

# BUZZWORDS



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

|                           |                         |
|---------------------------|-------------------------|
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or

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**Ft. Myers, FL 33906**

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**Deadlines for submissions to be  
included in the newsletter:**

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|----------------|--------------|
| <b>Jan/Feb</b> | <b>Feb 1</b> |
| <b>Mar/Apr</b> | <b>Apr 1</b> |
| <b>May/Jun</b> | <b>Jun 1</b> |
| <b>Jul/Aug</b> | <b>Aug 1</b> |
| <b>Sep/Oct</b> | <b>Oct 1</b> |
| <b>Nov/Dec</b> | <b>Dec 1</b> |

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**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.**

**Volume II. Number 6. Nov/Dec 2011**

## Upcoming Events

North American Black Fly  
Association Meeting  
February 8 – 10, 2012  
Archbold Biological Center  
Lake Placid, FL

Contact Elmer Gray for more information:

[ewgray@uga.edu](mailto:ewgray@uga.edu)

### Florida State University Offering Pesticide Applicator Training

March 20-22, 2012 for city and county pesticide  
applicators and environmental health employees.

<http://Mosquitoworkshop.fsupc.com>.

Contact Dr. John Smith at (850) 770-2260 or  
[jsmith@pc.fsu.edu](mailto:jsmith@pc.fsu.edu) with questions regarding the  
program. Contact Mr. Banyon Pelham at (850) 770-  
2201 or [bpelham@pc.fsu.edu](mailto:bpelham@pc.fsu.edu) regarding registration.

### 9th Arbovirus Surveillance & Mosquito Control Workshop

Anastasia Mosquito Control District  
St. Augustine, Florida  
March 27 - 29, 2012  
[www.amcdsjc.org](http://www.amcdsjc.org)

Florida Mosquito Control Association  
84th Fall Annual Meeting  
November 11 – 14, 2012  
Sandestin Hilton  
Sandestin, FL

Life can only be understood backwards; but it must  
be lived forwards.

---Soren Kierkegaard

## From the Editor

Please note: The opinions expressed in the  
articles of this newsletter are just one view. All  
readers are invited to submit articles, rebuttals  
to articles, or news items for this newsletter.

In an effort to reduce the amount of paper we use  
every year and to reduce costs of printing the  
FMCA Newsletter, I would like to hear from  
anyone who would like to be added to our email  
list to receive an electronic version of  
BuzzWords, and to be removed the mailing list  
for hard copies. You can contact me at  
[crr@ufl.edu](mailto:crr@ufl.edu).

Thank you,

Roxanne Connelly, Editor

### 2011 FMCA Award Winners

Skip Valdez - FMCA Merit Award

Mark Latham - FMCA Presidential Citation

Shelly Redovan and Lee County Mosquito  
Control District - FMCA Presidential  
Citation

### 2011 FMCA T W Miller Scholarship Winners:

Ali Messenger, University of Florida

Whitney Swan, University of Florida

## From Your FMCA President

I thank the membership of the Florida Mosquito Control Association for the confidence they have shown in entrusting to me the leadership of this Association. It is not a responsibility that I take lightly. We face many challenges in the coming years, both internally and externally. We must be ready and willing to meet these difficulties head on.

Before I continue I must thank Immediate Past President Roxanne Connelly for her able leadership last year. She has set a very high standard. I also must thank our Executive Director Shelly Redovan, who has done a yeoman's job getting our finances in order. Believe me when I tell you that the debt we owe her is profound. During the process of putting together the program and again when various and sundry questions of protocol and parliamentary procedure arose, President Elect Bob Betts proved an invaluable source of information. New and returning board members include Neil Wilkinson, Rudy Xue, Judy Avril, Mark Cothran, Mike Mahler, Tom Wells, Steve Smith, and Tom Unnasch. I can tell all of you that your Association is in good hands.

One of our first tasks will be to complete the updating of the policy and procedure manual and to bring the Association into compliance with the manual. A first step has been taken. All committee members' terms of service have expiration dates. Expect some other changes to follow.

An immediate and serious threat to mosquito control in Florida is the elimination of aid to mosquito control programs by the State government. In spite of the fact that we have seen three serotypes of dengue in South Florida in the past three years, West Nile virus in North and South Florida, and sentinel chickens testing positive for Eastern Equine Encephalitis, St. Louis Encephalitis, and Highlands J viruses, the powers that be have decided to defund mosquito control. Then we have over 50 cases of imported dengue and almost 100 cases of imported malaria this year. Frankly, I'm disturbed that people with an incomplete understanding of mosquito biology, disease ecology, epidemiology, and mosquito control are making decisions that will affect public health and economic well-being. I don't know about you, but I'm still upset about the closure of PHEREC and now we're seeing an effort on the Gulf Coast to replace local mosquito control expertise due to a "one size fits all" mentality.

As I write this I glance at my calendar and am surprised to see that it was 89 years ago to the day, December 6, 1922, in Daytona that Joseph Porter told the group assembled for the first meeting of the Florida Anti-Mosquito Association to "keep everlastingly at it." I doubt Dr. Porter could foresee a day when attempts would be made to defund or dismantle mosquito control programs in Florida. We and the Florida residents have too much to lose not to fight; the price is too great.

Larry Hribar  
FMCA President

*2011 FMCA Presidential Address: Given in Jacksonville, FL by Dr. Roxanne Connelly, President*

I have observed several people who have been at the point where I am right now where they are faced at giving a Presidential Address. I know that at the beginning of the year, they started out with a camera taking pictures at every event they attend - thinking that they will do this all year long and then have a great story in pictures at the end of the year. I have also seen these same people panic in October because the meeting time is approaching and they realize that they actually do have to write a speech to go along with the pictures. I started out this way, with my camera at the Dodd Short Courses, but by February, I had to put the camera down because there was so much going on within the FMCA that I couldn't even think of taking photos. Alongside me this year, I have had a lot of support. I would like to say thank you to my number one fan and best friend, my husband Peter Connelly, to Walter Tabachnick and the University of Florida for the freedom and flexibility to serve the FMCA as President, and to the Board of Directors and the Executive Committee who supported me this year in ways you cannot imagine, who challenged me to be better, and who cheered me on throughout the year.

At this time, I want to remind everyone of the mission of the FMCA: *The Florida Mosquito Control Association's (FMCA) primary mission 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.*

The Florida Mosquito Control Association is an association based on volunteers; our finest programs are nationally and internationally recognized because of contributions from individuals and groups from mosquito control programs, universities, and industry, who allow their employees to contribute time and expertise for our various endeavors. We are known for the unique educational opportunities we provide through the Dodd Short Courses and the Aerial Fly In; we are known for the Florida White Paper, *WingBeats*, and *BuzzWords*; we are known for our collective expertise in operational mosquito control.

Last year at this time, FMCA President Shelly Redovan challenged the membership to work to educate ourselves and the public, maintain our past achievements, and work together to move the Association forward. With that in mind, I had grand plans for this year to work on recruiting and retaining young people into the FMCA. Some of you may have heard of an initiative within the American Mosquito Control Association that Dr. Alex Chaskopoulou, graduate of the University of Florida, Captain Stan Cope and I have been working on bringing more youth into the organization. This came about after we conducted a membership survey and came to the conclusion that the AMCA was made up primarily of "older, well-educated white men" not that there is anything wrong with older, well-educated white men, but the face of mosquito control has changed and we felt that our Association should be more proactive about reaching a younger audience. We started a group that is now known as the "Young Professionals" or YPs, for short, program which is growing in numbers, to attract, train and retain young members into the AMCA. There are a few YPs in the audience here today – Sarah Larsen, Barbie Bayer. Following that success, I thought that would be a great project to get started for the FMCA this year. But the Universe had other plans for me and for the FMCA. Mosquito control in Florida is going through a great deal of change. As it changes, so does the FMCA.

Back to one of Shelly's challenges – to move the Association forward. Moving forward most often means change. Sometimes change is welcome, often it is uninvited but we have to embrace it anyway. This year, the FMCA has undergone many changes, some of which you may be hearing for the first time at this meeting, and for some of these changes, you will hear details in several presentations by others throughout this meeting.

In 2011, we went through a change in Executive Director. Kellie Etherson resigned and Shelly Redovan with the support of Lee County Mosquito Control was installed as our new ED. Although Shelly has been the FMCA Executive Director previously, she is not new to the position. There were many duties that had to be reassigned, such as Shelly fulfilling her role as Past President as well as now ED. The Dodd Short Course Chair had to be filled. More work and more tasks fell to the volunteers of the FMCA – and they willingly offered their expertise and got busy.

In 2011, the Florida A&M University made the decision to close the John Mulrennan Public Health Entomology Research and Education Center in Panama City after a history of 40 years. This year we saw a reduction in state aid money from the Waste Tire fund that is legislated to go to the mosquito control districts and is proposed to go to zero once again next year. This will be addressed later this morning during the legislative update. This year the state of Florida elected a new Commissioner of Agriculture. We did meet with him during Tallahassee Days this year, but were unsuccessful in getting him to address the membership during this meeting. It remains to be seen what we might expect under his tenure, but the proposal to cut all state aid and mosquito research funding is not a good sign. And just last week we heard the news that a local politician is working very hard to dissolve the Lee County Mosquito Control District. This is not something that the county wanted. We will be hearing about more of this in the year to come.

There are a few changes that we initiated that I believe are improvements that will move us forward. We have been making additions to our website to automate tasks that shouldn't require handling paper, such as meeting registrations. We are working on a membership directory and many other improvements. This year we established a toll free phone number for the ED: 855-OUR-FMCA. This number will stay the same even when we change EDs. Establishing the toll free number is part of a commitment I made for the ED and officers to be responsive in a timely manner to our members and those we do business with. I wanted people to be able to either reach our ED directly and if she is not available to have a way to leave a message. I asked her to commit to responding within 2 days of a request. And if not, then members have the option of calling the President for action. Many of these changes will be noticeable in the months and years to come and I hope that you will see the benefits from them.

Several FMCA committees dealing with changes were very active this year. The *ad hoc* committee on NPDES kept us informed on deadlines, provided PMP examples on-line, held conference calls and workshops, and last month informed us when the October 31 deadline passed without any political support to stop the madness. I want to extend my appreciate to Jeff Stivers and his committee of Sue Bartlett, John Gamble and Chris Lesser for making sure that Florida mosquito control programs were informed and prepared. Our Legislative Committee was also very active this year. Doug Carlson and Dennis Moore will address several items that were presented to them this year, and I can tell you that what they have time to present this morning won't begin to describe the work that their committee conducted. This year I was able to convince Dr. Gordon Patterson to be a co-chair on the Historical Committee (which was recently changed to the Archives Committee). He has been very active and engaged in prioritizing which historical items need to be scanned and digitized for storage on our website. As these items are completed, such as meeting proceedings, FMCA members will be able to access them online. These are things that may be located on the shelves of FMEL but not available anywhere else, or items that are preserved at a mosquito control district that others will be able to view. So in the spirit of moving the Association forward, Dr. Patterson is playing a pivotal role in helping us preserve our past, something that I view as vital for the FMCA.

We make changes every year. After this meeting, you will have a different leader and different board members representing you. YOU will change this organization by the choices you make in selecting officers. Your choices do make a difference. When you “go to your corners” to vote on your regional or specialty representation tomorrow, I know that you take it seriously. This should not be a spur of the moment decision. The people you elect will represent you and your best interest in regards to FMCA matters that come before the Board of Directors. I hope that you will consider who among you is a forward thinker who will continue to move us forward. Serious political and internal challenges face the FMCA in the coming months; our FMCA Board needs to be strong and loud and not status quo and following the crowd, a group that will not give up on mosquito control issues but who will shape the Association’s direction in a positive direction for the future.

I think that one way to put into perspective what we are going through right now is to remember something we are all taught when we first start learning about mosquitoes. In order to grow, mosquitoes must change. They must shed their skin. If you think about how mosquitoes shed their skin during the larval stage, you know that for 4 instars, they grow and molt, they basically look the same – they just get bigger. But then to move forward to become an adult, not only do they shed their skin, as they change internally and externally, they look like a completely different organism. This year, I think that the FMCA started through that internal and external change. We aren’t done, and when we are we will look very different, but we will still be the FMCA and continue to keep everlasting at it.

At this time, I want to continue with something that our Past President and Executive Director Shelly Redovan reinstated last year. She reminded us that Dr. Richard Baker gave her a “Rising Star” award when she volunteered on the FMCA’s education coordination committee. It was recognition that encouraged her to continue volunteering for the association and our industry and look where she is today! She gave the award to Gregg Ross and Cindy Mulla to recognize potential talent among us and to help cultivate our future leaders. And like Shelly, I see many who are deserving of this recognition, but I have selected two whom I have worked with who I see as future leaders within the FMCA. I would like to ask Gail Stout and Ed Northey to come to the front and as they make their way down, I will tell you more about them.

Gail Stout works for Manatee County Mosquito Control District where she began working in 2005. She is a Biologist at the district. I appreciate that Gail is always thinking of new topics and new ideas for the Dodd Short Courses. She sees what people around her may be having trouble with, and she makes suggestions on how to turn that into an educational program. Gail is helping with the Dodd Short Course program this year while we are in a period of transition of committee chairs. And for a couple of years now, Gail has been serving as a reviewer of BuzzWords and she always has valuable comments and suggestions for improving the newsletter. Thank you, Gail.

Ed Northey is an Environmental Specialist at the Volusia County Mosquito Control District. Ed contacted me about a year ago and asked for a course on mosquito identification because of new job duties. Ed has been very enthusiastic about the whole learning process. He immediately joined the Dodd Short Course committee and he has had valuable input, he is not afraid to speak up and worked with me to organize a regional course in Volusia County this summer. Thank you, Ed. I think we will be seeing a lot more of these two rising stars in the years to come.

It has been an incredibly active and challenging year as President of the FMCA. I have learned a lot about leadership and about how important it is to have a supportive board of directors. I hope that you all will give Larry Hribar and Bob Betts your support over the next few years as the FMCA changes for the better. Thank you.

*In Memory of Eugene Jordan Gerberg, 1919-2011*

Terry Carpenter and Graham White, authors of this obituary, would like to hear from anyone with interesting anecdotes about Gene Gerberg, knowledge of his life & work, or souvenirs from him.

[Terry.Carpenter@osd.mil](mailto:Terry.Carpenter@osd.mil) & [GBWhite@ufl.edu](mailto:GBWhite@ufl.edu)

Dr. Eugene J. "Gene" Gerberg, 92, passed away in Gainesville, Florida, on the morning of Monday, December 19, 2011. Born June 1, 1919 in Brooklyn, New York, of immigrant Russian Jewish parents, he received his B.S. degree from Cornell University, Ithaca, New York and in 1941 was commissioned a First Lieutenant in the U.S. Public Health Service (Gerberg, 1992). His first assignment was to the Malaria Control in War Areas (MCWA) unit at New Smyrna Beach, Florida, established to control malaria around military training bases in areas where mosquitoes were abundant. The mission of

MCWA, a forerunner of the CDC, was to prevent reintroduction of malaria into the civilian population by mosquitoes that would have fed on malaria-infected soldiers in training or returning from endemic areas. During its activities, MCWA also trained state and local health department officials in malaria control techniques and strategies. In 1943 he was commissioned a Second Lieutenant in the U.S. Army Sanitary Corps and assigned as Assistant Camp Medical Inspector for Camp Lee, Virginia, charged with ridding the barracks of an infestation of bed bugs that had reached epic proportions.



Photo: Eugene J. Gerberg (center) as a 2nd Lieutenant, U.S. Army Sanitary Corps, Fort Lee, Virginia, 1943, demonstrating bedbug infestation control (Gerberg, 2008)

After the war, Gene transferred to the U.S. Army Reserves, and continued his military service. In 1946, he co-founded Insect Control & Research (ICR) in Baltimore, Maryland, a business venture that became highly successful for him and his partners. He completed his M.S. degree at Cornell and his Ph.D. at the University of Maryland, College Park. His notable achievements are many and varied and include several seminal publications. He authored the first U.S. Public Health Service pictorial key as a guide to the identification of anopheline mosquito larvae for the national malaria control program (1943), a revision of the New World species of powder-post beetles belonging to the family Lyctidae (1957), a manual for mosquito rearing and experimental techniques (1970), a manual of Florida butterflies (1989), and a bibliography of publications dealing with repellents effective against blood-feeding arthropods and leeches (2001). For many years, he updated and published the *World Directory of Arthropod Vector Research & Control Specialists* on an annual basis. He retired as a Colonel from the U.S. Army Medical Services Corps and an Adjunct Professor of Entomology at the University of Florida. Gene traveled the world during his professional career, but he was most proud of his service in the MCWA from 1941 through 1945.

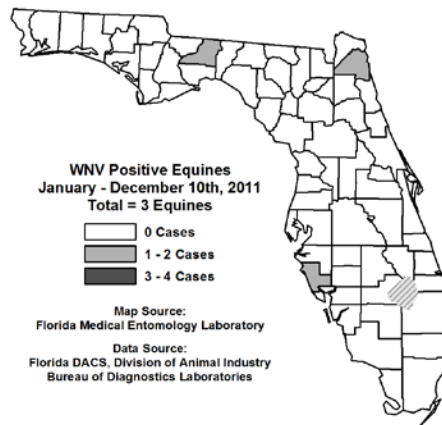
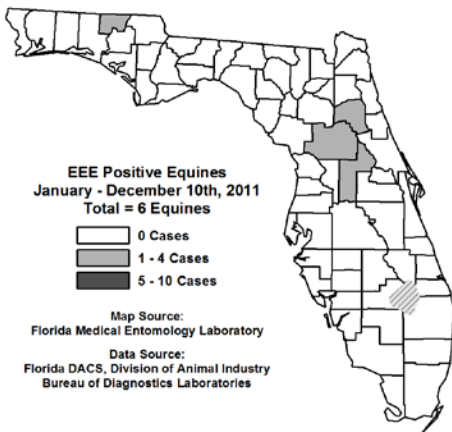
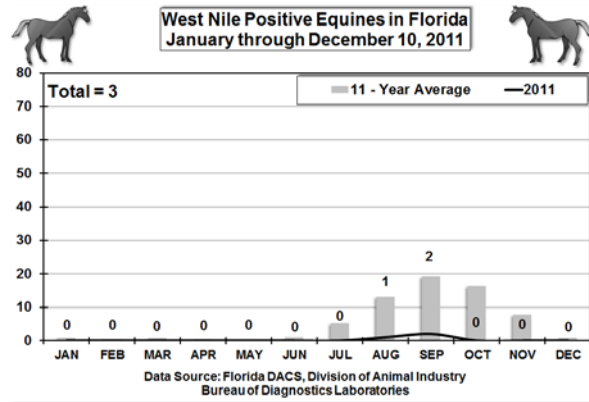
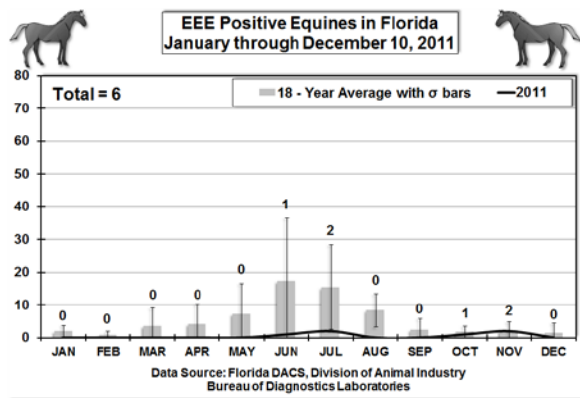
Gene's wife Josephine Elizabeth "Jo" (née Vick), also a Cornell graduate, preceded him in death on May 14, 1998. Jo ran the family business while Gene travelled. Together they raised five children, three of whom survive them. Gene's and Jo's ashes will be inurned together in the Florida National Cemetery at Bushnell, Florida.

References

Gerberg, Eugene J. 2008. Entomologists in World War II. In: *Evolution of Military Medical Entomology*, Proceedings of a Symposium at the 52nd Annual Meeting of the Entomological Society of America, 16 November 2008, pp. 23-28; <http://www.dtic.mil/cgi-bin/GetTRDoc?Location=U2&doc=GetTRDoc.pdf&AD=ADA506261>.

Gerberg, Eugene J. 1992. Commercial Entomology for Fun and Profit. In: *Insect Potpourri: Adventures in Entomology*, Jean Ruth Adams, ed., Gainesville, Fla.: Sandhill Crane Press, Inc., pp. 243-251.  
 -- Compiled by Terry L. Carpenter and Graham B. White, 19 Dec 2011.

Carpenter, T.L., and G.B. White. 2011. Eugene Jordan Gerberg, 1919-2011. Armed Forces Pest Management Board Website, <http://www.afpmb.org/sites/default/files/whatsnew/2011/Gerberg%20brief%20death%20note%202011-12-19.pdf>, posted 19 Dec 2011.





## *Pasco County Mosquito Control District*

### *Position Opening: Operations Supervisor*

**Application Process:** Interested individuals should submit a cover letter and a current resume that includes three verifiable references.

**Please direct all correspondence to:**

Pasco County Mosquito Control District  
Attn: Dennis Moore, Director  
2308 Marathon Rd.  
Odessa, FL 33556

**or electronically:** [dmoore@pascomosquito.org](mailto:dmoore@pascomosquito.org)

**Closing Date:** March 6, 2012

**Starting Salary:** \$55,000

(commensurate with experience)

**Anticipated Start Date:** April 2, 2012

**Excellent Benefits Package. Minimum Requirements:** Bachelor's Degree in the Biological Sciences/Entomology is highly preferred, plus 3 years of experience in a mosquito control program or related field. Must be legally permitted to work in the United States. Must obtain a Florida Driver's License and a Public Health Pest Control License issued by the state of Florida within 3 months of employment.

**Nature of Work:** Employee supervises and coordinates the adult surveillance and ground/aerial adulticiding programs and is responsible for monitoring the larval inspection findings and the adult surveillance results. Duties include oversight of all field staff and direct supervision of any employees while on adulticiding assignments. Technical direction is provided by the Director, but the employee is expected to exercise considerable independent judgment and to accomplish all work with minimal supervision.

**Job Description:** Position entails very specialized work involving all phases of mosquito control operations with supervisory responsibilities. The operations supervisor will:

- Help to coordinate evaluation of pesticides and calibration of application equipment.
- Manage personnel operating ground adulticiding equipment.
- Plan field operations involving the ground and aerial adulticiding program. Assigns the areas to be treated, schedules and maps the ground/aerial missions, monitors weather conditions and adjusts missions as needed.
- Check the application equipment for compliance with the registered labels.
- Manage the adult surveillance program, including ID work and data entry as needed.
- Handle most of the service requests which are beyond the scope of the receptionist.
- Record and maintain records of the monthly inventory of all pesticides and vehicle usage.
- Manage the sentinel virus surveillance program, including the weekly bleeding of sentinel chickens.
- Initiate or participate in mosquito related research projects.

**Knowledge, Skills, and Abilities:**

- Thorough knowledge of entomology, ecology of arboviruses and advanced mosquito control techniques.
- Thorough knowledge of all Federal and State regulations pertaining to mosquito control in Florida.
- Knowledge of supervisory practices and the ability to supervise people in heavy work load situations.
- Physical strength and agility to work outside, occasionally under adverse weather conditions.
- Understanding of mosquito trapping and population evaluation principles.
- 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.

*East Baton Rouge Mosquito Abatement and Rodent Control District*

**DIRECTOR OF MOSQUITO ABATEMENT & RODENT CONTROL**

Closing date: Until filled

Salary information: commensurate with experience (range from \$69 – 96K / year plus benefits).

Description: The successful candidate will be expected to conduct highly responsible, professional administrative, and supervisory work in directing the activities of the East Baton Rouge Parish Mosquito Abatement and Rodent Control District. Work involves responsibility for directing the planning, operation and financial management of a comprehensive program to identify and eliminate breeding areas of mosquitoes and rodents in East Baton Rouge Parish. Work is performed in accordance with professional standards, procedures and techniques under the administrative and policy guidance of the East Baton Rouge Mosquito and Rodent Abatement District Board.

The successful candidate will be expected to: 1) Plan and direct the work of a moderate size staff of professional, technical and skilled employees engaged in the identification and elimination of breeding areas of mosquitoes and rodents in East Baton Rouge Parish. 2) Select pesticides and application techniques for the most effective control of mosquito and rodent population in East Baton Rouge Parish, and evaluate effectiveness of program operations and implements changes as needed. 3) Coordinate mosquito and rodent abatement program with appropriate governmental, local health, and law enforcement agencies. 4) Disseminate information to the general public through the various news media on health-related problems of mosquitoes and rodents, and to motivate the general public to eliminate breeding areas and report public health hazards. 5) Prepare budget recommendations for program operations and submit them to the East Baton Rouge Mosquito and Rodent Abatement District Board and the City Parish Metro Council for approval.

Qualifications: Bachelor's degree and graduate degree in entomology. PhD and degree in Medical Entomology preferred. A minimum of three years of experience in mosquito or vector control required. Possession of current Louisiana Department of Agriculture and Forestry (LDAF) Commercial Pesticide Applicator certification in Subcategory 5a (Aquatic Pest Control), Subcategory 8b (Rodent Control), Subcategory 8d (Mosquito Control: Program Supervisor) will be required.

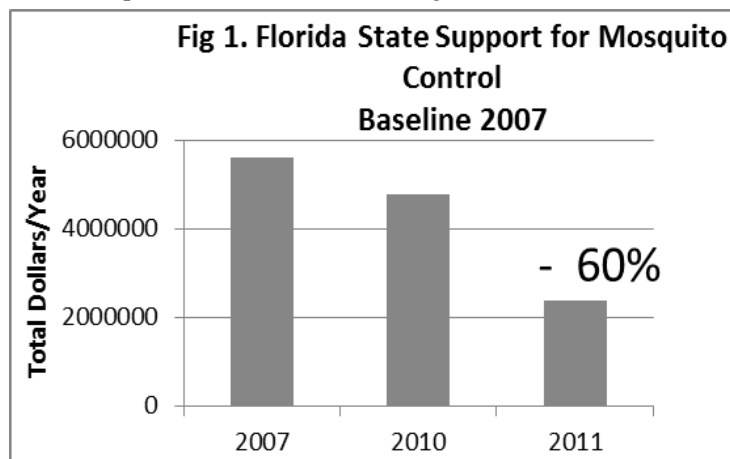
The successful candidate will be expected to have: 1) Knowledge of modern office practices and procedures. 2) Ability to effectively plan, organize and supervise the work of a moderate size group of professional, technical and skilled employees. 3) Ability to analyze, develop and implement short and long term plans for effective control of mosquito and rodent populations in East Baton Rouge Parish. 4) Ability to establish and maintain effective working relationships with local and state officials and the general public. 5) Ability to express ideas, clearly and concisely, orally and in writing, to groups and to individuals. 6) Ability to work well with other agencies including City Parish departments, Louisiana State University, other mosquito control districts, Louisiana Department of Health and Hospitals Office of Public Health, LDAF, Louisiana Governor's Office of Homeland Security and Emergency Preparedness. Experience working with Employee Unions and/or Civil Service desirable.

Contact Information: Applicants should provide a letter of application, a resume, and contact information for three references to Dr. Martha Littlefield, 732 Rapides Street, Baton Rouge, LA 70806 or email to [malittlefield@lsu.edu](mailto:malittlefield@lsu.edu)

## ***A dangerous Precedent: Reducing Florida mosquito control capabilities in the face of a potential catastrophic Dengue outbreak***

It has been suggested that Florida's rapid growth and prosperity can be attributed largely to efficient interstate transportation, air conditioning, and the effectiveness of Florida mosquito control. However, recent reductions in the Florida state budget have reduced Florida's commitment to support Florida mosquito control capabilities. This has occurred precisely at the time when Florida's risk from the devastating consequences of mosquito-borne disease has never been greater.

Previously I have called attention to the draconian reductions and the impacts of those reductions on Florida's mosquito control capabilities (for example see Tabachnick, WJ. 2011. What is next for Florida state aid for mosquito control? *BuzzWords* 11(3):8-11). The state of Florida appropriated ca. \$5.5 million annually in 2007 to support Florida mosquito control. This support consisted of state aid to individual districts, funds to support the aerial dog fly program, \$250,000 in a small mosquito control research program, and funds to two state universities to maintain the 2 Florida research laboratories conducting research needed to improve mosquito control. By 2011, state aid to mosquito control was cut in half, the aerial dog fly program had been eliminated (2007), and Florida A&M University closed the Public Health Entomology Research Center in Panama City eliminating 1/3 of the Florida research faculty working on mosquito control issues. The remaining laboratory, the University of Florida IFAS Florida Medical Entomology Laboratory, has lost 20% of its faculty and 80% of its technical staff due to budget reductions experienced throughout the University of Florida. All in all, nearly 60% of Florida's once proud state mosquito control infrastructure has disappeared (Fig. 1). Florida's ability to mitigate the impact of new mosquito-borne diseases through the use of new methods, targeted control, bringing new research



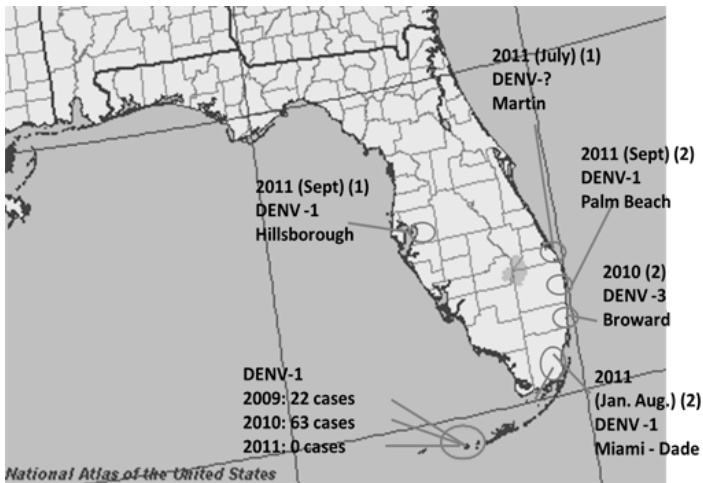
information to bear, statewide attention to diverse regions and ecologies has been severely reduced. There has been discussion in Florida DACS to completely eliminate the state aid to mosquito control and the mosquito control research budget.

Florida is at a crossroads. The decisions to reduce and hamper the effectiveness of Florida mosquito control are ill conceived and, frankly, dangerous. These are dangerous times for Florida's public health, well-being, and general safety. The danger to Florida from mosquito-borne disease has never been greater.

**Has anyone looked at the most recent map of dengue transmission in Florida? How can one possibly look at the current dengue transmission in Florida and come to the conclusion that this is the right time to cut Florida's mosquito control funding?** Fig. 2 shows the progression of mosquito transmitted dengue in Florida since 2009. Elsewhere I showed that the incidence of DENV-1 in Key West in 2010 was among the highest in the world. CDC estimated ca. 1000 residents were infected though there were only 22 recorded cases in 2009. Using the same proportions with 65 cases in 2010, ca. 3000 more residents were likely infected. In two years, 4000 infected residents among 20,000 people. One of every five Key West residents had been infected with DENV-1 since 2009.

Further consider that there was DENV-3 in Broward in 2010, and DENV-1 in 4 counties in 2011. The catastrophe could occur at any time. Consider DENV-3 entering Key West where ca. 4000 residents have likely already been primed for greater severity of symptoms due to their prior exposure to DENV-1. It is chilling to consider that such an event could easily produce 500 cases with 50 deaths!

Fig. 2. Dengue transmission in Florida 2009-11.



Here are a few facts that we know about dengue transmission in Florida since 2009.

1. Dengue transmission has occurred in South Florida.
2. Multiple dengue serotypes have been detected.
3. Vectors are present, ubiquitous, and have been very difficult to control.
4. There has been transmission in large urban areas with the potential for large numbers of cases.

Mosquito Control capabilities must address:

- a. Urban domestic mosquitoes
- b. Need to target resources quickly and devise control strategies for domestic mosquitoes not commonly or historically targeted.
- c. Need to galvanize the entire community to actively participate in control efforts to be successful.
- d. Need to increase capabilities through assistance from state and research agencies

How might a looming catastrophe unfold? What might a severe dengue outbreak look like and how might Florida respond given its current reduced capabilities? The following scenario is hypothetical in the extreme and is presented only as an illustration of the events and issues we will face.

June: 2 dengue cases are reported in Key West. A Medical Alert is issued. Mosquito Control mounts a campaign targeting domestic *Ae. aegypti*.

July: 8 cases of dengue are reported in Miami-Dade County. A Medical Alert is issued. 4 more cases in Key West.

August: 20 cases are reported in Miami Dade. 20 cases in Key West. We learn that it is DENV-2 in Key West. 8 cases are reported in Broward. A Medical Alert is issued. 6 cases in Hillsborough. A Medical Alert is issued. County Departments of Health and mosquito control in each county issue PSA's to public; mosquito control goes door to door to educate the public and increases its operational efforts to control *Ae. aegypti* or *Aedes albopictus*. As a result of the losses in Florida's statewide support program there is little state response or resources to assist local efforts. Communications between districts and training to provide assistance have also been reduced. There is no recent information on vectors to target high risk areas and new products are untested due to elimination of the mosquito research program.

September: 100 cases in Key West, 6 people with dengue shock syndrome, hospitals overwhelmed. 200 cases in Miami Dade. 100 cases in Broward. 100 cases in Hillsborough. Scattered cases throughout South Florida. The numbers of cases overwhelms Florida's ability to collect case information. Mosquito control is overwhelmed and is not able to determine or target at-risk populations. Tourism to Florida declines as people cancel plans to visit due to the news reports of dengue in South Florida, eventually resulting in a 10% loss of \$5.7 billion of a \$57 billion industry. Public health officials discuss the declaration of a Medical Threat due to dengue in South Florida. A Medical Threat is not issued because it is believed it will have little impact on reducing transmission. Florida tourism decreases because of the fears and the coverage in the media.

October : Only estimates are available on the numbers of cases due to the backlog in reporting. It is estimated that there are over 1500 cases in 4 counties. Local agencies are overwhelmed. Florida establishes emergency funding for mosquito control though plans to utilize these funds remain uncoordinated and it is unclear if this will have an impact on transmission. Communities begin campaigns to encourage citizens to assist mosquito control. Consideration of bringing added resources from adjoining districts to participate in mosquito control in the high risk areas.

No state network is in place to supervise participation in control efforts across counties and to manage logistics to ensure the effectiveness in bringing resources across districts and counties. Districts outside the dengue high risk

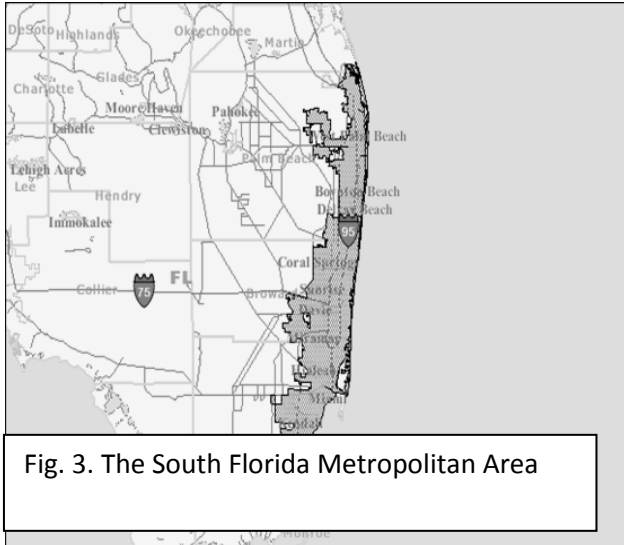


Fig. 3. The South Florida Metropolitan Area

region are cautious in providing resources until their own local risk is known with assurance, and surveillance and information to make assessments are not available. The information to effectively target larval habitats is unavailable in heavily populated areas.

November: Estimates are there are 4000 cases in 10 Florida counties; estimated 200,000 people have been infected with a DENV serotype. Firm numbers unavailable due to reporting backlog. To date 2 serotypes are identified, DENV-1 and DENV-2. Hospitals in some areas are overwhelmed with treating patients. 50 people die.

December – February: Dry weather begins and transmission is reduced.

February –June: Sporadic low level transmission with 20 cases in the state.

June: Florida prepares for more dengue.

Florida has made draconian reductions in state support. This support has been essential for improved, timely and effective mosquito control throughout Florida.

**THIS IS NOT THE TIME FOR FLORIDA TO DECREASE FLORIDA’S MOSQUITO CONTROL CAPABILITIES. IT IS THE TIME FOR VERY SERIOUS DISCUSSION ABOUT THE CONSEQUENCES OF THE DISASTEROUS DECISIONS ALREADY MADE THAT WILL CONTRIBUTE TO THE LOOMING CATASTROPHE THAT AWAITS FLORIDA DUE TO MOSQUITO-BORNE DISEASES LIKE DENGUE.**

**FLORIDA MUST RESTORE ITS CAPACITY TO MITIGATE SUCH AN EPIDEMIC NOW. MAKE SURE YOUR LEGISLATIVE REPRESENTATIVES ARE AWARE OF THE URGENCY.**

Some may charge that I am being an alarmist. Recall that the incidence of dengue in Key West in 2010 was ca. 300/100,000 people. Fig. 3 shows what has been labeled the South Florida Metropolitan Area stretching from West Palm Beach to Miami, population estimated 5 million. The same Key West incidence from 2010 would result in 15,000 cases of dengue with ca. 600,000 people infected! Is this farfetched? Is such a risk worth the few million dollars that is needed to restore Florida’s eroded mosquito control infrastructure?

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