must often endure and tolerate hundreds of insect bites without the use of repellents. The work requires the ability to work in a variety of outdoor environments to include, but not limited to, forests, swamps, marshes, open fields and roadsides. The position requires the ability to carry heavy loads over rough terrain, considerable bending and stooping and possible eye strain from prolonged use of microscopes and computers. The work also requires above average agility and dexterity in order to perform intricate operations in the field and the laboratory. The incumbent will be exposed to potentially toxic compounds such as insecticides, solvents and oils as well as biological hazards appropriate to a biosafety level 2 facility. While most work will be performed within a normal work day, occasional weekend, evening and early morning work will be required. The following machines are likely to be operated: pickup truck, SUV, small boat with outboard motor, ATV, drill, drill press, circular saw, jig saw, table saw, band saw, grinder, metal shear and metal break. The successful candidate must also be willing to interact in an educational capacity with wide-ranging types of audiences within the community and beyond.

To apply please email Dr. Mark Clifton (mclifton@cmcd.org). Open until filled.
Arbovirus surveillance, Jan-October 2016

**EEE**

**West Nile**

Thanks to Gregg Ross, FMEL, for arbovirus graphs and maps