

2023



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# AUGUST

## monthly report

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St. Tammany Parish Mosquito Abatement

What's Inside?



Director's  
Letter



August arbovirus  
report



MOSQUITO ABATEMENT  
ST. TAMMANY PARISH

# Letter from the Director



Director Kevin Caillouet, Ph.D., M.S.P.H.



## Cleaning up sewage-polluted water

I'd like to highlight an important ordinance that was introduced by Councilman Rykert Toledano (District 5) during the St. Tammany Parish Council meeting on August 3, 2023. Ordinance No. 7352 proposes inspections of onsite sewage disposal systems every three years. This ordinance, if adopted at the Council's October 5th or later meeting, would have an outsized impact on public health, the environment, and mosquitoes.

With approximately 36,000 onsite sewage disposal systems (OSDS) – **40% of households** -- St. Tammany leads the state with the most onsite sewage installations. Since more than half of these systems are not properly maintained, it is not an exaggeration to think of **one in five toilets** in the parish discharging partially-treated sewage into our roadside ditches and ultimately our scenic rivers and lake.

Recently our office, in collaboration with the lab at Environmental Business Specialists in Mandeville, found an average of 96,000 fecal coliforms/100ml sampled in neighborhoods with OSDS, an order of magnitude higher than in seweried neighborhoods and **nearly 500x greater than the level deemed by the EPA as safe for skin contact.**

Sewage effluent creates a massive mosquito problem. The mosquito species that transmits West Nile virus prefers to lay its eggs and rear its larvae in sewage-polluted water. This is because the fish that eat mosquito larvae can't survive in this polluted water. Recently, researchers at the University of Louisiana at Lafayette have found that this sewage effluent is causing female mosquitofish to develop masculine features disabling their ability to reproduce. This same research group found high concentrations of sewage effluent were directly toxic to fish and these fish consume less mosquito larvae in the presence of OSDS effluent.

Analysis of historic mosquito trap data shows that non-maintained OSDS contribute to up to 6X more WNV vector mosquitoes, significantly increasing the risk of people getting bitten by West Nile-infected mosquitoes. If you think you're not affected because you don't have an onsite septic system, think again – 87% of properties in the parish are within the average flight distance of this mosquito. The costs of this practice are significant – more skin infections and gastrointestinal illnesses, less productive fisheries, closed beaches, a neighborhood that reeks of human waste, more spraying for mosquitoes, and people developing life-altering West Nile virus infections.

Creating a parishwide program to **regularly inspect and enforce maintenance of OSDS is an important part of the solution to this problem.**

Yours in health,

A handwritten signature in blue ink that reads "K. Caillouet". The signature is stylized and fluid, with a large loop at the end.

Kevin A. Caillouet, Ph.D., M.S.P.H.  
Director

# EMPLOYEE SPOTLIGHT

## Keith Jourdan

Night Driver - over twenty years of service

**Tell me about your background with Mosquito Abatement?** I actually started working part-time for Mosquito Abatement as a night driver a long time ago pre-Katrina, back when we were located in Olde Town. There was a period when I had to leave the position because of personal and professional commitments, but after I was injured, I reapplied and returned to the position. I was a commercial fisherman. I had a big fall and injured my spine. After that, I wasn't physically able to continue the work I was doing. But driving I could do, and I have always been really good at reading maps. Back then we had paper maps and had to navigate the treatment areas on our own. I still knew the folks who worked here, and reached out to them and started work that next mosquito season.

**How would you describe your role within Mosquito Abatement?** It's actually really interesting because you are always learning something new about the parish. And I think as night drivers, we really see the growth of our parish in a way that others might not. We see every street. I see our role as protecting the kids, and the people of the parish, from mosquitoes and the diseases that they carry. It's important work. It's important to me. So we just try to do the best we can to combat the mosquito problem, including those invasive mosquitoes.

**What does a typical night look like for you?** It's usually a three to four-hour night – it really depends on which area you have to treat. The parish is booming and there are a lot of new areas that you have to learn and get accustomed to. Some zones take longer than others so your night might last a little longer than others. You would be surprised by the things the night drivers see at night.

**What is something your coworkers might not know about you?** I think my coworkers know almost everything, but I am a collector. I collect everything and anything. My daughter says – if it's free it's for me. I repurpose things – fix them or change their use. Also, I raise goldfish. Not to sell, I just love them. I love taking care of them and watching them grow and thrive. I do joke with people that it is just the prepper in me – when the apocalypse comes, I will have food to survive. Ha! No, I just love them, I have since I was a kid actually. They change their size based on the tank they are in. If they have lots of space, they will get really large. I have some repurposed hot tubs and they really love that. I also love growing birds of paradise and peace lilies.

**What are you most proud of from your time here at Mosquito Abatement?** I am just glad to be here. Glad to be alive. I had to make many changes in my life after my accident, but I am grateful to have this job that I am capable of doing. I am glad to be able to get out of the house and do something meaningful. I lost my parents at a young age, and so I am grateful to be able to spend time with my wife, my kids, and my grandchildren. I just try to be thankful for every day.



# August by the numbers:

## IN THE FIELD

**58,103** acres treated by air

**86,086** acres treated by ground

**15,919** total mosquitoes trapped

**1,752** miles of ditch treated with larvicide

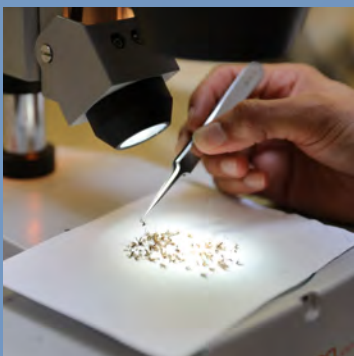
**33** property inspections completed

**16** acres larvicided by helicopter

## IN THE LAB

**19** adulticide resistance topical bioassays

## August Arbovirus Report

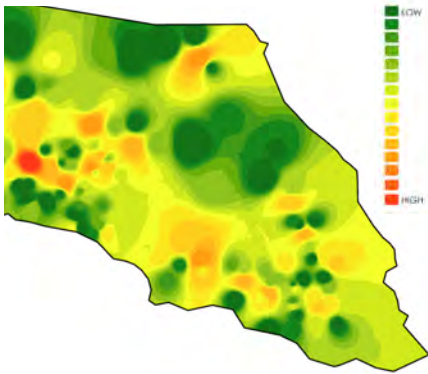


**Two of the 396 pools of mosquitoes tested from specimens collected during July 2023 were positive for West Nile virus (WNV).** Adult mosquitoes are collected using No Light CO<sub>2</sub>-baited CDC traps and tested in pools (or groups) via RT-PCR, by the Louisiana Arbovirus Disease Diagnostic Laboratory (LADDL) in Baton Rouge. The presence of WNV in mosquitoes indicates an increased risk of WNV infection to people in St. Tammany Parish.

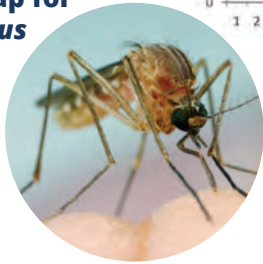
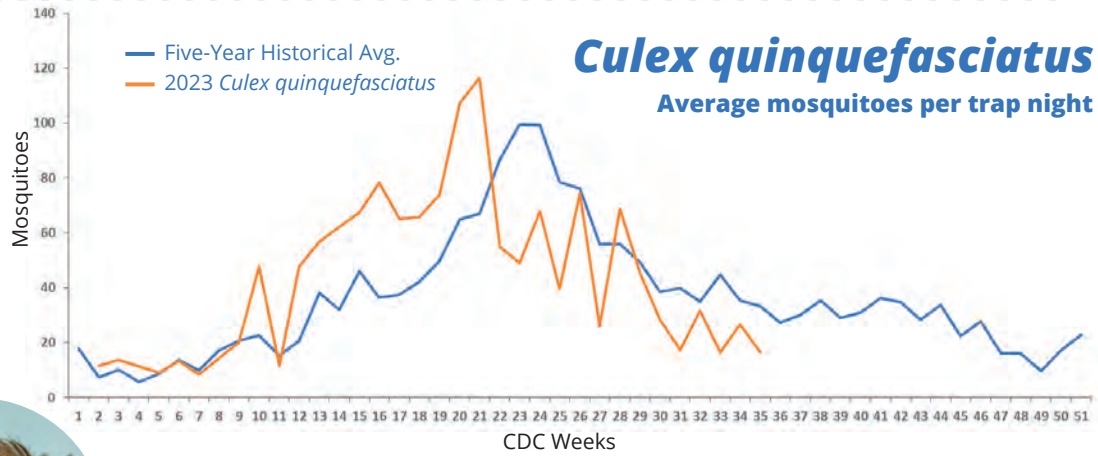
A total of 10,254 mosquitoes were collected and tested for WNV during August 2023 across St. Tammany Parish. Populations of *Culex quinquefasciatus*, our primary WNV vector, accounted for 46.9% of mosquitoes submitted for virus testing. *Culex nigripalpus*, a secondary WNV vector and second most abundant species comprised 35.1% of the mosquitoes collected and tested for WNV.

**The Louisiana Department of Health has reported two cases of West Nile virus neuroinvasive disease in St. Tammany Parish. St. Tammany and four other neighboring parishes make up Region 9.**

# How Bad are the Mosquitoes?



August 2023 heat map for *Culex quinquefasciatus*



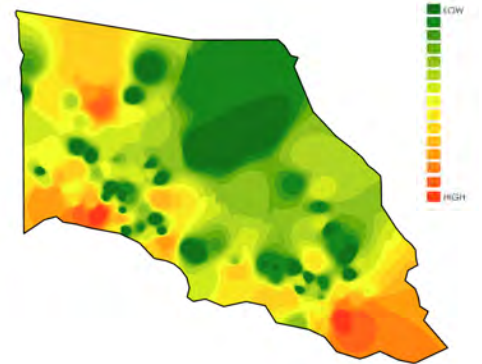
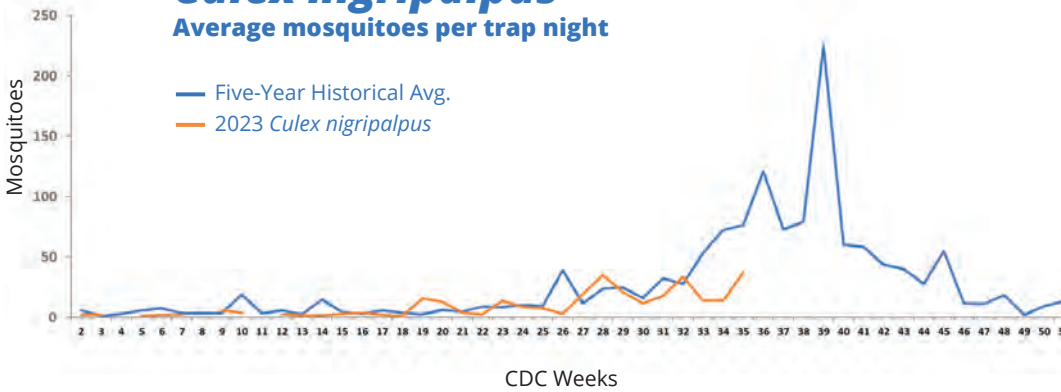
**4,849**  
*Cx. quinquefasciatus*  
trapped in August of 2023

**Common name: southern house mosquito**

As the primary local WNV vector this mosquito primarily bites birds and occasionally bites people. It prefers to lay its eggs in sewage-associated water. As it readily enters structures, it is named the southern house mosquito.

## *Culex nigripalpus*

Average mosquitoes per trap night



August 2023 heat map for *Culex nigripalpus*



**Common name: Florida SLE mosquito**

A medium-sized brown mosquito that is produced in relatively clean ground pools and roadside ditches. Abundant in the early fall, *Cx. nigripalpus* is an effective WNV and SLE vector.

**4,285**  
*Cx. nigripalpus* trapped  
in August of 2023

## Top Five Species Trapped in August

