



LeMaringouin

April 2016

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Message from the President



The LMCA family would like to send out condolences to the friends and family of Wayne Fisher and Donald Pechon, St. Tammany Mosquito District Pilots. The sudden loss of these two men comes as a complete shock to us all. They died while working to protect the people of St. Tammany Parish. Let us never forget the people that came before us; remembering how these people influenced our lives and profession.

The LMCA board is working on several issues: revamping the training manual, forming a committee to educate members on Zika virus, and education day just to name a few. The LMCA Training Manual is now in pdf form and available on the organization web site. Moving the manual to a pdf form will enable us to edit and enhance it in the near future. The LMCA web site will have Zika virus related information and links in the near future. We are all excited about our organizations future.

This years LMCA Workshop and Mosquito Academy saw an increase in attendance. The workshop was held this March in Baton Rouge, with over 90 attendees. Thanks go out to workshop chairman Herff Jones, LMCA Office secretary Cheri Vining, and all the presenter's that helped. Dr. Claudia Reigel and her staff put together another successful 2016 Mosquito Academy in New Orleans. Those enrolled in the Mosquito Academy were educated by a group with a variety of mosquito control and science backgrounds. It's safe to say that the Zika virus has stimulated increased interest in mosquito control activities.

The LMCA annual meeting will be held December 6th - 8th of 2016 at the Crowne Plaza Executive Center in Baton Rouge. Our education committee is busy planning to visit a middle school in the Baton Rouge area. The dates are set, so it's not too early to start thinking of attending and presenting something your organization has accomplished. The sharing of ideas and camaraderie have always been important to all our members. Please feel free to contact me with any questions or ideas for our organization.

Thanks!

Scott Harrington
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337-721-3780

In Memoriam

On Tuesday, April 19th we lost two experienced pilots when one of our spray planes crashed on approach to the Slidell Airport after having completed a spray mission. The details of the accident remain unclear, but we hope that the National Transportation Safety Board will provide some clarity.

We all know that mosquito control pilots have a disproportionate amount of risk in the work that they do to protect our communities. The commitment of these two men and the sacrifice of their families inspire our work.



Wayne Fisher was an exceptional pilot, mentor, and human being. Wayne graduated from the Citadel as a commissioned officer before completing two tours of duty in Vietnam as a helicopter pilot. After Vietnam, Wayne worked for SuWest in New Orleans where part of his duties entailed flying the Skywatch traffic helicopter. Wayne flew for both the St. Tammany and Jefferson Parish Sheriff's Offices. Over the years Wayne mentored and formally taught numerous pilots, including all of St. Tammany Parish Mosquito Abatement District's (STPMAD) part time pilots.

A member of the Louisiana Mosquito Control Association for over 20 years, Wayne was originally introduced to mosquito control in St. Tammany while performing aerial larviciding operations with a sling bucket for SuWest. After flying as a contract pilot for STPMAD for years, he was hired full time in 1993. He remained as supervisor of aerial operations at STPMAD until his retirement in February of this year.

Wayne was very active at his church, Northshore Church, in Slidell. In addition, Wayne was passionate about mission work in Haiti and Africa. He served on the board of directors of Ireland Outreach International. See Wayne's obituary for more information on his life: <http://www.legacy.com/obituaries/theneworleansadvocate/obituary.aspx?n=wayne-l-fisher&pid=179724703&fhid=14935>

In lieu of flowers Wayne's family asks that donations be made in Wayne's memory to Haven of Hope Africa in care of Ireland Outreach International, Box 1772, Waterloo, IA 50705-1772.



When Wayne retired in February, Donald "Don" Pechon was hired to take Wayne's place in the pilot's chair. Though he only joined our full time staff six weeks ago, he flew for STPMAD for 16 years and also flew for Tangipahoa Mosquito Abatement District as a contract pilot. Prior to his work in mosquito control, Don worked as a police officer for the city of Covington, LA and for the Lake Pontchartrain Causeway Bridge. In 2003, Don retired from the Louisiana Department of Justice where he worked as an investigator with the state's Attorney General's office. Don ran a flight school and also taught numerous pilots how to fly. His persistent smile will be missed. See Don's obituary for more information on his life: <http://www.tributes.com/obituary/show/Donald-Gerald-Pechon-103508253>

Don's family asks that donations in lieu of flowers should be sent to St. Peter Catholic Church or to St. Joseph Abbey in Covington, LA.

The bumper sticker on the pilot's work vehicle states "God is my Pilot."

We know that Wayne and Don are flying with Him.



District Spotlight News - Cameron Parish



Cameron Parish Mosquito Abatement District No. 1 was founded in January of 1973. The district was created out of fear from the 1972 Western Equine Encephalitis outbreak occurring in Texas. The district is located in the southwest corner of our state. Cameron parish contains 652 square miles of wetlands, comprising 34% of its land mass. These wetlands provide abundant mosquito habitat, consequently a mosquito district was needed for public health, economic reasons, and enhancement of quality of life. There are no less than 37 different species of mosquito in the parish with *Aedes sollicitans* and *Culex salinarius* being of primary importance. Cameron is the third largest parish with the second smallest human population. The district is led by Josh Hightower (Director). He has a shop foreman, three inspectors, two pilots, and several part-time spray truck drivers.



Josh Hightower

Surveillance Facts

- Landing Rate Counts and Citizen complaints
- 25 New Jersey Light Traps
- Geo Pro technology for data management
- Mosquito Pools



The Cameron Parish Mosquito district operates off of a 10 year millage tax. The tax generates a budget of 2.6 million dollars and is due for renewal in 2021. The drop in oil prices has caused a slight reduction in their budget. However, there is hope that the growth in Natural Gas (LNG) exportation will alleviate some of these woes. With the economic reduction they were still able to Aerial treat approximately 1.8 million acres and ground ULV over 500,000 acres.



Equipment Facts

- **Airtractor 402**, uses Dibrom and is capable of treating 40,080 acres with one load
- **10 Ground Spray Trucks** with Monitor 4S systems, rotates up to 3 adulticides/year

Cameron Parish has had a long history of mosquitoes and hurricanes, dealing with its share of diversity. In 2005 the district was hit hard by Hurricane Rita, destroying all records and two aircraft (stationed in Lake Charles). They operated out of temporary facilities until 2010, when their current building was completed. As of the writing of this article Cameron Parish has only had two human cases of West Nile Fever. Their last positive mosquito pool was in 2009, probably because of very low populations of *Culex quinquefasciatus* mosquitoes. Thanks goes out to Cameron Parish Mosquito Control in all their efforts with the LMCA and this article. Don't be surprised if I reach out to your district for the next, "**District Spotlight**". - Scott Harrington

District News

Caddo

Greetings from Northwest Louisiana. It has been a busy season for Caddo parish mosquito control. In March we had flooding rains and we had some serious damage to some areas of the parish. The temperatures stayed cool for a couple of weeks delaying the outbreak of mosquitoes. It warmed up at the end of March causing us to have a huge amount of early season flood pool mosquitoes mostly *Aedes Vexans*. The complaints started coming in mainly in the rural areas. We had the seasonal drivers come in early to try to treat the parish. Spraying has been hit and miss due to the uncertain weather. We currently are spraying the parish. Trap counts have been high mostly Ae. Vexans. Gravid trap counts have been low in the Parish. Our longtime night supervisor retired and was not replaced. The other full time worker has been out since January with an illness. This change in personnel has been a challenging issue for us. Good luck with the rest of the season.

EBRPMARC

We have gotten busy early this year because of the warm winter and wet spring. We have sizable populations of both *Ae. vexans* and *Anopheles crucians* now, and have been operating our ground ULV trucks for several weeks already. Still a big issue for us is the unrelenting attention that Zika virus is getting. We have already done several media interviews and our clerical staff is fielding a considerable number of calls about Zika. Some of the calls about Zika are unusual.

Administrative Specialist I, **Ashley Robinson**, organized our second annual **EBRP Mosquito Abatement and Rodent Control Awareness Day** event this year on March 19. We had a great crowd that participated in an Easter Egg Hunt and enjoyed live music and lots of educational displays about the biology and control of mosquitoes and rodents. We want to thank all our employees and the numerous vendors who helped make this event possible.



We are looking forward to working with **Dr. Daniel Swale** of the **LSU AgCenter** on a project using insect growth regulators and *Anopheles quadrimaculatus* this summer. Dr. Swale is an insect physiologist who has received funding from the Bill and Melinda Gates Foundation to investigate *Anopheles* control in Africa. We will continue experimenting with toxic attractive baits, particularly around the sewer treatment facilities for controlling *Cx. quinquefasciatus*. This year we are trying to extend their effectiveness using Spectrum electrostatic spray nozzles.

We want to welcome new Pest Control Inspectors, **Logan McManus** and **Jerome Randolph** this year. Best wishes and a fond farewell to 14 year veteran **Mike Contine** who retired April 6th. Congratulations to **Owen Jones** and **Larry Mercier** on their promotions to Mosquito Control Specialist. Congratulations to **Mike Morganti**, our new Spray System Supervisor. Outstanding employees like these that make our department great.

Visit our Facebook page:

<https://www.facebook.com/pages/East-Baton-Rouge-Parish-Mosquito-Abatement-and-Rodent-Control/150040478370256>

District News

Cameron

After a very busy fall we were able to enjoy some down time for a few months. During the end of October, our parish experienced very high tides and rain causing a significant increase in *Ae. sollicitans* and *Psorophora columbiae* parish wide. There were some areas that were even as bad as they were after hurricane Ike. One day in such an area after a strong front blew through, I was taking landing rates thinking the weather would probably help keep the mosquitoes down. The wind was about 15 miles per hour from the north with a 48 degree wind chill. Wrong answer Jack! Unbelievably, the landing rates were still between 20 per minute and 100 plus per minute that day near the marshes. Needless to say, the fall was very busy for us. We treated 133,852 acres by ground and 284,160 acres by air for November, and 57,334 acres by ground and 15,360 acres by air for December with our last day of spraying being two days before Christmas.

This year has been pretty slow so far. We have been using our John Deere Gator to spray for many baseball and softball games. We have just started running light traps again and spraying with trucks when the weather permits to keep down *Cx. salinarius*. We have been experiencing high tides frequently, and yesterday the landing rates were in the 20 – 30 *Ae. sollicitans* per minute range for the first time this year. The winds and rain are keeping us from spraying right now, but in a few days our break will finally be over.

Congratulations to our secretary/inspector, **Angie LaBove**, who gave birth to her daughter **Kylee**.

Calcasieu

As I was getting ready to send the newsletter I realized that I had failed to write about our activities. We've had a rather quiet Spring, with a few aerial flights in response to flooding along the Sabine River. Ground ULV spraying has intermittingly begun as weather permits. With such limiting space I'll end with "All's Quiet On the Western Front" :^)

Ouachita Parish

During our breaks from building the ark, OPMAD has been fervently and continuously surveilling Ouachita Parish for floodwater mosquitoes in the aftermath of the severe storm event that left 23 inches of rain here during the second week of March. This water inundated residential subdivisions and business communities in addition to rural farm and forested lands. Many of these more urban residential and business communities found themselves underwater. The water subsided quickly allowing those individuals and families to return to their homes and businesses on March 12 and 13. There are many areas that continue to be under several feet of water with it being slowly drained either mechanically or naturally. As of April 14, some residents have still not been able to return to their homes.

In the areas where the water subsided quickly, larval surveillance began soon thereafter monitoring the many small pockets of water left as these were prime *Aedes vexans* hatch-off locations. By March 17, larval surveillance in these areas indicated increased larval counts presenting 2nd, 3rd, and 4th instar larvae with no pupae noted. Adult surveillance at this point reflected negligible numbers. This larval surveillance indicated that adult mosquito control (including aerial work) might be warranted as early as the first of the following week. However, another weather event moved through the weekend of March 19 & 20 providing nightly low temperatures in the lower 30s for several days helping to break the aforementioned cycle. We have since experienced high winds helping to keep mosquito counts down with only a couple of spikes in counts (*Ae. vexans* primarily) that have been once again naturally remediated in those areas where the water has receded.

The areas of continued concern now are those where the higher water is starting to fall. Many of these areas left holding abnormally high amounts of water are in the middle of or surround residential areas. We all know what could potentially happen in these areas in the near future when the water begins to subside. To that end, we will continue with our heightened floodwater mosquito surveillance and hope for the best.

Also of note, "quink" activity is starting to pick up for the season. We hope to start performing *Ae. albopictus* container surveys during the month of May.

District News

Tangipahoa

This year has certainly started out with a bang, as heavy rains and flooding have started increasing our trap counts. We are seeing surges in *Ae. vexans*, *An. crucians*, and *Ps. ferox* so far this year, and expect more activity as we progress into the season. For adult control efforts, ground truck operations resumed for the year in mid-March. In addition, four aerial missions have been conducted as growing mosquito populations are noted in flooded areas. For roadside ditches, we use a duplex mixture of *B.t.i.* and methoprene in our tank trucks, and larviciding oil by hand. We have also continued utilizing MapVision for data entry and storage in both the office and field. Updates have been made to the Louisiana Arbovirus Surveillance Tracking System (LASTS) by computer specialist Chris Fayette. Zika virus has now been added to the mosquito database to be included with testing as needed, along with other modifications to further streamline data entry.

In other news, we would like to welcome our newest inspector, Becky Spano. She has recently passed her 8A exam, and has quickly become a valuable new addition to our work family. We look forward to another productive season!

St. Tammany

The last week of March was our first week of conducting ground ULV spraying, and we began aerial adulticide the first week of April. Prior to that, adult population levels were relatively low, in spite of above normal rainfall over the past 4-6 weeks. Heavy rainfalls occurred during the first and second week of March. If that was not enough, all of the river systems of the parish set or tied flood stage levels which resulted in the worse flooding ever. Floodwaters inundated homes in many parts of the parish that had never before flooded. Moderate to low floodwater mosquito breeding occurred throughout the parish, but cooler temperatures tended to extend larval development and reduce the activity levels of the adults. When temperatures began to rise over the past couple of weeks, so did the activity levels of the adults. Larval and adult quink populations are always closely monitored for obvious reasons, and those populations also have begun to increase. Our part-time larviciders began spot treating the septic ditches the first week of February,

even though the populations were relatively low. The intent of early season larviciding of “quinks” is to reduce the size of the peaks in the seasonal distribution. Aerial adulticide measures are targeting the floodwater species, but most importantly, we are targeting and will continue to place emphasis on the chronic “quink” locations, especially in the urban centers where West Nile virus activity has historically been present.

Now that the floodwaters have receded to a manageable level Viki and her crew are starting to find sites to begin chemical efficiency testing. They have treated a couple of domestic sites using VectoPrime. This material is a granular formulation of *Bti* and methoprene. Their initial tests produced excellent control. However, they are going to treat more sites before any conclusions can be drawn. Plans have been made to conduct larval baselines with *Bti* against “quinks”, as well as wind tunnel tests. Droplet tests on the airplane spray systems and ULV sprayers will be conducted when temperatures become warmer.

Kevin Caillouet's seasonal study of nesting birds and its temporal association with *West Nile virus*-infected mosquitoes began in mid-February this year. Kevin reports that weekly searches for nests on the same transect will be conducted until late August. This year 100 Eastern Bluebird nest boxes were built and installed to bolster the total number of nests monitored. As of writing, we are following 30 nests. Most of these nests now have nestlings that are 1-2 weeks old. As the first wave of WNV susceptible hosts has hatched and is now feeding the first wave of mosquitoes, WNV season has officially begun!

Kevin Caillouet (STPMAD) and research collaborator Suzanne Robertson (Virginia Commonwealth University) have recently published a research article: A host stage-structured model of enzootic *West Nile virus* transmission to explore the effect of avian stage-dependent exposure to vectors. *Journal of Theoretical Biology*. Available from: <http://www.sciencedirect.com/science/article/pii/S0022519316300017>

Education Update



Calcasieu Parish Mosquito Control participated in a Career Day for 7th and 8th graders at a local middle school in March. The students asked us great questions like what we like about our job, educational experience, and of course salary!

In April, CPMC participated in the Louisiana Day program at Moss Bluff Elementary school. We reached out to 2nd – 5th grade students. Students learned about the mosquito life cycle, mosquito habitats, source reduction, and the importance of mosquito control in our community.



Louisiana Day at Moss Bluff Elementary



On April 2nd & 3rd, **West Baton Rouge Parish Mosquito Control** set up camp at the Kite Festival. It is the only kite festival in Louisiana. It attracts 20,000 people each year to watch professional kite fliers from all over the country. This family friendly event is held in April of each year in West Baton Rouge.



If you have any education news you want to share please send it to Jill Hightower at jhightower@cppj.net

University News

ULL Department of Biology



Eric Tobin is a PhD student and BOR Fellow who began his research in Fall 2014 at the University of Louisiana at Lafayette, working with Dr. Scott Duke-Sylvester. His project is focused on the mosquito vectored avian malaria parasite (*Plasmodium* spp.)

diversity and transmission dynamics in songbirds of Louisiana. A key component of his research involves simultaneous bird and vector sampling, the latter often overlooked in avian malaria research. He has chosen *Cx. quinquefasciatus* for his vector species, as it is proven to be a competent host for various species of avian malaria from around the world. Molecular diagnostic techniques are being used on both the mosquito and bird blood samples he collects. Results of his project will hopefully help to elucidate the transmission and prevalence of avian malaria in Louisiana songbirds.

LSU Department of Entomology

The LSU Entomology Department is preparing our first short course scheduled for Thursday May 19th at the East Baton Mosquito and Rodent Control Building. The course will cover adult mosquito identification, and will be from 10:00 am to 4:00 pm. The cost will be minimal (\$10 to \$15 to cover the cost of lunch). This will include a single day hands-on class on adult mosquito identification. Interested individuals should contact Kristen Healy (khealy@lsu.edu) for more information.

In Dr. Kristen Healy's lab this summer, **Emily Boothe's** research focus will be evaluating (1) diel host-seeking and oviposition activity from May to November 2016, (2) temperature-dependent larvicide efficacy, and (3) cryptic *Culex* larval habitats within parish control areas. These studies will be conducted within supporting mosquito control districts throughout the 2016 season. **Nick DeLisi** is continuing his work evaluating larvicide resistance in *Cx. quinquefasciatus* among East Baton Rouge site locations after previously determining



baselines using our laboratory Seabring strain. Shiloh Judd is beginning his work assessing the use of different

plant species as nectar sources for *Ae. albopictus*. **Vivek Pohkrel** spent the 2015 field season evaluating the impact of ground ULV mosquito control applications on sentinel honeybee populations. He is currently wrapping up his work and will be graduating in August 2016. Other research in Dr. Healy's lab includes continuing studies on the impacts of stressors (diet, mite levels, etc.) on honeybee populations, preliminary Zika transmission studies with **Dr. Daniel Swale**, and insecticide resistance monitoring in *Cx. quinquefasciatus* from three of our Louisiana parishes. Our research associate, Emily Boothe, recently received a travel grant through the AMCA to attend the Washington Day conference. Emily and Dr. Healy will be attending the event with several other LMCA members.

Dr. Daniel Swale started his faculty position at LSU in April 2015. His research program is focused on the physiological roles of various ion channels and enzyme systems in arthropod disease vectors and how these physiological target sites can be used to alter disease transmission. Currently, Dr. Swale is funded by the Bill and Melinda Gates Foundation to explore the potential for using insect growth regulators and novel potassium channel insecticides to control the malaria mosquito vector in Sub-Saharan Africa. This project is a collaboration through the Healy lab (LSU) and the East Baton Rouge Mosquito Control and Abatement center. Additionally, Dr. Swale's laboratory is currently characterizing the physiological roles of various ion conductance pathways in the tick salivary gland as a means to understand the machinery that facilitates proper function of the glands. Continued on page 9...

University News

LSU continued

Lastly, Dr. Swale is collaborating with Drs. Healy and Christofferson (LSU Vet Med) to collect preliminary data on the innate antiviral immune pathways of mosquitoes and how these pathways may be targeted to reduce transmission of flaviviruses, particularly the Zika virus. **Mr. Jacob Kraft**, an undergraduate researcher in the Swale Lab, was awarded the Lewis T. Graham Student Research Award from the LMCA to assist in funding his current project that aims to explore the insecticidal potential of insect calcium channels.

LSU Louisiana Animal Disease Diagnostic Laboratory

As of 2016, all laboratory test results for arbovirus testing will be reported through the LASTS electronic system (LAarbo.net). One great advantage to using this system is that results for laboratory test are reported electronically which makes the process much faster. Results will be entered into the system as soon as complete, typically Friday morning of each week of testing. If you have any problems with the LASTS system for data entry or recovery of results please contact **Chris Fayette**, Computer Specialist, Tangipahoa Mosquito Abatement District or you can contact **Dr. Roy**. Also, please note that the laboratory is prepared for testing mosquitos for Zika virus (ZIKV) if needed. Please make us aware if you are submitting samples for testing by calling the laboratory.

LSU School of Veterinary Medicine Department of Pathobiological Sciences

Dr. Rebecca Christofferson, a new assistant professor, has researched arboviruses, including dengue, chikungunya, and Zika. Currently, she is working to elucidate the basic characteristics of Zika transmission including vector competence and pathogenesis in a mouse model. Her goal is to further characterize the interaction of dengue virus with this and other related Flaviviruses using a combination of laboratory studies and mathematical modeling initiatives. In addition, she

is working with **Dr. Christopher Mores**, who is currently the head of Virology and Emerging Infections at NAMRU6 in Lima, Peru. Through this collaboration, Drs. Christofferson and Mores are looking to integrate the advanced surveillance network of NAMRU6 to answer some of the research questions that will lead to a more complete understanding of the factors associated with Zika, dengue, and chikungunya transmission in South and Central America, with implications for importation and establishment in the US.

Dr. Kevin Macaluso started his faculty position at Louisiana State University School of Veterinary Medicine in 2004 and now is the Mary Louise Martin Professor in the Department of Pathobiological Sciences. His research encompasses the molecular and biological mechanisms central to rickettsial transmission by blood-feeding arthropods. In his laboratory, two unique systems have been established, consisting of slow- and fast-feeding vectors, in which to study rickettsial transmission. The first line of research is directed at deciphering the molecular mechanisms associated with *Rickettsia* infection of ticks and how both tick- and bacterial-derived factors mediate infection. Ongoing research activities in this area emphasize the roles of microbial determinants in successful vector infection. This research will provide a better understanding of the constituents of rickettsial transmission and maintenance in arthropod vectors. Ultimately, appreciation of the biology of transmission will lead to the identification of novel points of intervention. The other emphasis of research focuses on an emerging flea-borne rickettsiosis, caused by *Rickettsia felis*. Originally identified in the United States as a human pathogen in 1991, it is now recognized that human infections caused by *R. felis* account for up to 6% of the cases of fever among non-malarial conditions in sub-Saharan Africa. They have a newly funded NIH R01 to facilitate studies towards defining the parameters of rickettsial infection in fleas. Specifically, they are delineating the mechanisms by which *R. felis* is acquired and transmitted by arthropods and defining the *R. felis*-derived molecular constituents of transmission by flea vectors. The unique vector attributes, combined with a relatively understudied rickettsial biology, provide a rich area of research.

Continued on Page 10..

University News

Tulane Department of Tropical Medicine

Dawn Wesson's lab currently has several ongoing projects investigating issues relevant to the study of medically important insects. As part of a Bill and Melinda Gates Foundation grant, an "artificial" blood source for maintaining mosquito colonies is being developed. They are also examining the vector competence of local container-dwelling *Aedes* mosquitoes for both Zika and dengue viruses. That project is being funded by crowd sourcing and anyone interested in helping can donate by searching for "How good are North American mosquitoes at spreading Zika virus?" on experiment.com. Field work started the first week of April to continue to evaluate the relative distributions of *Ae. aegypti* and *Ae. albopictus* in New Orleans. Other ongoing work in the lab generally attempts to unravel the cryptic ecology of our local kissing-bug *Triatoma sanguisuga* and its association with different strains of the parasites that cause Chagas disease.

They will be saying goodbye in the next few weeks to visiting PhD student/researcher **Trang Huynh**. Trang joined them this semester to attend our Medical Entomology and Advanced Medical Entomology classes, and to continue to round out her PhD training. Ironically, before starting her PhD training in Japan Trang worked in her native Vietnam as a public health specialist where they use copepods to control dengue vectors. The original technology to grow and distribute copepods for dengue control was developed right here in New Orleans by the (then) New Orleans Mosquito Control Board (before the termites and rodents were added!). Trang has been assisting NOMTRCB in reigniting their copepod production for possible use this summer against our local difficult-to-control container *Aedes* spp. Trang has definitely made lasting contributions during her time there and they look forward to future collaborations.

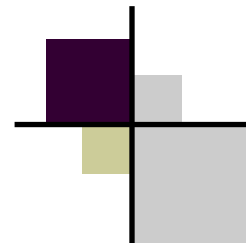
Entomologist Roundtable

Kevin Caillouet



The Spring Louisiana Mosquito Entomologists round table will be held on May 17th at 10AM at the office of the St. Tammany Parish Mosquito Abatement District in Slidell, LA. Round table meetings are intended to

be an informal setting to facilitate discussions and foster collaborations on a variety of mosquito control and research topics. This meeting's topic will be surveillance tools and tricks for container-inhabiting mosquitoes, *Ae. aegypti* and *Ae. albopictus*. We'd like everyone to bring their modified or novel traps, field or lab protocols, lab equipment, and experiences to share with the group for dealing with these species.



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Membership

Today the LMCA is a support arm for these operations, those smaller city/community operators and all others interested in mosquito control. We provide a platform for educational resources and opportunities through publications, meetings and workshops, as well as guidance and technical direction for those in need. Association leadership works closely with state regulators to assure competency within operations and vigilance on legislative matters. Through this we are able to uphold our mission of enhancing the quality of life through the suppression of mosquitoes for all here in Louisiana. [Membership Form](#)

- ◆ E-Newsletters
- ◆ Workshops
- ◆ Annual Meetings
- ◆ Lower rates for meeting registration
- ◆ Technical Advisory Services
- ◆ IPM Training
- ◆ Educational Resources
- ◆ Legislative/Regulatory Monitoring
- ◆ Technical Manuals / Bulletins

