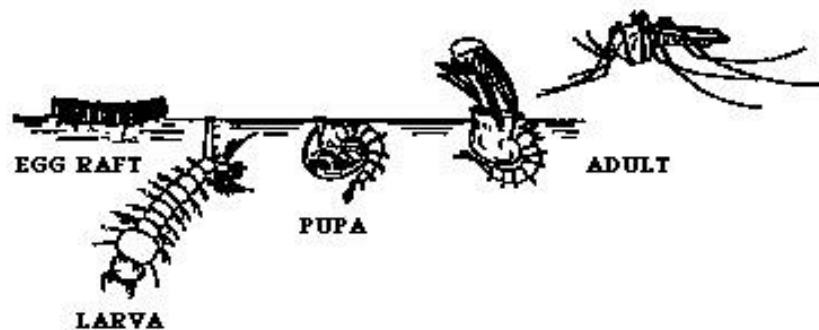


MOSQUITO SURVEILLANCE 2025



GEORGIA DEPARTMENT OF PUBLIC HEALTH, ENVIRONMENTAL HEALTH

Mosquito Surveillance 2025

Limited mosquito surveillance programs occur in many Georgia counties (http://www.gamosquito.org/resources/GA_Mosquito_Control_Programs2017.pdf), but most counties with mosquito control programs conduct control activities without appropriate mosquito surveillance. Data obtained from mosquito surveillance activities are important to guide vector control operations by identifying vector species, providing an estimate of vector species abundance, and by indicating geographic areas where humans and animals are at greatest risk of exposure to WNV or other arboviruses.

Mosquito-borne diseases threaten more than 40% of the world's population and are an increasingly serious global health challenge.

In 2026, malaria remains a critical global health crisis, with cases and deaths rising due to insecticide resistance, climate change, and funding gaps. Over 600,000 annual deaths are reported, with 95% in Africa, particularly affecting children. Despite this, 47 countries are certified malaria-free, and new vaccines are being deployed.

In early 2026, dengue remains a major global health threat with over 253,000 cases reported globally by March. While cases in the Americas initially showed a decrease compared to early 2025, over 78 countries/territories are reporting cases, and the CDC has issued travel alerts for over a dozen countries, with Florida seeing early imported cases.

As of early 2026, Zika virus (ZIKV) remains a persistent threat, with sporadic low-level transmission, particularly in the Americas, where over 7,600 suspected cases were reported by March 2026, mainly in Brazil. While not currently a global crisis, Zika continues to cause developmental issues, such as Congenital Zika Syndrome, and lacks a licensed vaccine or specific treatment.

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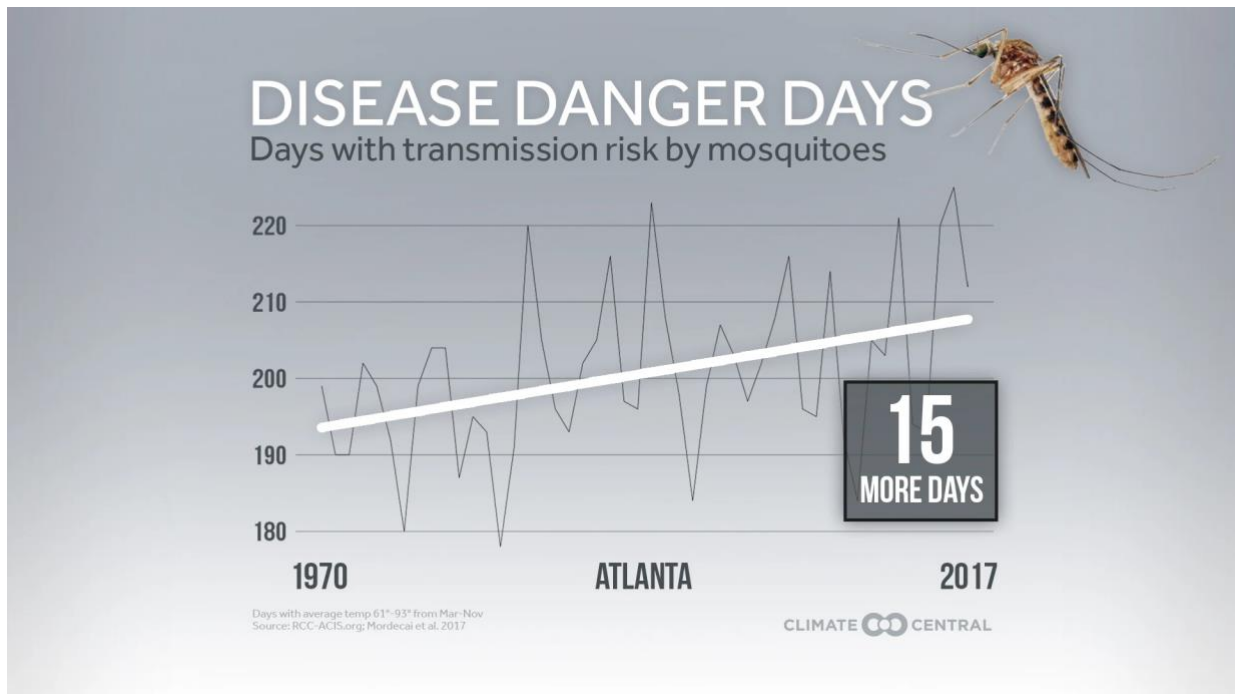
Chikungunya cases are surging in the Americas in early 2026, with Pan American Health Organization (PAHO) reporting high transmission in Brazil, Bolivia, and Suriname, totaling over 23,000 cases and multiple deaths by March. The outbreak is driven by high temperatures and mosquito activity, with significant concern regarding local transmission in Florida raising risks for broader regional spread.

As of early 2026, the Oropouche virus (OROV) is considered a significant emerging epidemic threat in the Americas, with high outbreak risks identified in rural Brazil and expanding geographic reach. The virus has shown increased pathogenicity, leading to more severe health outcomes, including neuroinvasive cases and fatal, pregnancy-related complications.

Diseases historically absent from the United States have been showing up in Florida, Texas, California, and other US states in recent years. To understand why, look to Peru. That's where researchers from Stanford and other institutions analyzed the connection between a cyclone and a massive outbreak of dengue fever, a mosquito-borne viral disease that can cause fever, rash, and life-threatening symptoms like hemorrhage and shock. Their **findings**, published March 17 in *One Earth*, reveal that warmer, wetter weather linked to climate change is making disease epidemics more likely.

The risk of vector-borne diseases can be reduced through protective measures and community mobilization. Although our surveillance team has continued to be diminished by funding cuts, our goals for the 2026 mosquito surveillance season includes doing some level of mosquito surveillance in as many counties in Georgia as possible, assisting mosquito control programs with surveillance where possible, and providing local outreach for mosquito complaints. We also are collaborating with the CDC to do targeted *Anopheles* surveillance in Georgia. We also plan to continue to do pesticide resistance testing in several areas of Georgia. The accomplishment of these goals allows the Georgia Department of Public Health to be better prepared for dealing with endemic mosquito-borne disease issues, and for dealing with the next mosquito-borne disease to emerge. The data we collect provide information on changing risks for arboviral disease transmission that Public Health can use to provide educational messages and mosquito control can use to support control decisions. We accomplish these goals with the assistance of our colleagues, interns, and collaborators.

Mosquito-borne disease risks are rising globally due to climate change—which brings warmer temperatures, increased rain, and longer breeding seasons—along with rapid urbanization, increased international travel, and insecticide resistance. Warmer weather allows mosquitoes to expand into new regions, while urbanization provides ideal habitats like standing water in tires, gutters, and containers.



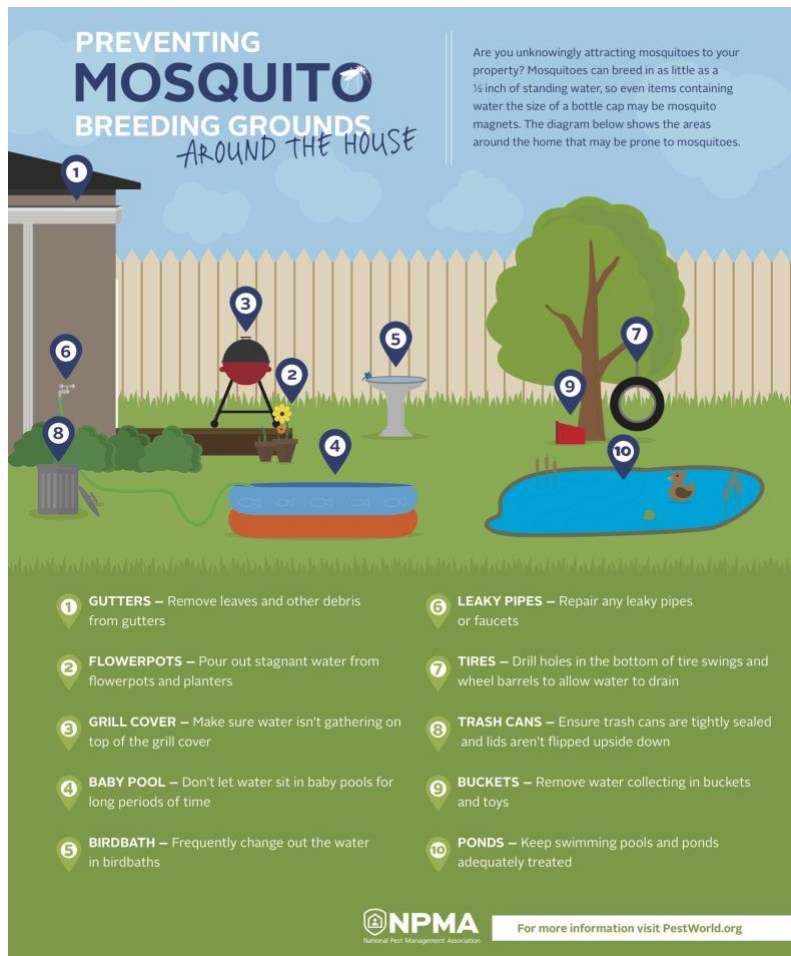
Integrated Mosquito Management

Controlling mosquitoes reduces the nuisance factor and protects public health. The best way to control mosquitoes is by utilizing a wide variety of control methods known as Integrated Mosquito Management (IMM). The first part of IMM is trapping and surveillance, which is used to quantify the number, species, and location of mosquitoes.

What does mosquito control do to protect the public's health? In Georgia, there are approximately 60 different mosquito species. Each species of mosquito has a different flight range, host preference, larval habitat, and potential for carrying and transmitting infectious disease. Any mosquito that bites or annoys people can be considered a health problem, but in Georgia the definition includes mosquitoes that carry infectious diseases like WNV, LaCrosse Encephalitis (LAC), and Eastern Equine Encephalitis (EEE), as well as those can transmit new and emerging viruses like DEN, CHIK, and ZIKV.

What are the techniques of an Integrated Mosquito Management (IMM) program that serve to eliminate the mosquito? If your county has mosquito control, it is usually located in the

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Public Works Department, but it may be in Public Health/Environmental Health, or it could be a stand-alone agency.

The first response to a mosquito complaint is to send an inspector to find the source of the mosquitoes. Source reduction, also known as physical control, is an important part of IMM. This involves finding and eliminating potential mosquito breeding areas and is typically the most effective and economical of the various techniques used to control mosquitoes.

Although mosquitoes may rest in tall grass and other vegetation, they need water for their eggs to hatch and for the larvae to survive until adulthood. In areas around a

home these sources may be anything that can retain water, including birdbaths, unscreened swimming pools, and old tires. Breeding areas also include hollow stemmed plants like bromeliads. The inspector should educate the homeowner about keeping these items clean and dry, or rinsing them periodically with fresh water. If the source is a new pond or other permanent-water area that cannot or should not be drained, the inspector may elect to stock it with small, non-descript mosquito-eating fish called *Gambusia*. Using the mosquito's natural predator to reduce populations is a method of biological control.

Another technique is called larviciding. Larviciding, as the name implies, kills mosquito larvae and pupae using a variety of



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products, both chemical and biological. This prevents the metamorphosis of the larvae into the flying, biting pests that we know and hate. Larvicide treatments can be applied by ground or air to standing water depending on the size of the area. Different types of larvicides include chemical pesticides that are absorbed or ingested by the larvae, surface control agents that suffocate the pupae, insect growth regulators, and microbial larvicides. Larvicides commonly used in Georgia include microbial larvicides and insect growth regulators (IGRs). The microbial larvicide consists of two species of the Bacillus bacterium (*Bti* and *B sphaericus*), that are toxic when ingested by mosquito and black fly larvae. Methoprene, an IGR, prevents mosquito larvae from molting to the adult stage.

Once adult mosquitoes are on the wing, the only way to control them is to use an adulticide. Using truck-mounted sprayers or aircraft, a condensed plume of ultralow volume (ULV) insecticide is released into the air, which spreads out with the prevailing wind. When the pesticide droplets contact flying mosquitoes, it kills them. Mosquito control may also use a barrier spray to provide the homeowner some temporary relief. This is also one method of controlling day biting mosquitoes. A barrier spray is a coating of pesticide droplets sprayed onto foliage surrounding an area that has been inundated by mosquitoes. This will kill mosquitoes landing in the foliage, and it repels them. It adheres to the underside of the foliage, depriving them of their resting places. Another technique, thermal fogging, can be used to control day biting mosquitoes or to control mosquitoes in areas where vegetation is so dense that ULV does not penetrate. The amount of chemical used is designed to be target specific, in that it kills mosquitoes without harming anything else. Since most mosquitoes do not fly during the daytime, adulticiding is done at dusk and beyond, and the hours just before dawn, when mosquito activity is at its peak. Additionally, spraying pesticides by ULV machines during the heat of the day is wasteful as the pesticide droplets rise and never interact with the mosquitoes, and so is wasted.

It is impossible, and potentially ecologically damaging, to completely eradicate the mosquito, so the focus should be on controlling mosquito populations to reduce the nuisance factor and protect public health by using all aspects of Integrated Mosquito Management. It is important to remind homeowners that they can also play a role in mosquito control, especially where organized mosquito control is not present. Surveillance can be used to determine if the mosquito is *Aedes albopictus*, the Asian tiger mosquito, or some other species. By standing out in the yard during the day and waiting to see if a small black and silver mosquito comes to

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bite your legs, it is possible to determine if this species is present. This is the most common nuisance species in Georgia and, unless there have been heavy rains recently or the area is along the coast, the mosquito most likely to come and bite during the day. Why is knowing the species important? This species is a container breeder and does not fly very far from where it lays its eggs. Source reduction is the best means of control. This includes picking up anything that holds water,

emptying it, and disposing of it correctly; refilling bird baths and animal water bowls at least once a week; raking big leaves, such as magnolia leaves, that can hold water; and cleaning gutters, will help reduce the populations of this species and other container breeding species. Additionally, pools need to be maintained properly as “green” pools breed large numbers of mosquitoes, including the WNV vector. Homeowners can also buy larvicide, both Bti (mosquito dunks) and methoprene (mosquito torpedoes). This can be applied to standing water to control mosquitoes by killing larvae. As with any pesticide, it is important to follow the label instructions explicitly, to protect the environment and non-targets, and to reduce or eliminate pesticide resistance issues.

Finally, it is important to wear repellent outside when mosquitoes are biting. Information about the various types of recommended repellents can be found at <https://dph.georgia.gov/environmental-health/insects-and-diseases> and <https://www.cdc.gov/mosquitoes/prevention/index.html>.

The 4 overlapping aims of mosquito control are to:

- Keep mosquito populations at acceptable densities
- Prevent mosquito bites
- Minimize mosquito-vertebrate contact
- Reduce the longevity of female mosquitoes

This last aim is of vital importance when dealing with container breeding mosquitoes. Oviposition site choice in container breeders tends to be cryptic, making it difficult to find and larvicide sufficient breeding sites to reduce mosquito populations. Additionally, the container breeding species tend to emerge asynchronously, with small numbers emerging daily, making the use of adulticides to reduce populations difficult. However, adulticiding will kill off the older mosquitoes, which are the most likely to have picked up virus while blood feeding, so this technique is most likely to reduce the risk of arboviral disease transmission. Several

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studies reported in the European Centre for Disease Prevention and Control (ECDC) Technical Report, show that vector control practices and strategies against West Nile virus indicated that aerial ULV adulticiding reduced the number of human cases within the treatment sites compared to the untreated sites, and that the odds of infection after spraying were six times higher in the untreated areas compared to the treated ones. Also, with larviciding of catch basins only, a > 90% reduction in larvae/pupae was recorded. However, no significant reduction was observed in adult *Culex* spp populations collected resting in catch basins indicating that larval control alone did not lead to meaningful reductions in adult mosquito populations and WNV prevalence. Finally, while larvicide applications reduced pupal abundance and the prevalence of host-seeking adults, there was no detectable impact on entomological risk metrics for WNV. This was likely because mosquitoes in the treatment areas were significantly younger than those in the control area; younger mosquitoes are less likely to have blood fed, so less likely to have picked up virus.

Just one bite away from infection

Different species of mosquitoes can carry different diseases

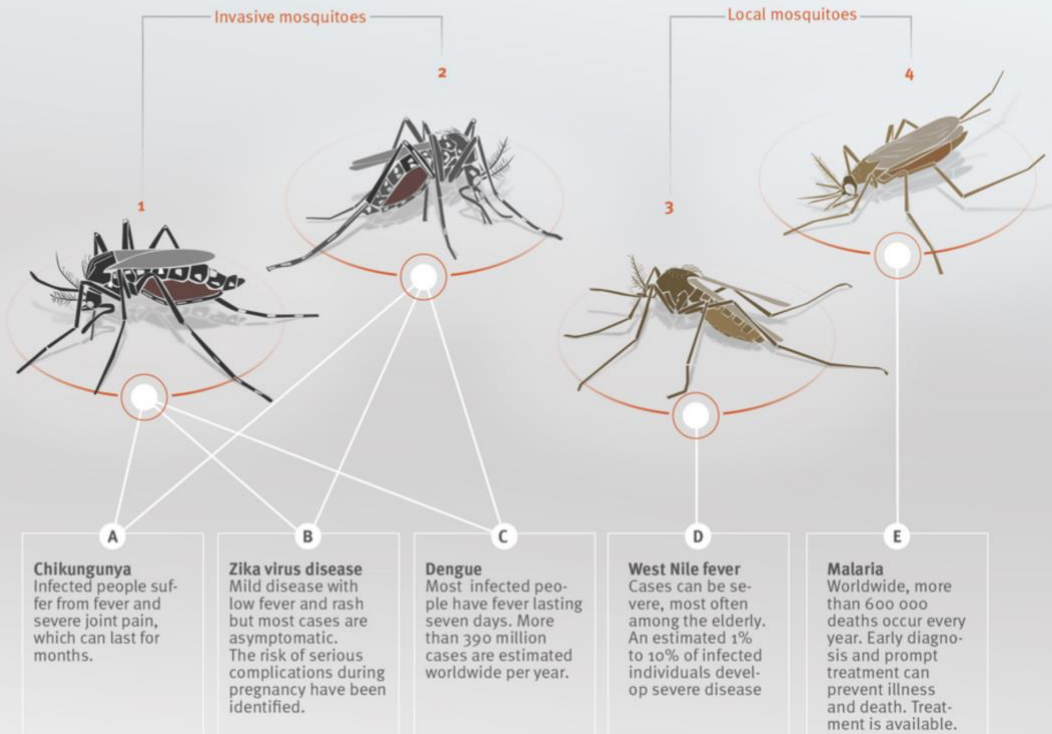
Invasive mosquitoes are characterised by their ability to colonise new territories. A considerable increase in the spread of invasive mosquitoes has been observed in Europe since the late 1990s.

1. *Aedes aegypti* disappeared in mainland Europe in the 20th century but has recently become established in Cyprus. It is also present in some areas around the Black Sea coast.

2. *Aedes albopictus* is considered to be the most invasive mosquito species in the world. It is present in much of southern Europe.

3. *Culex pipiens* is the most widespread mosquito in Europe.

4. The *Anopheles* mosquitoes can be found from south-eastern Sweden to Portugal.



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Overview

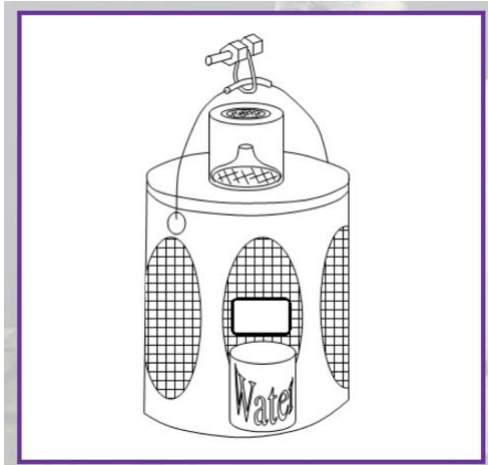
In 2025, surveillance was done by the 2 entomologists at the State level, interns, and the District-level programs in 1-1, 2-0, 3-1, 3-2 (VDCI), 3-5, 6-0, 8-1 (VSU & District EH), 9-1 (Chatham County MC & VDCI), and 10-0. If I missed anyone who assisted, my apologies. We could not do this without all of your help.

The maps used in this document were all created in March 2026. They depict the month(s) in which surveillance was done in each county and the presence or absence of the important vector species *Aedes aegypti*, *Ae albopictus*, *Coquillettidia perturbans*, *Culiseta melanura*, *Culex coronator*, *Cx nigripalpus*, *Cx quinquefasciatus*, *Cx restuans*, *Cx salinarius*, *Ochlerotatus japonicus*, and *Oc triseriatus*. All species trapped are listed in a table for each District by county.

Surveillance

Adult mosquito monitoring is a necessary component of surveillance activities and is directed toward identifying where adults are most numerous. This information drives response to service requests and helps determine whether interventions (source reduction, larviciding, and/or adulticiding) are effective.

There are a variety of different mosquito traps, but generally three different types of traps are used. One type, a gravid trap, selectively attracts container-breeding mosquitoes that have had a blood meal and are looking for a place to lay eggs, so is useful to determine if WNV+ mosquitoes are in the area. The other type, a light trap, attracts mosquitoes looking for a blood meal, so is useful for general surveillance. The third type of trap, the BG-Sentinel trap,



EXIT TRAP

has been used in areas where exotic arbovirus cases have been detected. This trap is specific for the Zika (ZIKV), Chikungunya (CHIK), and Dengue (DEN) vectors, *Ae aegypti* and *Ae albopictus*, although it will also attract *Cx quinquefasciatus*, our primary WNV vector. With all three traps, as the mosquito gets close, it gets suctioned into the trap by a small fan. Mosquitoes caught in these traps are counted and identified. They may also be pooled according to date, species, and location and sent to a lab for testing.

Other traps used were DynaTraps, Exit traps, and New Jersey Light Traps (NJLT). DynaTraps are insect traps designed to control flying pests like mosquitoes and other insects using a 3-way technology featuring UV

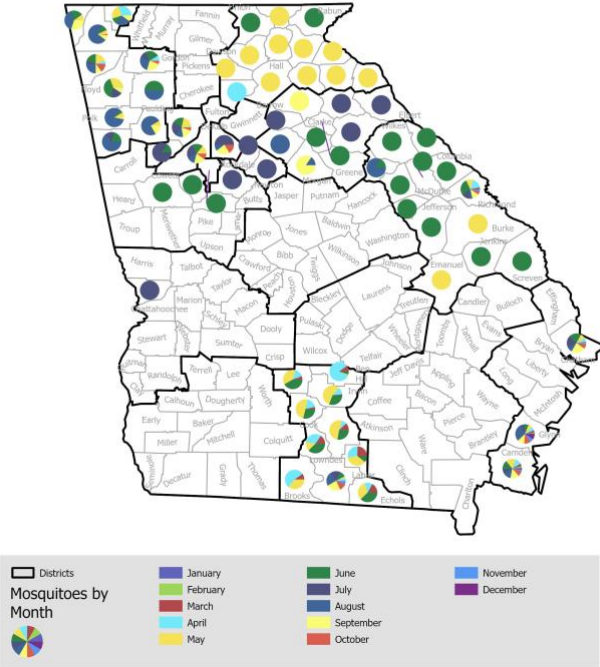
light attraction, a CO₂ trail, and a fan to capture and trap insects. Exit traps are used on

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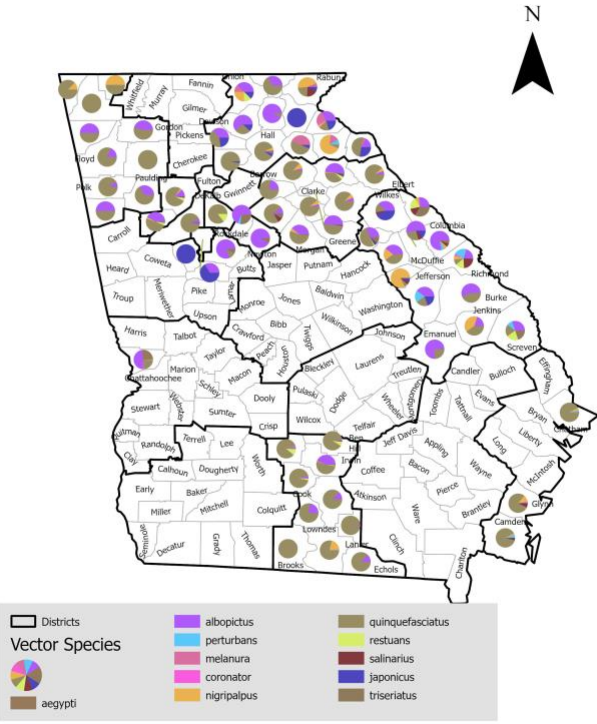
sentinel chicken cages to catch mosquitoes that have taken a blood meal from the chickens. New Jersey Light Traps (NJLT) are stationary traps that are strategically placed and left in the mosquito control district during surveillance season. They capture mosquitoes and other insects by attracting them with light and then sucking them into a jar with a fan. They are typically collected once a week. Since these mosquitoes are dead when picked up, they cannot be used for virus detection.

Surveillance and mosquito identification were done by the two GDPH entomologists, by District or County Environmental Health Specialists (EHS), by local mosquito control, and by a variety of interns and other collaborators.

Mosquitoes by Month, 2025



Specific Species by County, 2025



MOSQUITO SURVEILLANCE 2025



GRAVID TRAP

This trap selectively attracts container-breeding mosquitoes that lay eggs in stagnant, organically rich water. These mosquitoes will have had at least one blood meal, so may possibly have picked up an infected blood meal if there are arbovirus-positive enzootic hosts in the area.

LIGHT TRAP

Light traps attract mosquitoes looking for a blood meal. The attractants used are light and CO₂, in the form of dry ice or as compressed gas in canisters. These traps are useful for providing information about the mosquito species found in the area under surveillance. Because they attract mosquitoes looking for a blood meal that may have just emerged and never had a blood meal previously, the likelihood of finding virus in these mosquitoes is much reduced.



BG SENTINEL TRAP

What makes the BG-S trap different? It:

- Mimics convection currents created by a human body
- Employs attractive visual cues
- Releases artificial skin emanations through a large surface area
- Can be used without CO₂ to specifically capture selected mosquito species



Used in combination with the BG-Lure, a dispenser which releases a combination of non-toxic substances that are also found on human skin (ammonia, lactic acid, and caproic acid), the BG-Sentinel trap is especially attractive for the yellow fever (or ZIKV) mosquito, *Aedes aegypti*, the Asian tiger mosquito, *Aedes albopictus*, the southern house mosquito, *Culex quinquefasciatus*, and selected other species.

With the addition of carbon dioxide, the BG-Sentinel trap is an excellent surveillance tool for mosquitoes in general.

MOSQUITO BREEDING HABITAT TYPES

There are two general categories within which mosquito breeding habitats exist: natural mosquito breeding habitats and man-made mosquito breeding habitats. Female mosquitoes lay their eggs either on water or on soils that are periodically flooded. These breeding areas can be found in habitats that exist naturally, such as within a pond or flood plain; or in habitats that have been created by humans, such as bird baths, water-filled tires, or catch basins. Mosquitoes can breed in a wide variety of locations, and the discussion below provides a description of the general types of habitats where mosquitoes are known to breed.

NATURAL MOSQUITO BREEDING HABITATS

Temporary Woodland Pools:

Shallow, temporary pools are common in woodland areas during the spring and wet summers in low lying areas or in small depressions where a variety of mosquito species will breed, most commonly *Ochlerotatus canadensis* and *Aedes vexans*. These mosquitoes lay their eggs along the edges of the pool, and when rainwater or melting snow fills these pools, the larvae hatch.

Freshwater Ponds:

The larvae of Anopheles are found primarily in small ponds among the emergent vegetation. Ponds clogged with vegetation can breed large numbers of mosquitoes by providing large amounts of organic matter for feeding and by providing shelter from fish and other aquatic predators.

Streams and Floodplains:

Streams with running water rarely produce mosquitoes. However, mosquitoes need to be near water to lay their eggs. *Aedes* and *Culex* species are two genera that can sometimes be found in isolated pockets adjacent to streams or within floodplain areas that undergo only periodic flooding.

Tree Holes and Other Natural Containers:

Tree holes and other natural containers, such as pitcher plants or water trapped in or on plant leaves, can also serve as breeding habitats for mosquitoes, such as *Ochlerotatus triseriatus*. Frequent rainfalls maintain standing water within these types of microhabitats and can breed mosquitoes throughout the summer.

Freshwater Marshes and Swamps:

Mosquitoes, such as *Coquillettidia perturbans*, breed in freshwater marshes and swamps consisting of emergent vegetation. These types of habitats can occur in both woodland and

MOSQUITO SURVEILLANCE 2025

open field habitats. Larvae attach themselves to the stems and roots of the vegetation to obtain oxygen, and do not need to swim up and down in the water column to feed or breathe. Due to this adaptation, larvae can avoid exposure to predatory fish.

MAN-MADE MOSQUITO BREEDING HABITATS

Stormwater/Wastewater Detention:

A catch basin typically includes a curb inlet where storm water enters the basin to capture sediment, debris, and associated pollutants. These catch basins provide breeding habitat for urban mosquito species, such as *Culex quinquefasciatus*. Moisture and organic debris captured within the catch basin provide habitat for growing larvae. Detention/retention basins that perform similar functions for other types of wastewaters, such as waste treatment settlement ponds, provide a similar type of breeding habitat to that of the storm water catch basin.

Roadside Ditches:

Roadside ditches are the suitable habitat for many species of *Culex* mosquitoes. The larvae of *Culex quinquefasciatus* and *Culex restuans*, for example, can survive in waters with high organic content. *Culex* mosquitoes will lay their eggs directly on the water's surface; therefore, ditches that hold water for extended periods of time can breed large numbers of mosquitoes.

Artificial Containers:

Artificial containers such as tires, bottles, buckets, and birdbaths can provide an excellent mosquito-breeding habitat free from predation. Saucers placed under flowerpots to hold water provide a habitat for mosquito larva, as well as causing root rot in the plant. Many tree-hole mosquitoes have learned to adapt to using these man-made mosquito nurseries. *Aedes albopictus*, our most common pest species, also breeds readily in these artificial containers. An abundance of organic debris, which also collect in these containers, allows for the proliferation of mosquitoes.

Control – A Message for the Public

The mosquitoes of most importance to public health in Georgia are *Culex quinquefasciatus*, the Southern house mosquito, and *Aedes albopictus*, the Asian tiger mosquito. Both species lay eggs in such artificial containers as birdbaths, gutters, tires, flowerpots, and any other container that holds water for at least a week. The Southern house mosquito prefers organically polluted water for laying its eggs, and bites at dusk. It feeds primarily on birds, but

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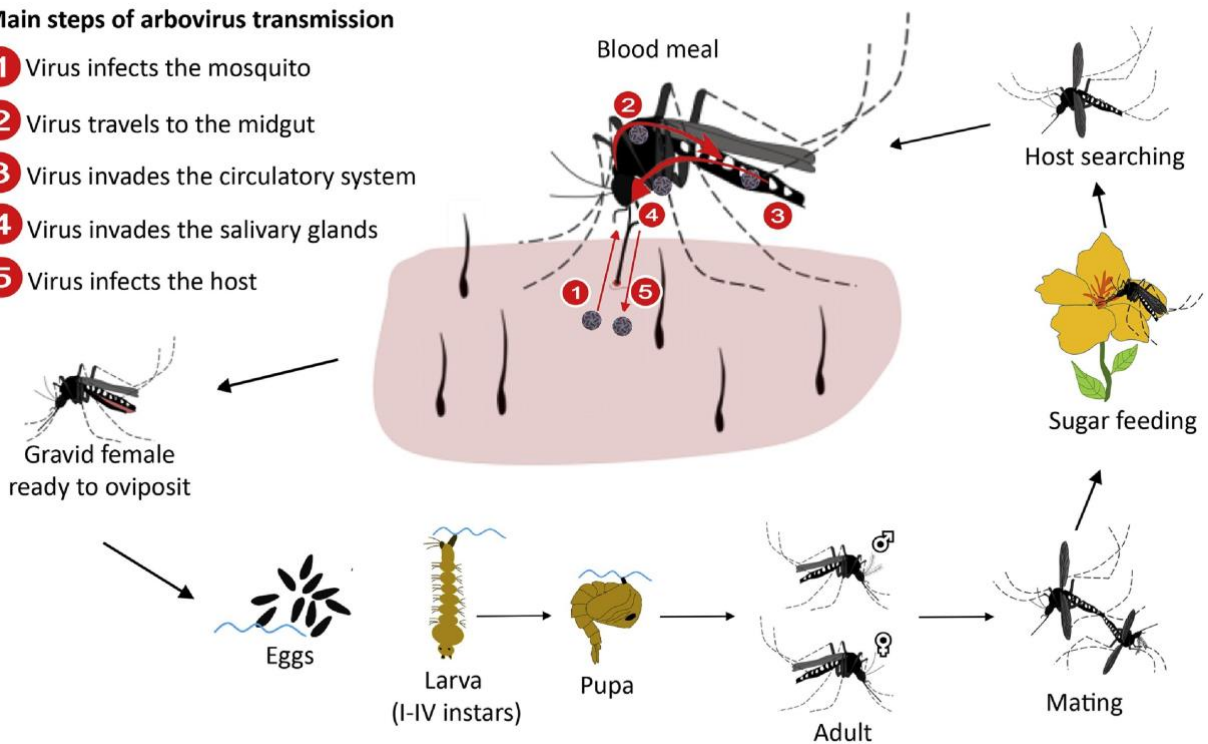
will bite mammals, and is our primary vector for WNV. The Asian tiger mosquito, a daytime biter, prefers cleaner water for laying its eggs. It feeds primarily on mammals. *Aedes albopictus* is a potential vector for WNV in Georgia and can be a vector for DEN, ZIKV, and CHIK.

The best way to control these species is to dump out or treat standing water, treat catch basins with larvicide, and to cut back heavy vegetation where the mosquito will rest when not out biting. These mosquitoes will shelter in abandoned houses or sheds. Thermal fogging or barrier spray around these structures can help to reduce resting and overwintering mosquitoes. Two larvicides are available to the public for treating standing water, Mosquito Torpedoes (Methoprene) and Mosquito Dunks (Bti). Both are available online, from home goods or hardware stores, and occasionally from large chain pet stores. Hand-held foggers can also be used to reduce biting populations of mosquitoes, but this solution is temporary and needs to be followed up with good source reduction (removing breeding sites) and larviciding.

Aedes albopictus life cycle

Main steps of arbovirus transmission

- 1 Virus infects the mosquito
- 2 Virus travels to the midgut
- 3 Virus invades the circulatory system
- 4 Virus invades the salivary glands
- 5 Virus infects the host



Trends in Parasitology

MOSQUITO SURVEILLANCE 2025

Mosquitoes and Trap Types, 2025

Species	trap type						TOTALS
	CDC	DynaTrap	Exit	NJLT	Gravid	Reared	
<i>Ae. aegypti</i>	36				7		43
<i>Ae. albopictus</i>	1561	13		53	1369	51	3047
<i>Ae. vexans</i>	2734	43	2	1064	233	42	4118
<i>An. crucians</i>	448	2		878	41		1369
<i>An. punctipennis</i>	157				9	8	174
<i>An. quadrimaculatus</i>	245	6		244	119		614
<i>Cq. perturbans</i>	3740	1		191	8		3940
<i>Cs. inornata</i>	41	7		69	11		128
<i>Cs. melanura</i>	170		8	6	6		190
<i>Cx. coronator</i>	175				23	4	202
<i>Cx. erraticus</i>	8534	8		31	148	3	8724
<i>Cx. nigripalpus</i>	4228	135	41	235	2945	45	7629
<i>Cx. quinquefasciatus</i>	1875	349		872	1E+05	2	125886
<i>Cx. restuans</i>	296	22		59	2146	197	2720
<i>Cx. salinarius</i>	1830	295		993	119	9	3246
<i>Ma. titillans</i>	8			16			24
<i>Oc. atlanticus</i>	8560	4	23	17	1		8605
<i>Oc. canadensis</i>	276			3			279
<i>Oc. dupreei</i>	118						118
<i>Oc. infirmatus</i>	462		1	12			475
<i>Oc. japonicus</i>	9				82	1	92
<i>Oc. sollicitans</i>	341	9		1253	15		1618
<i>Oc. sticticus</i>	32				5	2	39
<i>Oc. taeniorhynchus</i>	2111	25		671	33		2840
<i>Oc. triseriatus</i>	53		1		73		127
<i>Oc. trivittatus</i>	1				1		2
<i>Or. signifera</i>	2				6		8
<i>Ps. ciliata</i>	40			18	2	2	62
<i>Ps. columbiae</i>	92			34	7		133
<i>Ps. cyanescens</i>	14				3		17
<i>Ps. ferox</i>	610			8	33		651

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Species	CDC	DynaTrap	Exit	NJLT	Gravid	Reared	TOTALS
<i>Ps. horrida</i>	3						3
<i>Ps. howardii</i>				1			1
<i>Ps. mathesoni</i>	4						4
<i>Tx. rutilus</i>					1		1
<i>Ur. sapphirina</i>	39			45	3	1	88
TOTALS	38845	919	76	6773	130237	367	177217

Female adult *Toxorhynchites rutilus* about to feed on flower nectar



Photo by Cecil Smith - <https://www.inaturalist.org/photos/155858998>, CC BY 4.0,
<https://commons.wikimedia.org/w/index.php?curid=141028410>

MOSQUITO SURVEILLANCE 2025

NOTE: Is it *Aedes*, or is it *Ochlerotatus*?

Ochlerotatus had been originally established as a genus in 1891. It became an aedine subgenus in the 1930s. In 2000, John Reinert and his colleagues elevated the subgenus *Ochlerotatus* back to a genus based upon microscopic differences in the male genitalia between it and other subgenera of *Aedes*. However, in 2005 the *Journal of Medical Entomology* and the Entomological Society of America decided to put *Ochlerotatus* back to subgenera level (<https://academic.oup.com/jme/article/42/4/511/910895?login=true>). After a contentious worldwide debate regarding the effect the taxonomic changes would have on names established over decades of work in scientific, government, and lay communities, many scientists (including those at the CDC), and others affected by the change, espoused the continued use of the previously established names. So, for the time being, everything is *Aedes* again.

HOWEVER, since the GDPH mosquito surveillance database was established after *Ochlerotatus* was elevated to genus status, we appreciate you continuing to use *Ochlerotatus* to make data access easier.

Aedes

- *Ae. aegypti*
- *Ae. albopictus*
- *Ae. cinerius*
- *Ae. vexans*

Ochlerotatus

- *Oc. atlanticus/tormentor*
- *Oc. atropalpus*
- *Oc. canadensis*
- *Oc. dupreei*
- *Oc. fulvus pallens*
- *Oc. hendersoni*
- *Oc. infirmatus*
- *Oc. japonicus*
- *Oc. mathesoni*
- *Oc. mitchellae*
- *Oc. sollicitans*
- *Oc. sticticus*
- *Oc. taeniorhynchus*
- *Oc. thibaulti*
- *Oc. triseriatus*
- *Oc. trivittatus*

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Data by District

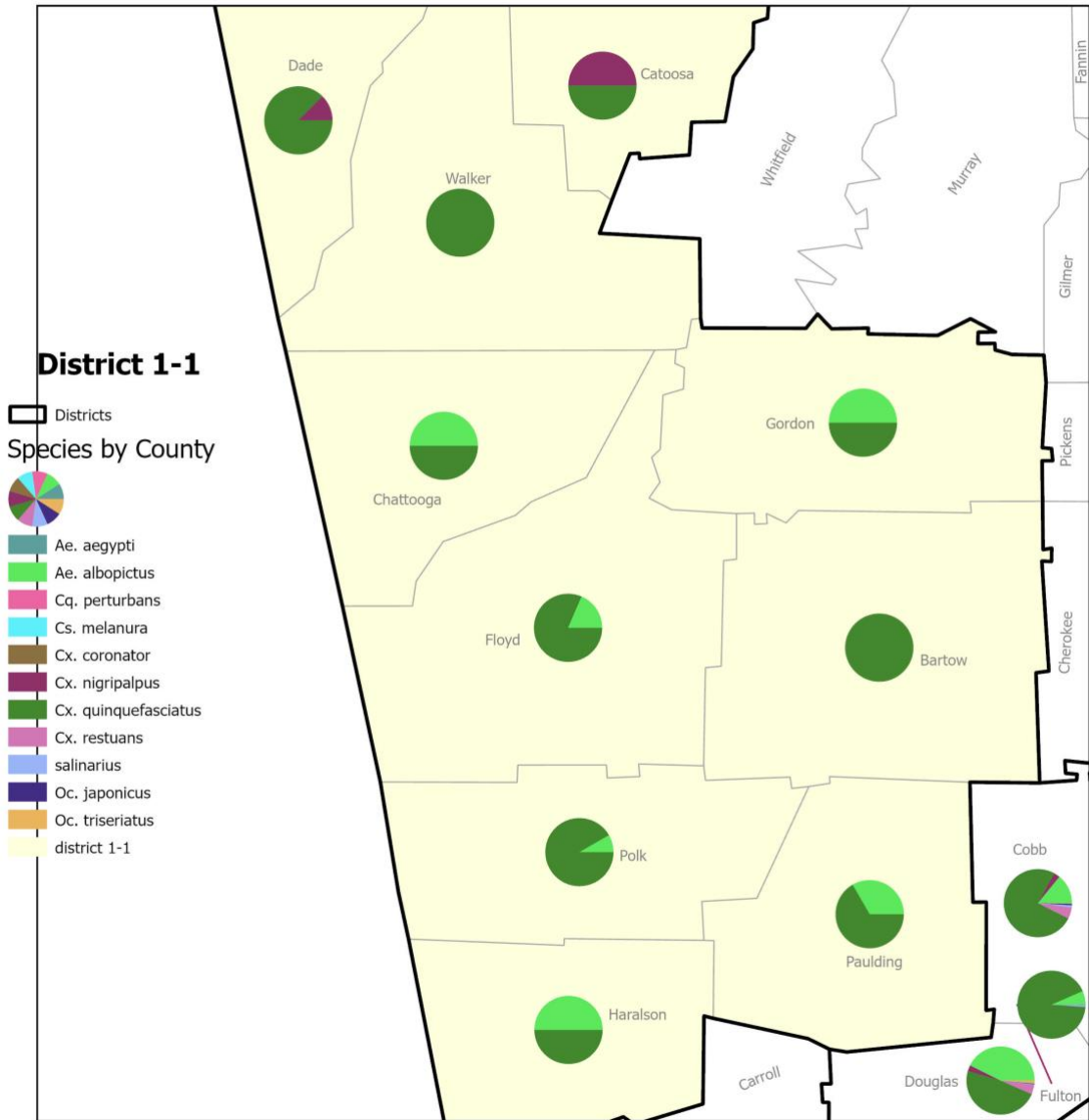
District 1-1

Surveillance in District 1-1 was done by local EHS with assistance from the DPH entomologists. Surveillance was done from the mid-April through the end of October over 14 nights.

District 1-1		trap type			trap type	
County	Species	CDC	County	Species	CDC	
Bartow	<i>Cx. quinquefasciatus</i>	2	District 1-1			
	<i>Oc. trivittatus</i>	1				
Catoosa	<i>Ae. vexans</i>	5	Gordon	<i>Ae. albopictus</i>	5	
	<i>An. crucians</i>	5		<i>Ae. vexans</i>	17	
	<i>An. quadrimaculatus</i>	1		<i>An. punctipennis</i>	1	
	<i>Cx. nigripalpus</i>	2		<i>Cx. quinquefasciatus</i>	6	
	<i>Cx. quinquefasciatus</i>	2		<i>Ps. ciliata</i>	4	
	<i>Ps. ferox</i>	3		Haralson	<i>Ae. albopictus</i>	3
	<i>Ps. horrida</i>	2			<i>Ae. vexans</i>	11
	Chattooga	<i>Ae. albopictus</i>			14	<i>An. punctipennis</i>
<i>Ae. vexans</i>		3	<i>Cx. quinquefasciatus</i>		3	
<i>An. punctipennis</i>		1	Paulding	<i>Ae. albopictus</i>	1	
<i>Cx. quinquefasciatus</i>		14		<i>Ae. vexans</i>	5	
<i>Ps. ciliata</i>		2		<i>Cx. quinquefasciatus</i>	2	
<i>Ps. ferox</i>		1		<i>Ps. ferox</i>	4	
<i>Ps. mathesoni</i>		4	Polk	<i>Ae. albopictus</i>	2	
Dade	<i>Ae. vexans</i>	12		<i>Ae. vexans</i>	10	
	<i>Cx. nigripalpus</i>	1		<i>Cx. quinquefasciatus</i>	22	
	<i>Cx. quinquefasciatus</i>	7	Walker	<i>Ae. vexans</i>	116	
Floyd	<i>Ae. albopictus</i>	5		<i>Cx. quinquefasciatus</i>	28	
	<i>Ae. vexans</i>	41				
	<i>An. punctipennis</i>	30				
	<i>Cx. quinquefasciatus</i>	22				

MOSQUITO SURVEILLANCE 2025

Specific Species by County, 2025



MOSQUITO SURVEILLANCE 2025

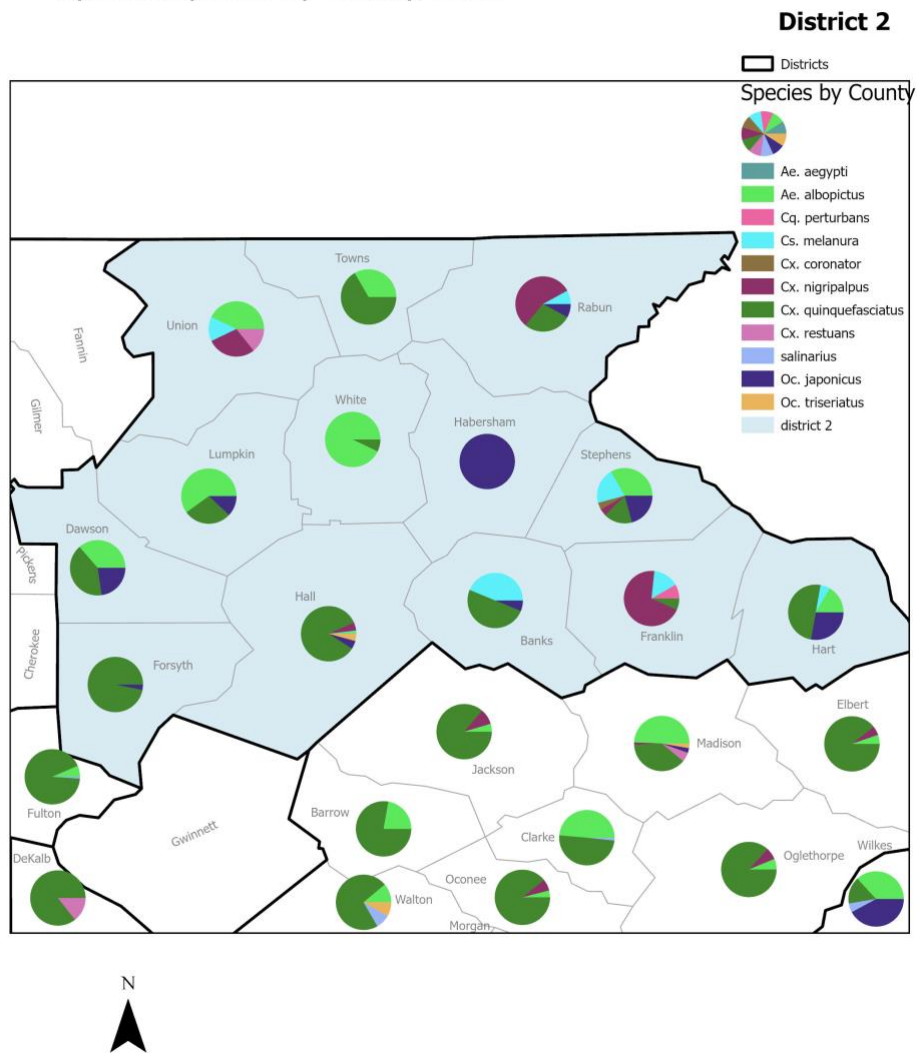
District 1-2

No surveillance was done in District 1-2 in 2025.

District 2-0

Surveillance in District 2-0 was done by local EHS. Surveillance was done from early April through mid-June over 9 nights.

Specific Species by County, 2025



MOSQUITO SURVEILLANCE 2025

District 2		trap type	
County	Species	CDC	Gravid
Banks	<i>An. crucians</i>		1
	<i>Cs. melanura</i>	7	
	<i>Cx. erraticus</i>		4
	<i>Cx. quinquefasciatus</i>		8
	<i>Oc. japonicus</i>		1
Dawson	<i>Ae. albopictus</i>		8
	<i>Ae. vexans</i>	4	
	<i>An. crucians</i>	12	
	<i>An. punctipennis</i>	13	
	<i>Cx. quinquefasciatus</i>		9
	<i>Oc. japonicus</i>	2	3
Forsyth	<i>Cx. quinquefasciatus</i>		91
	<i>Oc. japonicus</i>	1	2
Franklin	<i>Ae. vexans</i>	94	
	<i>An. crucians</i>	2	
	<i>An. punctipennis</i>	1	
	<i>Cq. perturbans</i>	5	
	<i>Cs. melanura</i>	9	
	<i>Cx. nigripalpus</i>	42	
	<i>Cx. quinquefasciatus</i>		4
	<i>Oc. trivittatus</i>		1
Habersham	<i>Oc. japonicus</i>		6
	<i>Ps. cyanescens</i>		1
Hall	<i>Ae. albopictus</i>	1	1
	<i>Cs. melanura</i>	1	
	<i>Cx. nigripalpus</i>		8
	<i>Cx. quinquefasciatus</i>		139
	<i>Oc. japonicus</i>		8
	<i>Oc. triseriatus</i>		7
Hart	<i>Ae. albopictus</i>	3	
	<i>Ae. vexans</i>	4	
	<i>An. punctipennis</i>	2	
	<i>Cs. melanura</i>		1
	<i>Cx. quinquefasciatus</i>		9
	<i>Oc. japonicus</i>	3	2

County	Species	CDC	Gravid
Lumpkin	<i>Ae. albopictus</i>	11	4
	<i>Ae. vexans</i>	2	
	<i>An. punctipennis</i>		1
	<i>Cx. erraticus</i>		2
	<i>Cx. quinquefasciatus</i>		7
	<i>Oc. japonicus</i>		3
Rabun	<i>Ae. vexans</i>	3	
	<i>An. punctipennis</i>	2	1
	<i>Cs. melanura</i>	2	
	<i>Cx. nigripalpus</i>	4	10
	<i>Cx. quinquefasciatus</i>		7
	<i>Cx. salinarius</i>		6
	<i>Oc. atlanticus</i>		1
	<i>Oc. japonicus</i>		2
Stephens	<i>Ae. albopictus</i>	3	5
	<i>Ae. vexans</i>	9	
	<i>An. punctipennis</i>	13	
	<i>Cs. melanura</i>	4	1
	<i>Cx. coronator</i>		1
	<i>Cx. nigripalpus</i>	1	
	<i>Cx. quinquefasciatus</i>		4
	<i>Oc. japonicus</i>		5
	<i>Ps. columbiae</i>	2	
	Towns	<i>Ae. albopictus</i>	
<i>Ae. vexans</i>		590	
<i>Cx. quinquefasciatus</i>			2
<i>Ps. cyanescens</i>		12	
<i>Ps. ferox</i>		48	1
Union	<i>Ae. albopictus</i>	1	2
	<i>An. punctipennis</i>	1	4
	<i>Cs. melanura</i>		1
	<i>Cx. nigripalpus</i>	2	
	<i>Cx. restuans</i>		1
White	<i>Oc. japonicus</i>	1	
	<i>Ae. albopictus</i>	5	8
	<i>Ae. vexans</i>	44	
	<i>Cx. quinquefasciatus</i>		1

MOSQUITO SURVEILLANCE 2025



GRAVID TRAPS

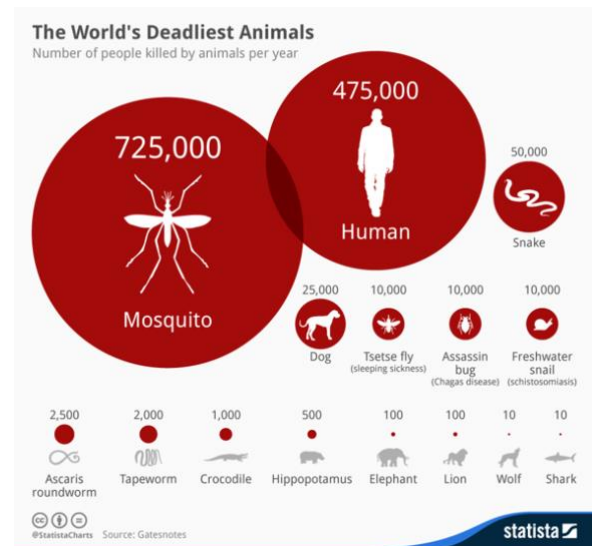


MOSQUITO SURVEILLANCE 2025

District 3-1

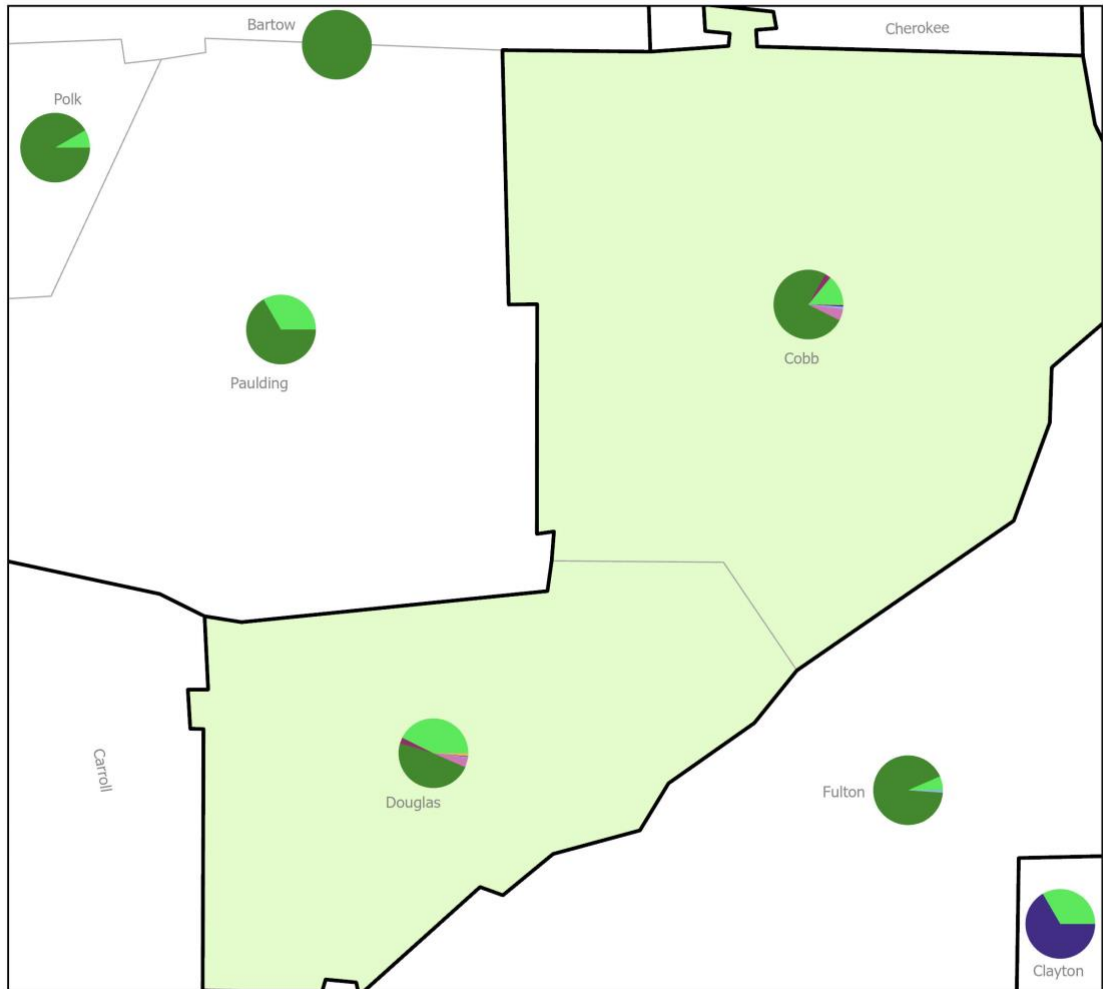
Surveillance in District 3-1 was done by the Water Authority mosquito technician and a NEHA intern, with the assistance of the DPH entomologists. Surveillance was done from late April-late October over 34 nights.

District 3-1		trap type	
County	Species	CDC	gravid
Cobb	<i>Ae. albopictus</i>	21	188
	<i>Ae. vexans</i>	14	127
	<i>An. crucians</i>	8	
	<i>An. punctipennis</i>	10	
	<i>Cx. nigripalpus</i>	1	44
	<i>Cx. quinquefasciatus</i>	46	1150
	<i>Cx. restuans</i>		84
	<i>Cx. salinarius</i>		17
	<i>Oc. japonicus</i>		12
	<i>Oc. triseriatus</i>		4
	<i>Or. signifera</i>		1
	<i>Ps. ferox</i>		8
Douglas	<i>Ae. albopictus</i>	102	134
	<i>Ae. vexans</i>	39	40
	<i>An. crucians</i>	1	
	<i>An. punctipennis</i>	3	1
	<i>Cx. nigripalpus</i>		16
	<i>Cx. quinquefasciatus</i>	13	257
	<i>Cx. restuans</i>		25
	<i>Cx. salinarius</i>	1	1
	<i>Oc. japonicus</i>	2	
	<i>Oc. triseriatus</i>	4	4
	<i>Ps. ferox</i>	1	
	<i>Tx. rutilus</i>		1



MOSQUITO SURVEILLANCE 2025

Specific Species by County, 2025



Districts	<i>Ae. albopictus</i>	<i>Cx. restuans</i>
Species by County	<i>Cq. perturbans</i>	<i>salinarius</i>
	<i>Cs. melanura</i>	<i>Oc. japonicus</i>
<i>Ae. aegypti</i>	<i>Cx. coronator</i>	<i>Oc. triseriatus</i>
	<i>Cx. nigripalpus</i>	district 3-1
	<i>Cx. quinquefasciatus</i>	

MOSQUITO SURVEILLANCE 2025

District 3-2

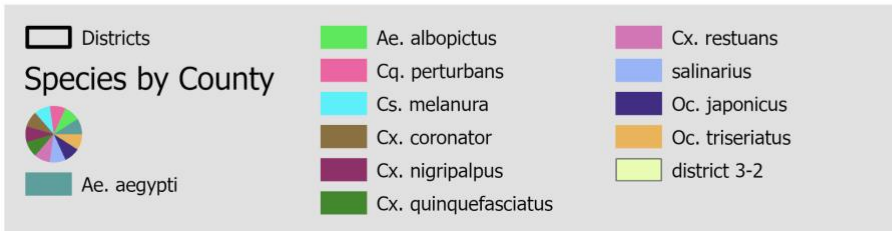
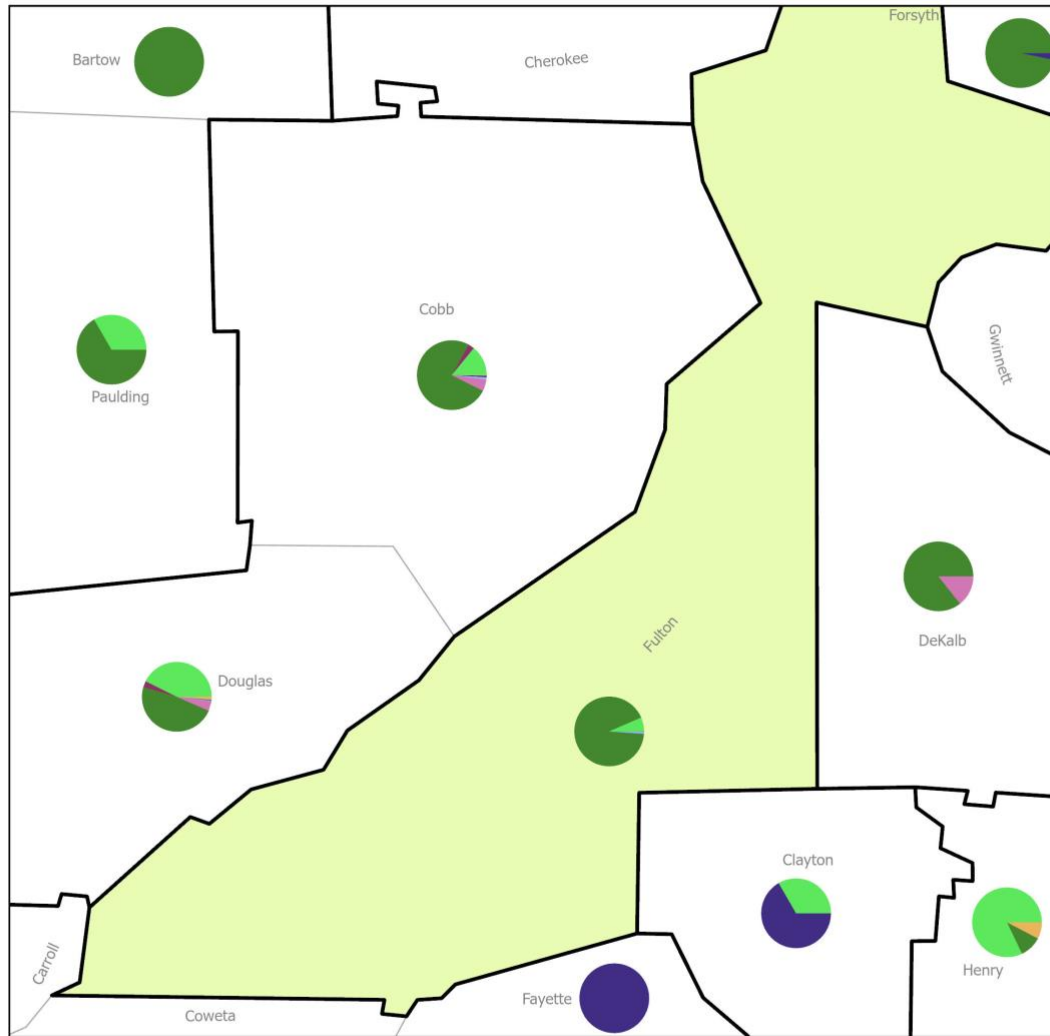
Surveillance in District 3-2 was done by Vector Disease Control International (VDCI), an integrated mosquito surveillance company that contracted with the District to do mosquito surveillance and control. Surveillance was done from early May to late October over 26 nights.

District 3-2		trap type	
County	Species	CDC	Gravid
Fulton	<i>Ae. albopictus</i>	401	354
	<i>Ae. vexans</i>	112	2
	<i>An. punctipennis</i>	31	
	<i>Cx. coronator</i>	1	
	<i>Cx. erraticus</i>	33	
	<i>Cx. quinquefasciatus</i>	94	10582
	<i>Cx. salinarius</i>	115	2
	<i>Oc. japonicus</i>		9
	<i>Ps. columbiae</i>	17	
	<i>Ps. ferox</i>	1	



MOSQUITO SURVEILLANCE 2025

Specific Species by County, 2025



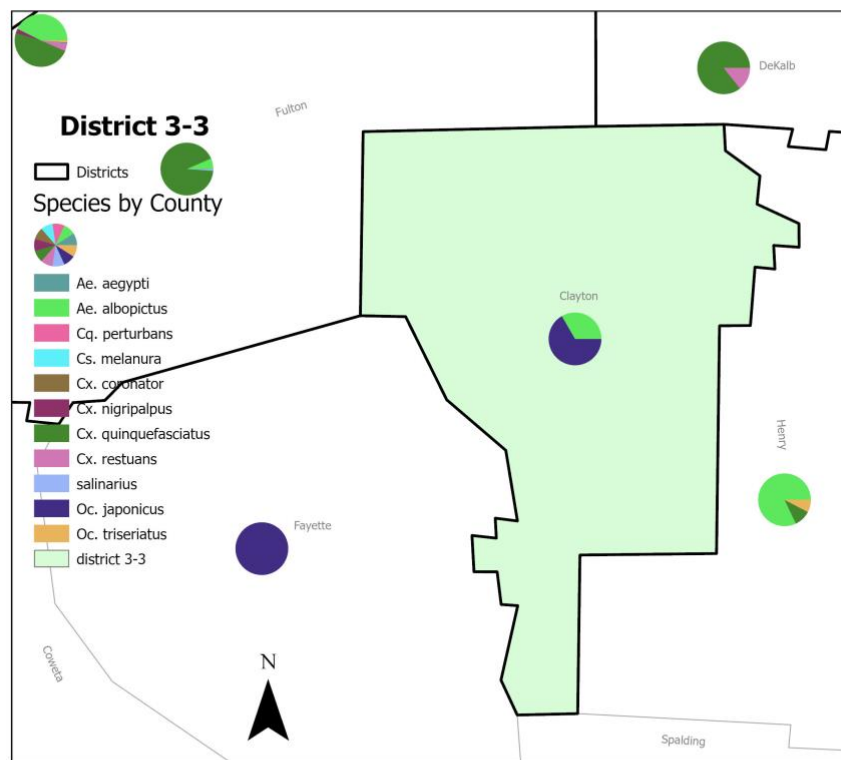
MOSQUITO SURVEILLANCE 2025

District 3-3

Surveillance in District 3-3 was done by the DPH entomologists. Surveillance was done in mid-June on one night.

District 3-3		trap type	
County	Species	Gravid	CDC
Clayton	<i>Ae. albopictus</i>		1
	<i>Ae. vexans</i>	1	
	<i>Oc. japonicus</i>		2

Specific Species by County, 2025



MOSQUITO SURVEILLANCE 2025

District 3-4

Surveillance in District 3-4 was done by the DPH entomologists. Surveillance was done in early July over one night.

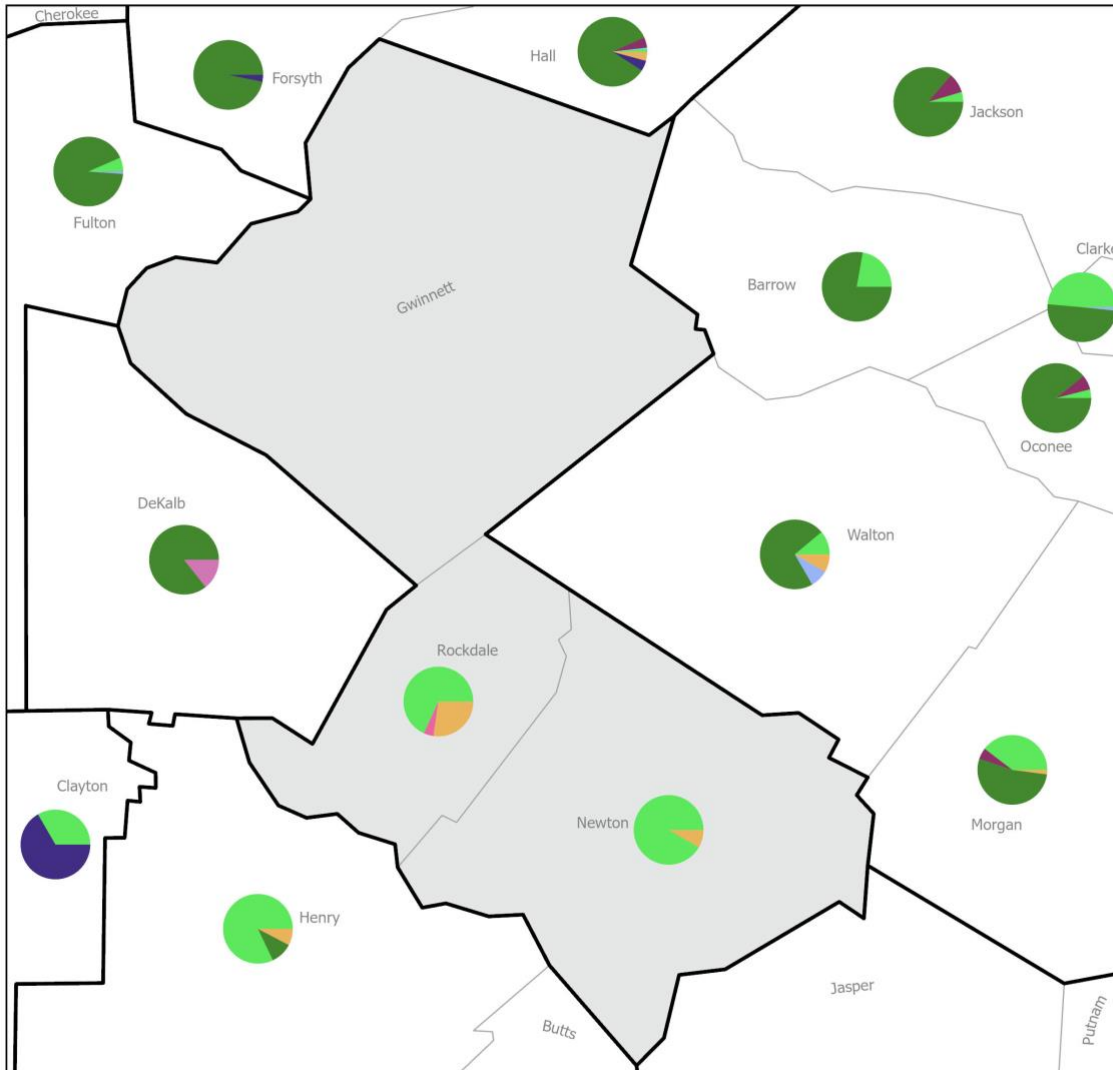
District 3-4		trap type	
County	Species	CDC	gravid
Newton	<i>Ae. albopictus</i>	11	
	<i>Ae. vexans</i>	2	
	<i>An. punctipennis</i>	1	
	<i>Oc. triseriatus</i>	1	
Rockdale	<i>Ae. albopictus</i>	10	5
	<i>Ae. vexans</i>	17	
	<i>An. crucians</i>	3	
	<i>An. quadrimaculatus</i>	1	10
	<i>Cq. perturbans</i>	1	
	<i>Cx. erraticus</i>	7	2
	<i>Oc. triseriatus</i>		6
	<i>Ps. ferox</i>	41	



LIGHT TRAPS

MOSQUITO SURVEILLANCE 2025

Specific Species by County, 2025



Districts	<i>Ae. aegypti</i>	<i>Cx. coronator</i>	<i>salinarius</i>
Species by County	<i>Ae. albopictus</i>	<i>Cx. nigripalpus</i>	<i>Oc. japonicus</i>
	<i>Cq. perturbans</i>	<i>Cx. quinquefasciatus</i>	<i>Oc. triseriatus</i>
	<i>Cs. melanura</i>	<i>Cx. restuans</i>	district 3-4

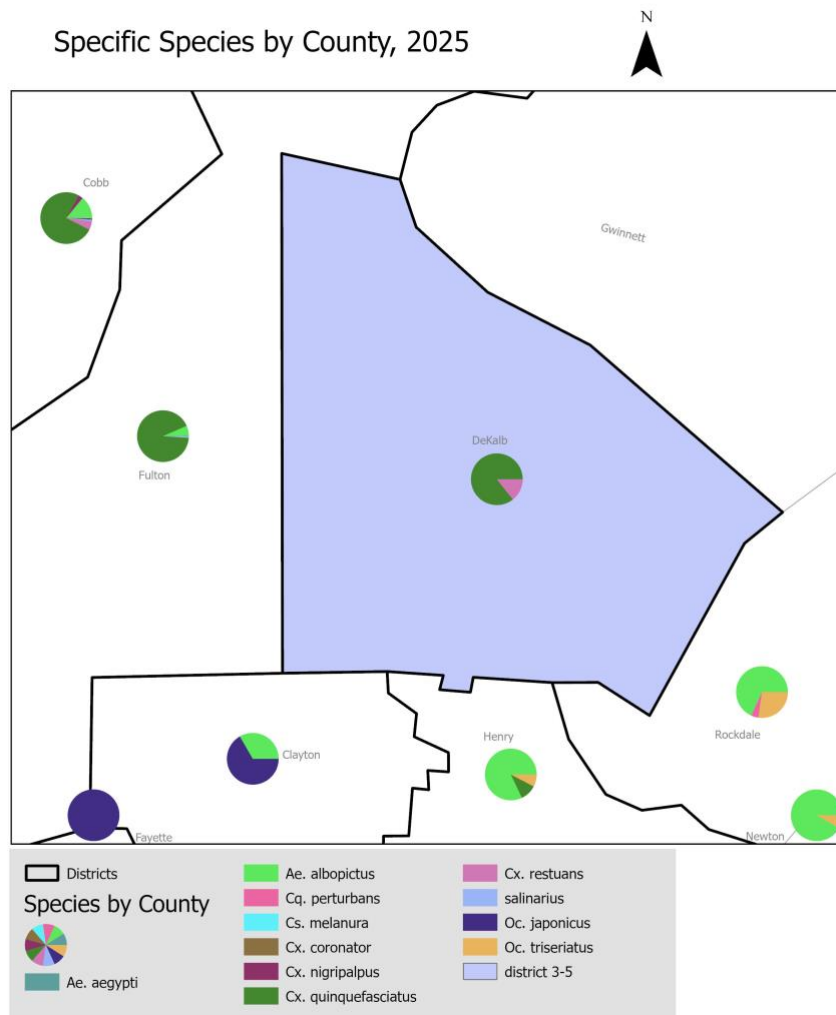
MOSQUITO SURVEILLANCE 2025

District 3-5

Surveillance in District 3-5 was done by interns in the County Environmental Health program. Surveillance was done from early July through end of October over 38 nights. Data from tested mosquitoes were shared with the DPH.

District 3-5		trap type
County	Species	Gravid
DeKalb	<i>Cx. quinquefasciatus</i>	8692
	<i>Cx. restuans</i>	1456

Specific Species by County, 2025



MOSQUITO SURVEILLANCE 2025

District 4-0

Surveillance in District 4-0 was done by the DPH entomologists. Surveillance was done from mid-June to early July over 2 nights.

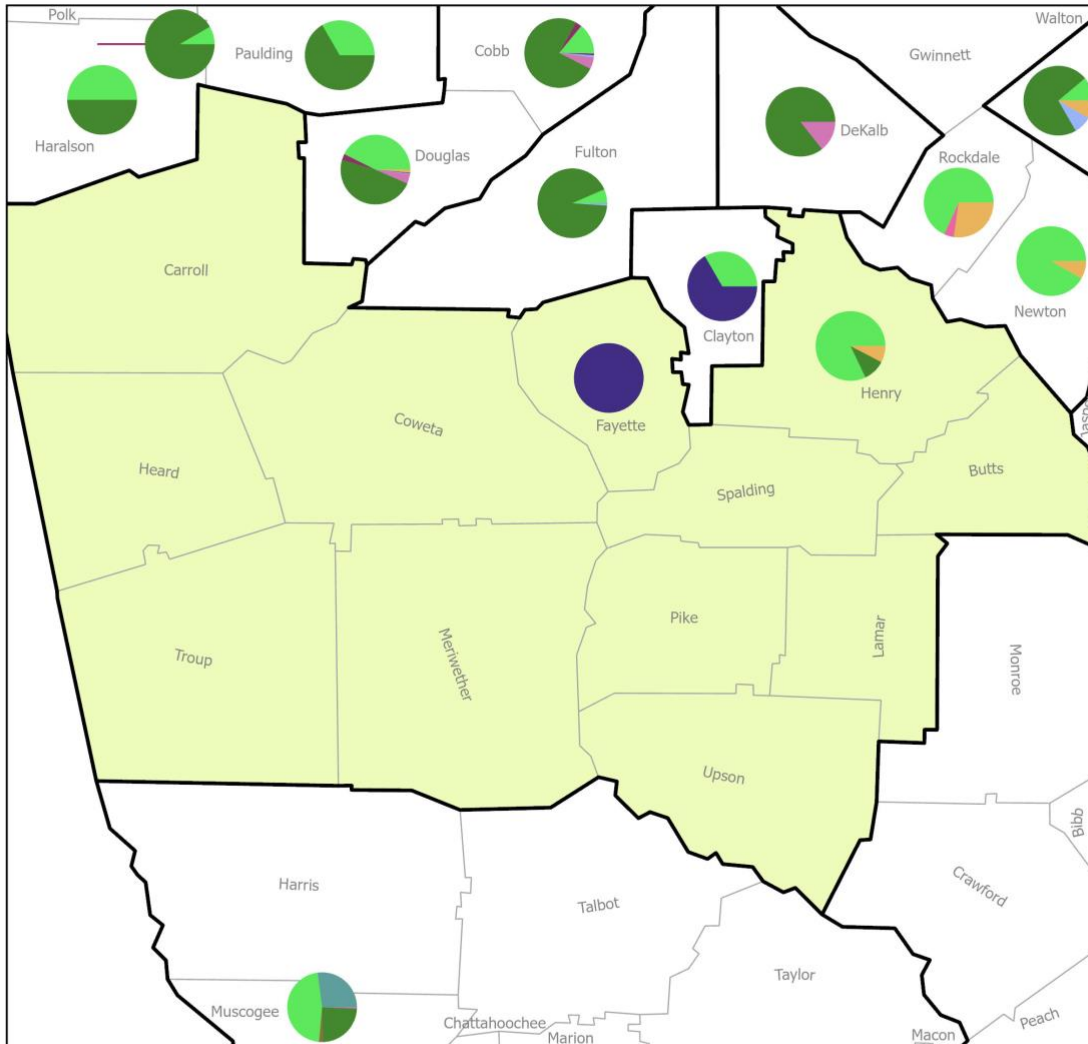
District 4-0		trap type	
County	Species	CDC	Gravid
Coweta	<i>Ae. vexans</i>	1	2
	<i>Ae. vexans</i>	1	
Fayette	<i>An. quadrimaculatus</i>	1	
	<i>Oc. japonicus</i>		5
	<i>Ps. ferox</i>	1	
	<i>Ae. albopictus</i>	10	22
Henry	<i>An. punctipennis</i>	2	
	<i>Cx. quinquefasciatus</i>		4
	<i>Oc. triseriatus</i>	3	
	<i>Ps. columbiae</i>	10	

Larval Surveillance Procedures

1. The Shallow Skim
2. Partial Submersion
3. Complete Submersion
4. Dipper as a background
5. Flow-in-method
6. Scraping
7. Simple scoop

MOSQUITO SURVEILLANCE 2025

Specific Species by County, 2025



Districts	<i>Ae. albopictus</i>	<i>Cx. restuans</i>
Species by County	<i>Cq. perturbans</i>	<i>salinarius</i>
	<i>Cs. melanura</i>	<i>Oc. japonicus</i>
<i>Ae. aegypti</i>	<i>Cx. coronator</i>	<i>Oc. triseriatus</i>
	<i>Cx. nigripalpus</i>	district 4
	<i>Cx. quinquefasciatus</i>	

MOSQUITO SURVEILLANCE 2025

District 5-1

No surveillance was done in District 5-1 in 2025.

District 5-2

No surveillance was done in District 5-2 in 2025.



CRANE FLY



MIDGE (CHIRONOMIDAE)

MOSQUITO SURVEILLANCE 2025

District 6-0

Surveillance in District 6-0 was done by the Richmond County Mosquito Control program. Surveillance was done from early-January to end of November over 58 nights.

District 6-0		trap type		
County	Species	CDC	gravid	reared
Burke	<i>Ae. albopictus</i>	1	4	
	<i>Ae. vexans</i>	1		
	<i>Anopheles spp. (male)</i>	1	1	
	<i>Cx. quinquefasciatus</i>	1	3	
	<i>Ps. ferox</i>		1	
Columbia	<i>Ae. albopictus</i>	11	3	
	<i>Ae. albopictus (male)</i>	1		
	<i>Cq. perturbans</i>	1		
	<i>Culex spp. (male)</i>	1		
	<i>Cx. nigripalpus</i>	1		
	<i>Cx. salinarius</i>		1	
	<i>Oc. triseriatus</i>		1	
	<i>Ps. ferox</i>	2		
Emanuel	<i>Ae. albopictus</i>	3		
	<i>Ae. albopictus (male)</i>	1		
	<i>Cx. quinquefasciatus</i>		1	
	<i>Oc. sticticus</i>		1	
	<i>Oc. triseriatus (male)</i>	1		
Glascock	<i>Cx. nigripalpus</i>	14		
	<i>Cx. quinquefasciatus</i>		1	
	<i>Cx. salinarius</i>	1		
	<i>Oc. japonicus</i>		1	
Jefferson	<i>Ae. albopictus</i>		2	
	<i>Ae. vexans</i>	1		
	<i>Cq. perturbans</i>	1		
	<i>Cx. quinquefasciatus</i>		1	
	<i>Oc. japonicus</i>		1	
	<i>Ps. ciliata</i>	1		
	<i>Ps. ferox</i>	3		

MOSQUITO SURVEILLANCE 2025

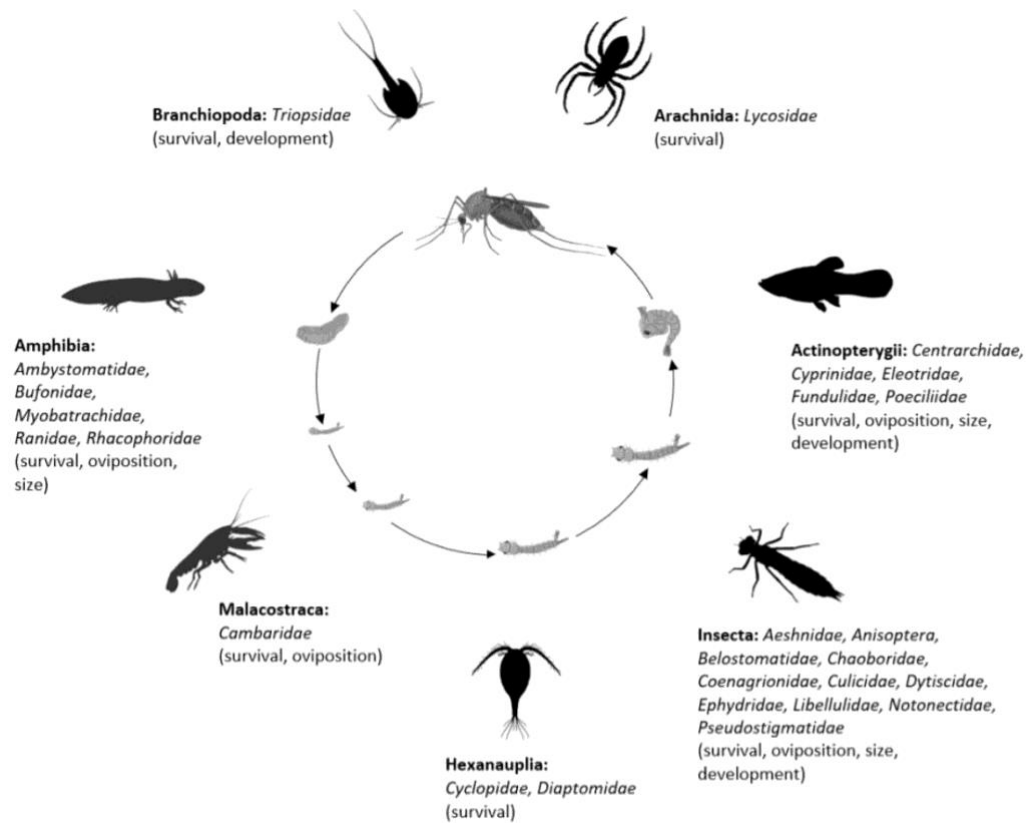
Jenkins	<i>Ae. albopictus</i>		1	
	<i>Ae. vexans</i>	1	2	
	<i>An. crucians</i>		5	
	<i>An. quadrimaculatus</i>		6	
	<i>Cx. nigripalpus</i>		2	
	<i>Cx. quinquefasciatus</i>		2	
	<i>Ps. ciliata</i>		1	
	<i>Ps. ferox</i>		13	
	<i>Psorophora spp. (male)</i>		6	
Lincoln	<i>Ae. albopictus</i>	4		
	<i>Cx. nigripalpus</i>		1	
	<i>Cx. restuans</i>		3	
	<i>Cx. salinarius</i>	1	1	
	<i>Oc. triseriatus</i>		5	
McDuffie	<i>Ae. albopictus</i>	12	1	
	<i>Culex spp. (male)</i>		1	
	<i>Cx. quinquefasciatus</i>	4	2	
	<i>Cx. salinarius</i>	2		
	<i>Oc. japonicus</i>		3	
	<i>Ps. ferox</i>	1		
Richmond	<i>Ae. albopictus</i>	660	67	51
	<i>Ae. albopictus (male)</i>	23	5	38
	<i>Ae. vexans</i>	462	4	42
	<i>Ae. vexans (male)</i>	32	15	45
	<i>Aedes/Ochlerotatus spp. (male)</i>	6		
	<i>An. crucians</i>	364	1	
	<i>An. crucians (male)</i>	4		2
	<i>An. punctipennis</i>	36		8
	<i>An. punctipennis (male)</i>	1		6
	<i>An. quadrimaculatus</i>	38		
	<i>An. quadrimaculatus (male)</i>			1
	<i>Anopheles spp. (male)</i>	1	2	
	<i>Cq. perturbans</i>	841	4	
	<i>Cq. perturbans (male)</i>	2		

MOSQUITO SURVEILLANCE 2025

	<i>Culex spp.</i>	19		
	<i>Culex spp. (male)</i>	88	56	336
	<i>Cx. coronator</i>	104	9	4
	<i>Cx. erraticus</i>	46	10	3
	<i>Cx. erraticus (male)</i>			1
	<i>Cx. nigripalpus</i>	206	18	45
	<i>Cx. quinquefasciatus</i>	51	296	2
	<i>Cx. restuans</i>	293	74	197
	<i>Cx. restuans (male)</i>		1	39
	<i>Cx. salinarius</i>	870	27	9
	<i>Cx. salinarius (male)</i>	1		1
	<i>Oc. atlanticus</i>	1		
	<i>Oc. japonicus</i>		5	1
	<i>Oc. sollicitans</i>		1	
	<i>Oc. sticticus</i>	13	3	2
	<i>Oc. triseriatus</i>	2	17	
	<i>Or. signifera</i>	2		
	<i>Ps. ciliata</i>	6	1	2
	<i>Ps. ciliata (male)</i>	2		1
	<i>Ps. cyanescens</i>	2	2	
	<i>Ps. ferox</i>	210		
	<i>Ps. ferox (male)</i>	3		1
	<i>Psorophora spp. (male)</i>	3		
	<i>unknown</i>	58	3	
	<i>Ur. sapphirina</i>	32	3	1
	<i>Ur. sapphirina (male)</i>	5		
Screven	<i>Ae. albopictus</i>	2	1	
	<i>Cq. perturbans</i>	1		
	<i>Cx. quinquefasciatus</i>		2	
	<i>Cx. restuans</i>		2	
	<i>Oc. triseriatus</i>		2	
Taliaferro	<i>Ae. albopictus</i>	2	4	
	<i>An. crucians</i>	3		
	<i>Cx. erraticus</i>	1		

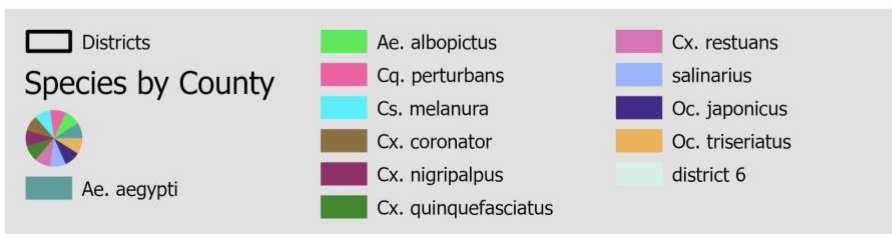
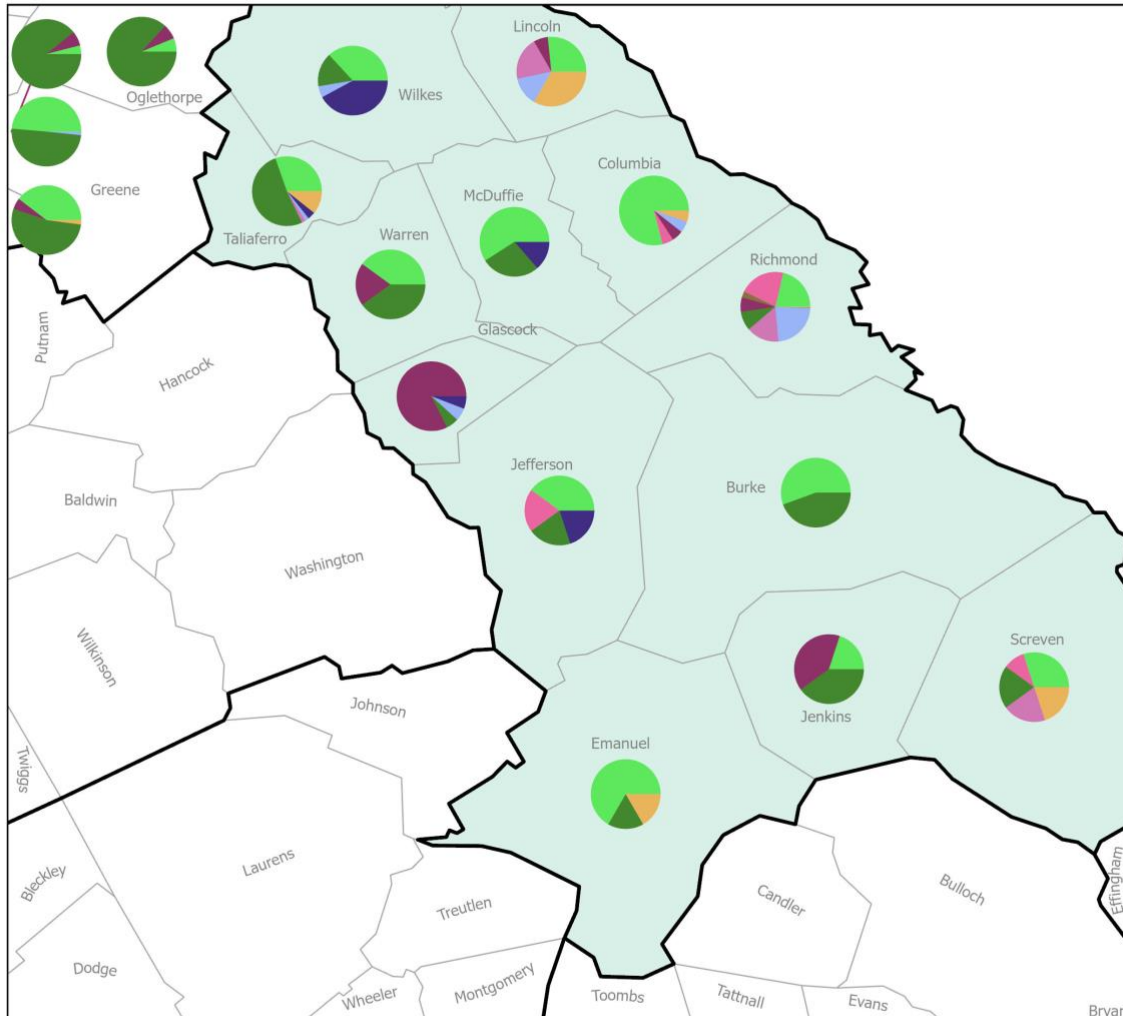
MOSQUITO SURVEILLANCE 2025

	<i>Cx. restuans</i>		1	
	<i>Cx. salinarius</i>	1		
	<i>Oc. japonicus</i>		2	
	<i>Oc. sticticus</i>		1	
	<i>Oc. triseriatus</i>		6	
	<i>Ps. ciliata</i>	4		
Warren	<i>Ae. albopictus</i>		2	
	<i>Cx. nigripalpus</i>	1		
	<i>Cx. quinquefasciatus</i>		2	
Wilkes	<i>Ae. albopictus</i>	1	6	
	<i>Culex spp. (male)</i>	1		
	<i>Cx. quinquefasciatus</i>		3	
	<i>Cx. salinarius</i>		1	
	<i>Oc. japonicus</i>		8	



MOSQUITO SURVEILLANCE 2025

Specific Species by County, 2025



MOSQUITO SURVEILLANCE 2025

District 7-0

Surveillance in District 7-0 was done by the DPH entomologists. Surveillance was done from at the end of July over 1 night.

District 7-0		trap type	
County	Species	CDC	Gravid
Muscogee	<i>Ae. aegypti</i>	36	7
	<i>Ae. albopictus</i>	35	39
	<i>An. quadrimaculatus</i>	1	
	<i>Cx. coronator</i>	3	
	<i>Cx. quinquefasciatus</i>	12	26
	<i>Cx. restuans</i>	1	

CITY FACES TWIN THREATS

AEDES ALBOPICTUS

- Known as tiger mosquito or forest mosquito
- Has white markings



- on legs and longitudinal white stripes on thorax
- Predominantly found in rural areas; prefers to breed outdoors
- Carrier of dengue, Zika and chikungunya viruses
- Active & bites during day

AEDES AEGYPTI

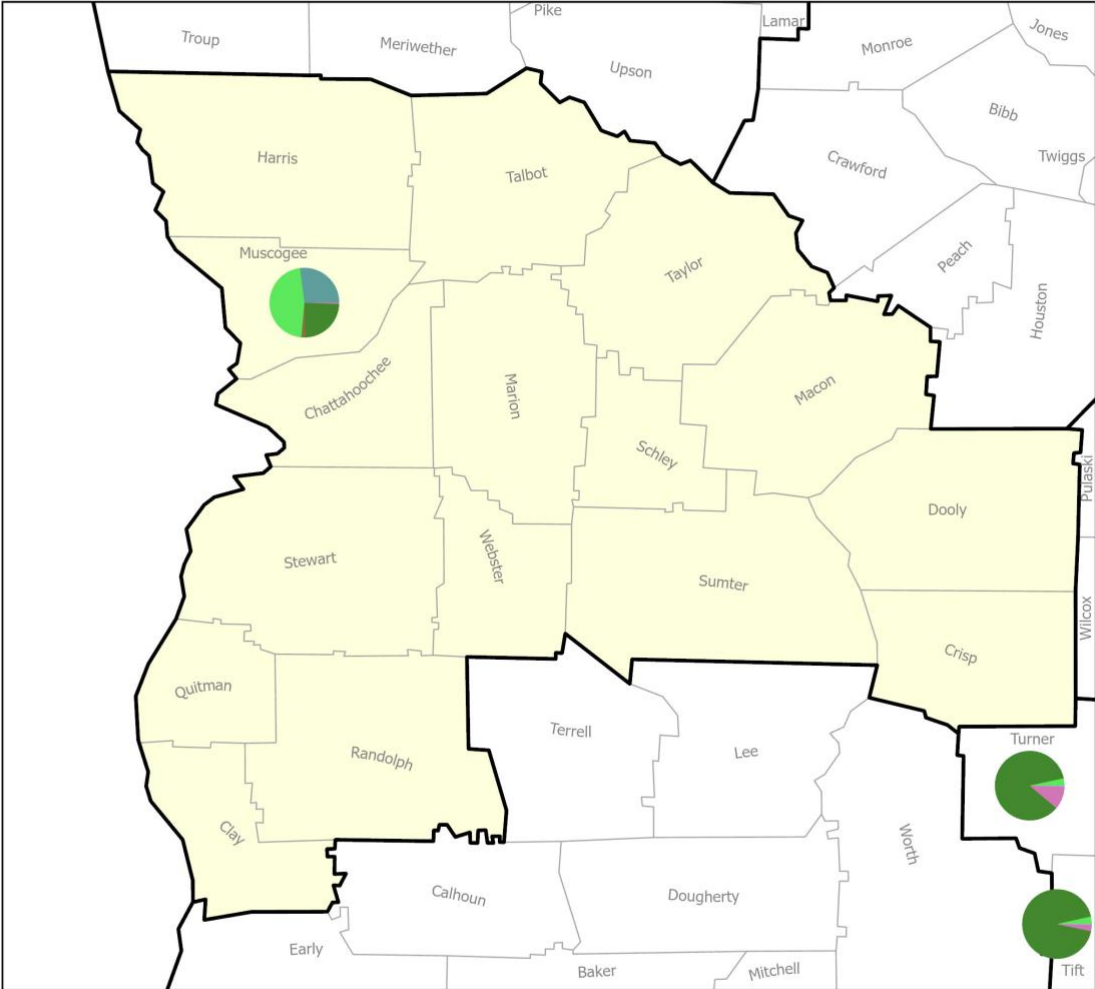
- Known as yellow fever mosquito
- White markings on legs, white lyre-shaped mark on thorax



- Predominantly urban; breeds close to households and indoors
- Carrier of dengue, Zika, chikungunya and yellow fever viruses
- Active & bites during day

MOSQUITO SURVEILLANCE 2025

Specific Species by County, 2025



Districts	Ae. albopictus	Cx. restuans
Species by County	Cq. perturbans	salinarius
	Cs. melanura	Oc. japonicus
Ae. aegypti	Cx. coronator	Oc. triseriatus
	Cx. nigripalpus	district 7
	Cx. quinquefasciatus	

MOSQUITO SURVEILLANCE 2025

District 8-1

Surveillance in District 8-1 was done by the local EHS and students from Valdosta State University. Surveillance was done from mid-March to end of November over 128 nights.

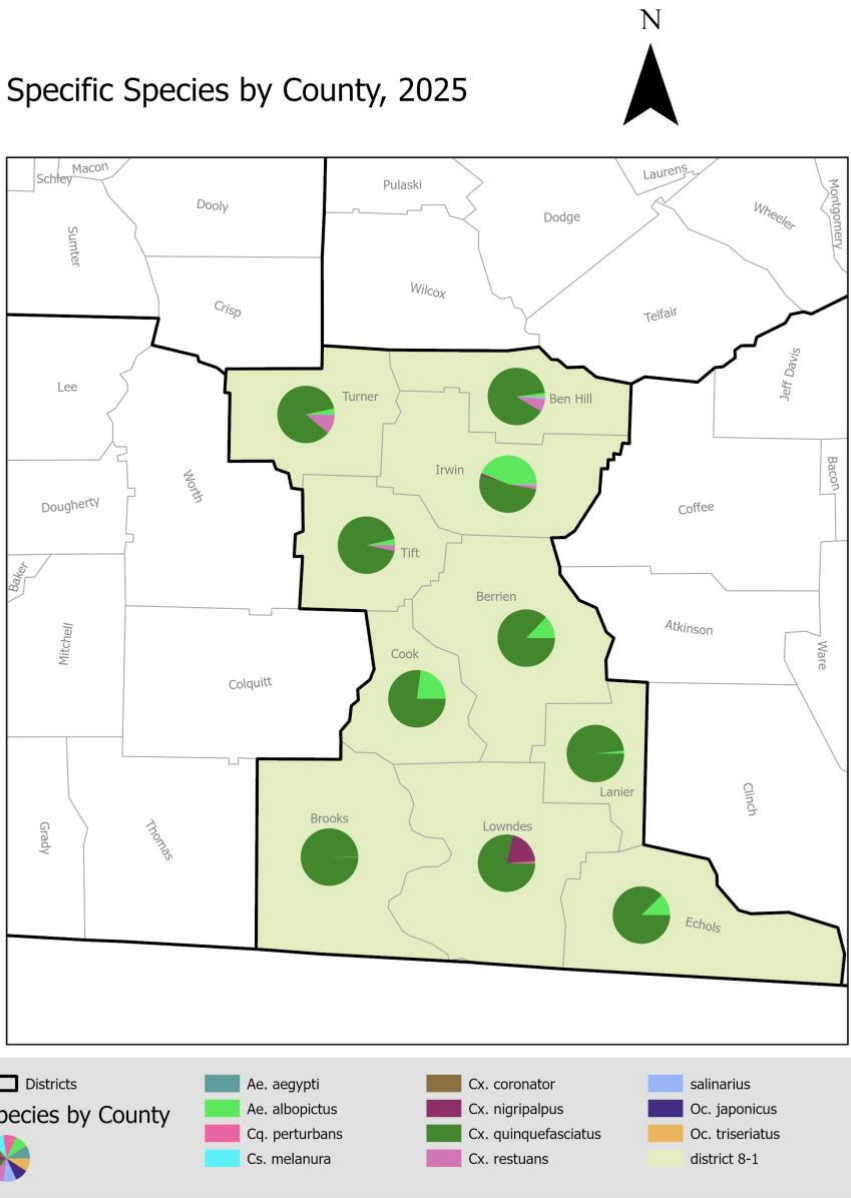
District 8-1		trap type	
County	Species	CDC	Gravid
Ben Hill	<i>Ae. albopictus</i>		21
	<i>Culex spp.</i>		135
	<i>Cx. erraticus</i>		1
	<i>Cx. quinquefasciatus</i>		903
	<i>Cx. restuans</i>		72
	<i>Cx. salinarius</i>		13
	<i>Oc. triseriatus</i>		3
	<i>Or. signifera</i>		5
	unknown		1
Berrien	<i>Ae. albopictus</i>		21
	<i>An. crucians</i>		1
	<i>Culex spp.</i>		2
	<i>Cx. erraticus</i>		2
	<i>Cx. quinquefasciatus</i>		141
	<i>Ps. columbiae</i>		2
Brooks	<i>Ae. albopictus</i>		2
	<i>Cx. erraticus</i>		2
	<i>Cx. quinquefasciatus</i>		781
Cook	<i>Ae. albopictus</i>		16
	<i>Ae. vexans</i>		2
	<i>Cx. quinquefasciatus</i>		54
Echols	<i>Ae. albopictus</i>	1	2
	<i>Ae. vexans</i>	11	
	<i>Aedes/Ochlerotatus spp.</i>		1
	<i>An. crucians</i>	12	
	<i>Culex spp.</i>	3	
	<i>Cx. quinquefasciatus</i>	3	18
	<i>Ps. columbiae</i>		2

MOSQUITO SURVEILLANCE 2025

Irwin	<i>Ae. albopictus</i>		107
	<i>Aedes/Ochlerotatus spp.</i>		8
	<i>An. quadrimaculatus</i>		1
	<i>Culex spp.</i>		105
	<i>Cx. nigripalpus</i>		3
	<i>Cx. quinquefasciatus</i>		127
	<i>Cx. restuans</i>		4
	<i>Cx. salinarius</i>		2
	<i>Oc. triseriatus</i>		1
	<i>Ps. columbiae</i>		1
	unknown		21
Lanier	<i>Ae. albopictus</i>		4
	<i>Cx. erraticus</i>		10
	<i>Cx. quinquefasciatus</i>		240
	<i>Ps. columbiae</i>		2
Lowndes	<i>Ae. albopictus</i>		3
	<i>An. crucians</i>		1
	<i>Cq. perturbans</i>	69	
	<i>Culex spp.</i>		1
	<i>Cx. coronator</i>	11	13
	<i>Cx. nigripalpus</i>	468	1095
	<i>Cx. quinquefasciatus</i>	133	5989
	<i>Cx. restuans</i>		10
<i>Cx. salinarius</i>		6	
Tift	<i>Ae. albopictus</i>		24
	<i>An. crucians</i>		2
	<i>Culex spp.</i>		137
	<i>Cx. quinquefasciatus</i>		643
	<i>Cx. restuans</i>		21
	<i>Cx. salinarius</i>		2
Turner	<i>Ae. albopictus</i>		19
	<i>An. crucians</i>		1
	<i>Culex spp.</i>		330
	<i>Cx. nigripalpus</i>		4

MOSQUITO SURVEILLANCE 2025

<i>Cx. quinquefasciatus</i>		475
<i>Cx. restuans</i>		60
<i>Cx. salinarius</i>		2



MOSQUITO SURVEILLANCE 2025

District 8-2

No surveillance was done in District 8-2 in 2025.

District 9-1

Surveillance in District 9-1 was done by VDCI (Glynn & Camden counties), and Chatham County Mosquito Control programs. Surveillance was done from January-December over 233 nights.

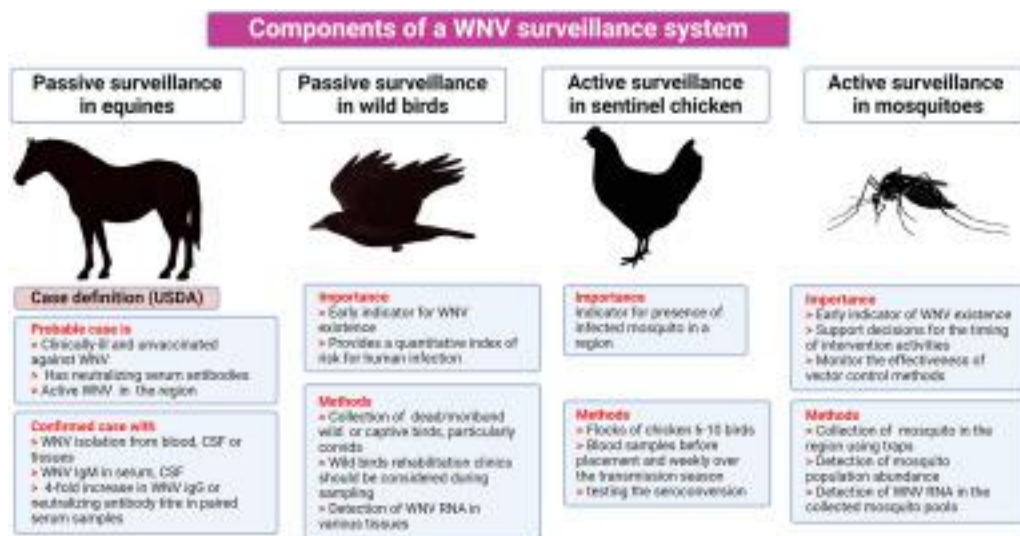
District 9-1		trap type				
County	Species	CDC	DynaTrap	exit	NJLT	Gravid
Camden	<i>Ae. albopictus</i>	5			15	
	<i>Ae. vexans</i>	20			498	
	<i>An. crucians</i>	24			710	
	<i>An. quadrimaculatus</i>	37			42	
	<i>Cq. perturbans</i>	278			158	
	<i>Cs. inornata</i>	39			18	
	<i>Cs. melanura</i>	9			3	
	<i>Culex spp.</i>	3			65	
	<i>Culiseta spp.</i>	3			4	
	<i>Cx. erraticus</i>	52			13	
	<i>Cx. nigripalpus</i>	148			41	
	<i>Cx. quinquefasciatus</i>	90			241	6844
	<i>Cx. restuans</i>	2			4	7
	<i>Cx. salinarius</i>	8			360	
	<i>Ma. titillans</i>	3			15	
	<i>Oc. atlanticus</i>	18			5	
	<i>Oc. canadensis</i>	7				
	<i>Oc. infirmatus</i>	50			2	
	<i>Oc. sollicitans</i>	70			845	
	<i>Oc. taeniorhynchus</i>	24			258	
	<i>Ps. ciliata</i>	3			5	
	<i>Ps. columbiae</i>	1			15	
<i>Ps. ferox</i>	2					
<i>unknown</i>	2			35		

MOSQUITO SURVEILLANCE 2025

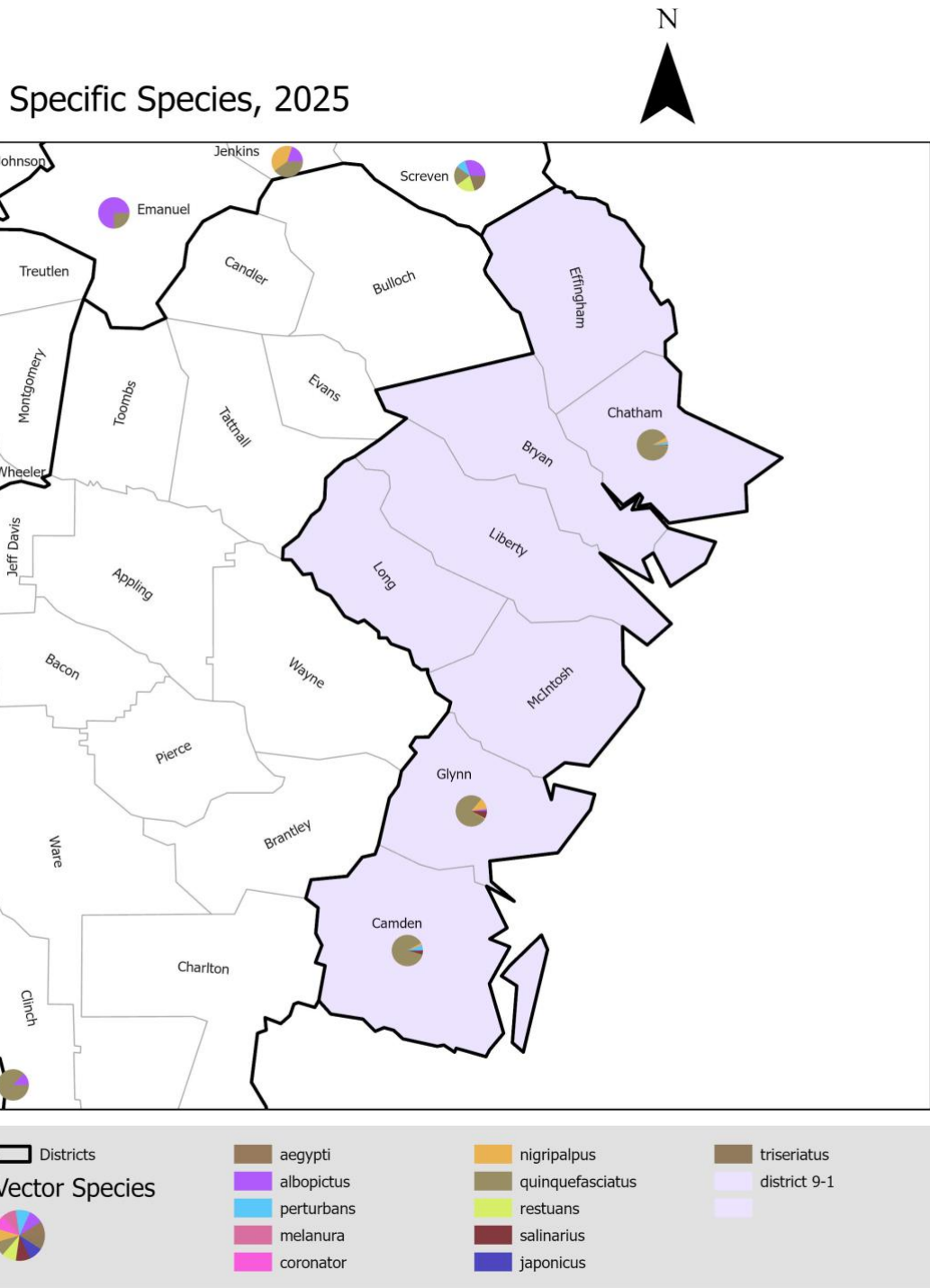
	<i>Ur. sapphirina</i>	1			9	
	<i>Uranotaenia spp.</i>				2	
Chatham	<i>Ae. albopictus</i>	39				71
	<i>Ae. vexans</i>	958		2		
	<i>Cq. perturbans</i>	2537				1
	<i>Cs. melanura</i>	138		8		3
	<i>Culex spp.</i>	78				7784
	<i>Cx. coronator</i>	56				
	<i>Cx. erraticus</i>	8395				115
	<i>Cx. nigripalpus</i>	2372		41		1554
	<i>Cx. quinquefasciatus</i>	41				77181
	<i>Cx. restuans</i>					320
	<i>Cx. salinarius</i>	801				
	<i>Ma. titillans</i>	5				
	<i>Oc. atlanticus</i>	8538		23		
	<i>Oc. canadensis</i>	269				
	<i>Oc. dupreei</i>	118				
	<i>Oc. infirmatus</i>	412		1		
	<i>Oc. sticticus</i>	19				
	<i>Oc. taeniorhynchus</i>	59				
	<i>Oc. triseriatus</i>	40		1		13
	<i>Ps. columbiae</i>	50				
<i>Ps. ferox</i>	15					
Glynn	<i>Ae. albopictus</i>	19	13		38	161
	<i>Ae. vexans</i>	30	43		566	
	<i>Aedes/Ochlerotatus spp.</i>	1	1		6	2
	<i>An. crucians</i>	6	2		168	29
	<i>An. quadrimaculatus</i>	165	6		202	102
	<i>Anopheles spp.</i>	2				
	<i>Cq. perturbans</i>	6	1		33	3
	<i>Cs. inornata</i>	2	7		51	11
	<i>Cs. melanura</i>				3	
	<i>Culex spp.</i>	35	1		15	
	<i>Culiseta spp.</i>				5	

MOSQUITO SURVEILLANCE 2025

<i>Cx. erraticus</i>		8		18	
<i>Cx. nigripalpus</i>	946	135		194	162
<i>Cx. quinquefasciatus</i>	945	349		631	7632
<i>Cx. restuans</i>		22		55	2
<i>Cx. salinarius</i>	30	295		633	31
<i>Ma. titillans</i>				1	
<i>Oc. atlanticus</i>	3	4		12	
<i>Oc. canadensis</i>				3	
<i>Oc. infirmatus</i>				10	
<i>Oc. sollicitans</i>	271	9		408	14
<i>Oc. taeniorhynchus</i>	2028	25		413	33
<i>Ps. ciliata</i>	18			13	
<i>Ps. columbiae</i>	11			19	
<i>Ps. ferox</i>	261			8	9
<i>Ps. howardii</i>				1	
<i>unknown</i>	133	2		55	
<i>Ur. sapphirina</i>	6			36	
<i>Uranotaenia spp.</i>	15			23	



MOSQUITO SURVEILLANCE 2025



MOSQUITO SURVEILLANCE 2025

District 9-2

No surveillance was done in District 9-2 in 2025.

District 10-0

Surveillance in District 10-0 was done by the local EHS and a volunteer entomologist from UGA. Surveillance was done from mid-June to mid-September over 12 nights.

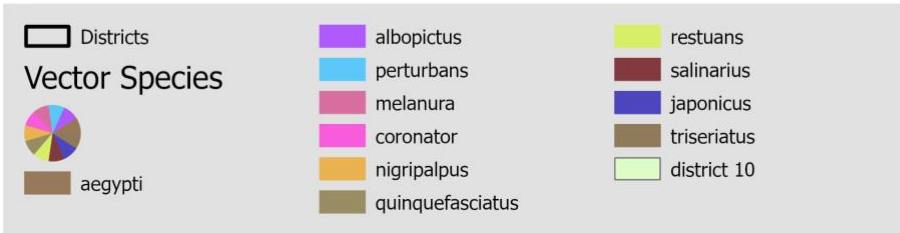
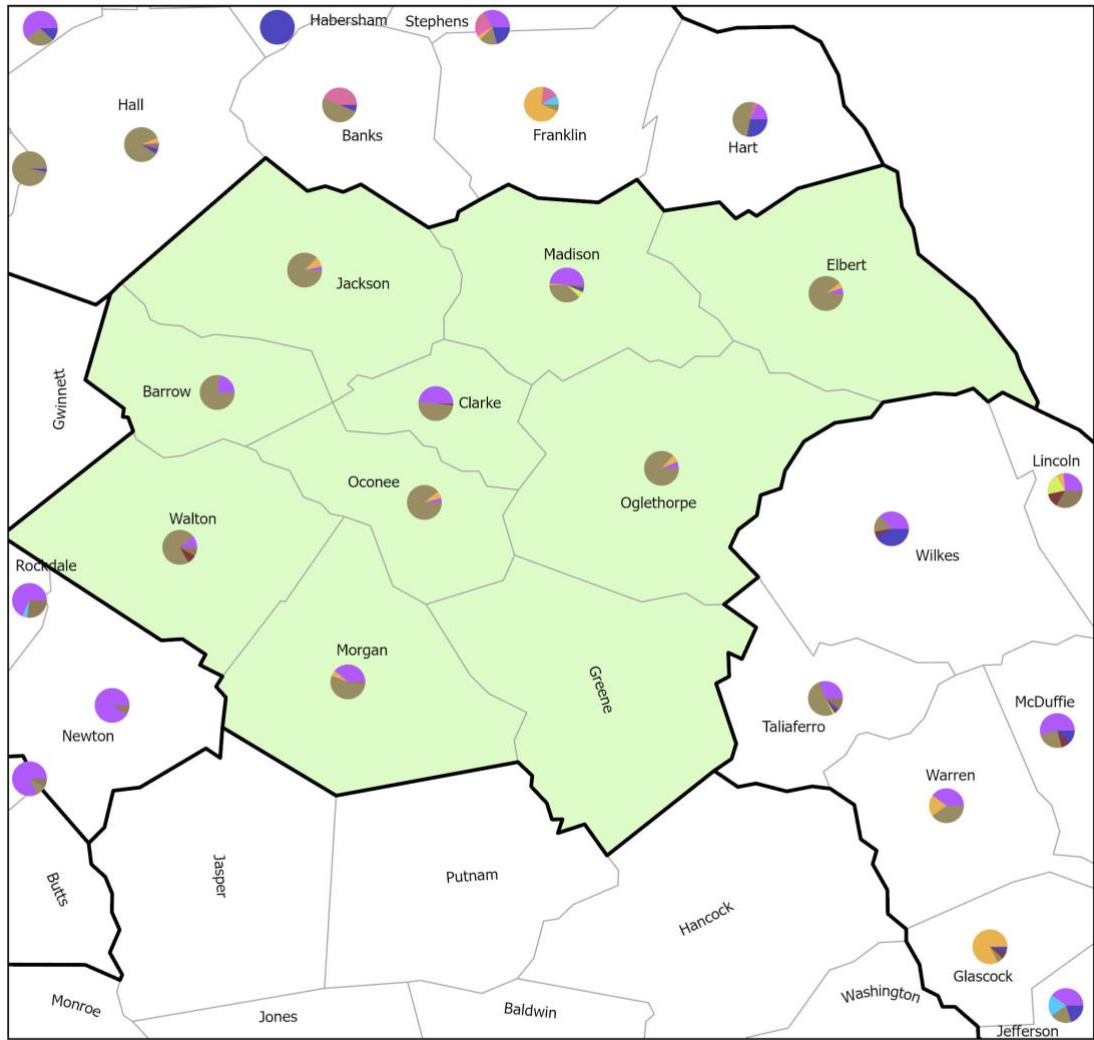
District 10-0		trap type	
County	Species	CDC	gravid
Barrow	<i>Ae. albopictus</i>	2	4
	<i>Ae. vexans</i>	1	3
	<i>An. crucians</i>	1	
	<i>Cx. quinquefasciatus</i>		21
Elbert	<i>Ae. albopictus</i>	3	9
	<i>Ae. vexans</i>	19	4
	<i>An. crucians</i>	1	
	<i>An. punctipennis</i>	4	1
	<i>An. quadrimaculatus</i>	1	
	<i>Culex spp. (male)</i>		8
	<i>Cx. nigripalpus</i>		12
	<i>Cx. quinquefasciatus</i>	88	114
	<i>Ps. ferox</i>	10	
Jackson	<i>Ae. albopictus</i>	3	
	<i>Ae. albopictus (male)</i>	1	
	<i>Ae. vexans</i>	3	1
	<i>An. punctipennis</i>		1
	<i>Cx. nigripalpus</i>		8
	<i>Cx. quinquefasciatus</i>	15	60
Madison	<i>Ae. albopictus</i>	27	9
	<i>Ae. vexans</i>		10
	<i>Culex spp. (male)</i>		2
	<i>Cx. nigripalpus</i>		1
	<i>Cx. quinquefasciatus</i>	8	20
	<i>Cx. restuans</i>		4

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	<i>Cx. salinarius</i>		1
	<i>Oc. japonicus</i>		2
	<i>Oc. triseriatus</i>		2
Morgan	<i>Ae. albopictus</i>	21	16
	<i>Ae. albopictus (male)</i>		1
	<i>Ae. vexans</i>		2
	<i>An. punctipennis</i>	2	
	<i>Cx. nigripalpus</i>	5	
	<i>Cx. quinquefasciatus</i>	41	10
	<i>Oc. triseriatus</i>		2
	<i>Ps. columbiae</i>	1	
	<i>Ps. ferox</i>	2	1
	Oconee	<i>Ae. albopictus</i>	7
<i>Ae. vexans</i>		17	8
<i>Cx. nigripalpus</i>		12	
<i>Cx. quinquefasciatus</i>		142	14
<i>Ps. horrida</i>		1	
Oglethorpe	<i>Ae. albopictus</i>	4	4
	<i>Ae. vexans</i>		4
	<i>An. punctipennis</i>	1	
	<i>Cx. nigripalpus</i>	2	7
	<i>Cx. quinquefasciatus</i>	11	100
Taliaferro	<i>Ae. albopictus</i>	6	5
	<i>Ae. vexans</i>	43	12
	<i>Cx. quinquefasciatus</i>	2	27
	<i>Ps. ciliata</i>	2	
	<i>Ps. ferox</i>	2	
Walton	<i>Ae. albopictus</i>	3	1
	<i>Ae. vexans</i>	8	7
	<i>An. crucians</i>	5	
	<i>Cx. quinquefasciatus</i>	2	24
	<i>Cx. salinarius</i>		3
	<i>Oc. triseriatus</i>	3	

MOSQUITO SURVEILLANCE 2025

Specific Species, 2025



MOSQUITO SURVEILLANCE 2025

Invasive Mosquito Species

One of the benefits of mosquito surveillance is determining where mosquito species are found. This is especially important for vector species and for invasive species which may become involved in arboviral disease cycles.

Culex coronator was first detected in Georgia in 2006. It was found initially in counties below the Fall line. Mosquito surveillance done in 2017 - 2020 has shown that this species can now be found in most regions of Georgia. It is important to monitor *Cx. coronator* as it has the potential to be involved in the WNV cycle.

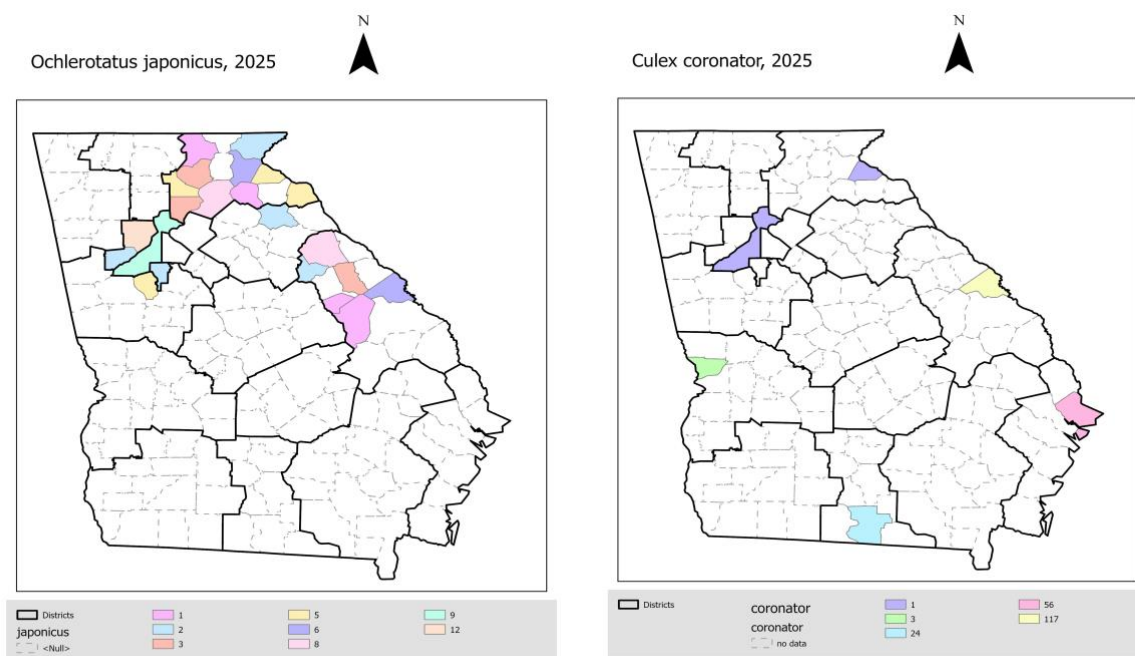
(<https://www.gamosquito.org/resources/papers/CulexcoronatorGA.pdf>)

Ochlerotatus japonicus was first detected in Georgia in 2002. This species lays its eggs in rock pools, so was initially found only above the Fall line. Mosquito surveillance done in 2017 - 2020 has shown that this species can now be found in most regions of Georgia. It is important to monitor *Oc. japonicus* as it has the potential to be involved in the WNV cycle.

(<https://www.gamosquito.org/resources/papers/AedesJaponicusIn%20Georgia.pdf>)

The Mosquito Biodiversity Enhancement and Control of Non-native Species (BEACONS) working group works on the surveillance of invasive species

(<https://fmel.ifas.ufl.edu/invasivemosquito/>).



MOSQUITO SURVEILLANCE 2025

Pesticide Resistance Testing

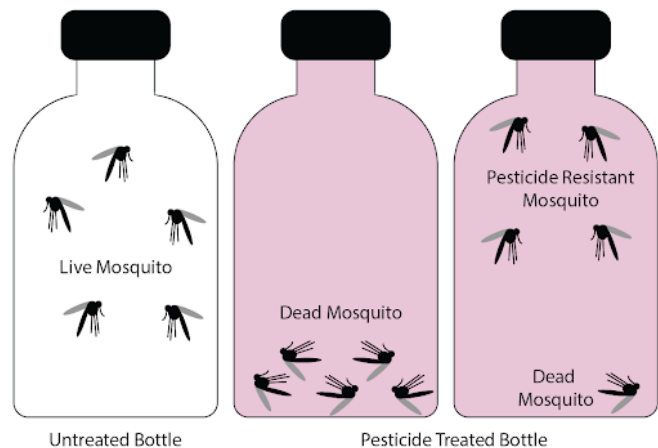
As we continue to see arboviral diseases such as Eastern Equine Encephalitis and West Nile Virus in Georgia in 2025, mosquito control methods are critical. Pesticide resistance has been found to be a component for ineffective mosquito control. There is a lack of insecticide resistance studies conducted statewide in Georgia and minimal knowledge of which pesticides mosquitoes are resistant to.

The state entomologists, with the assistance of the Richmond County regional mosquito surveillance coordinator, are tasked to conduct insecticide resistance testing in all high-risk urban regions of Georgia. Mosquito egg collections were initially performed by regional vector surveillance coordinators. Environmental Health Specialists are now assisting with egg collections. Mosquito egg collection training can be provided to all who assist with this endeavor.

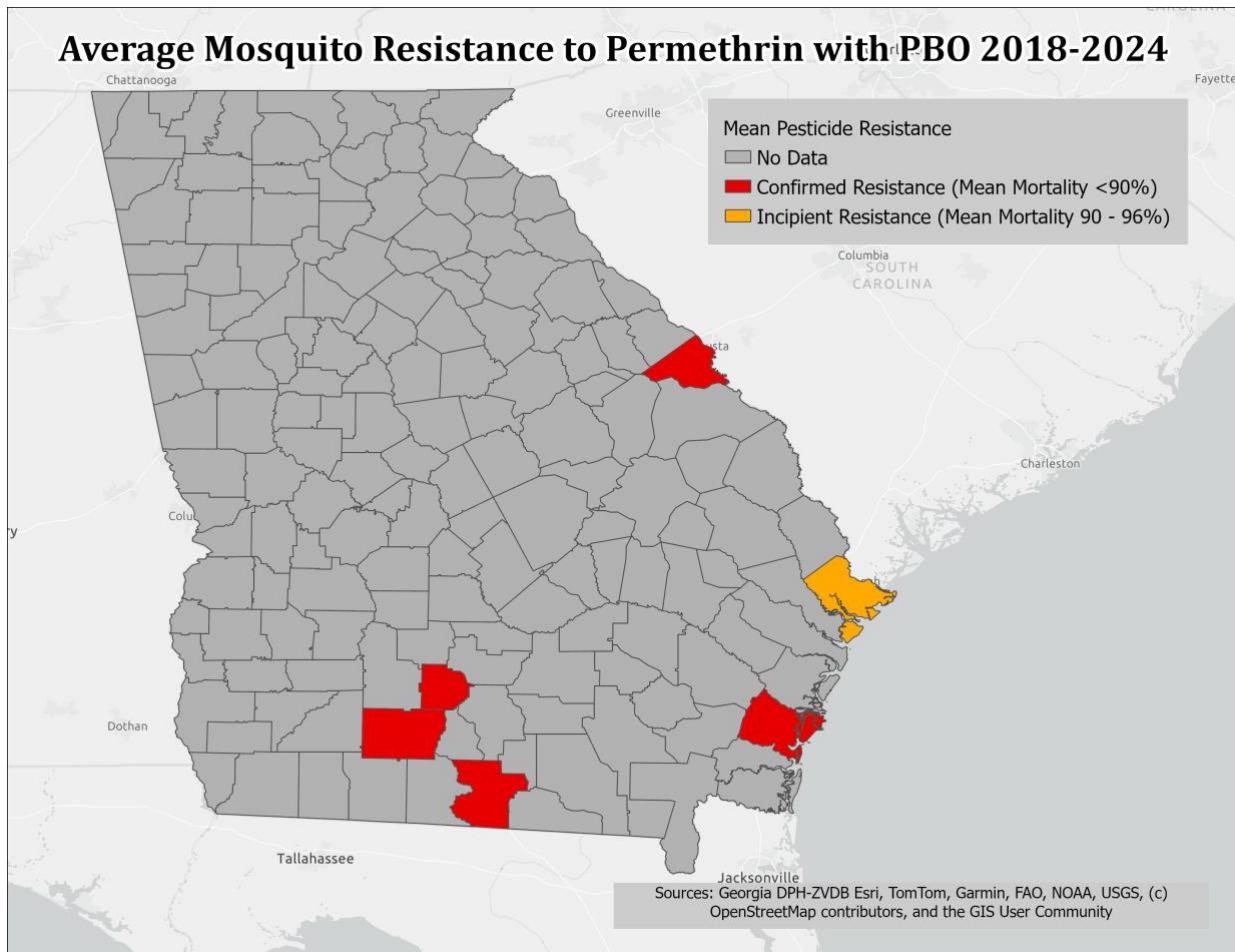
Resistance testing is performed using the CDC Bottle Bioassay procedure and the chemicals that were provided in the CDC Bottle Bioassay kits. Preliminary data from several central and southern counties showed *Ae albopictus* to be exhibiting varied levels of resistance to permethrin and deltamethrin but were susceptible at varied levels to bifenthrin and deltamethrin used along with the synergist, PBO. *Culex quinquefasciatus* showed varied levels of resistance to permethrin, lambda cyhalothrin, and deltamethrin; they were susceptible to malathion.

With the implementation of the first statewide pesticide resistance testing program, a clearer picture of the type of mosquitoes and their resistance to specific pesticides commonly used in Georgia will be determined. This information enables DPH to advise and train current mosquito control operators in using the most effective and cost-efficient pesticide for their target-mosquito. The statewide pesticide resistance testing program is a major component in reducing the exposure of mosquito-borne disease risk to the public.

The map below shows resistance to permethrin in Georgia. Permethrin is the most widely used mosquito adulticide in the US and is used to treat 9 to 10 million acres annually (out of 32-39 million acres treated with a mosquito adulticide). Permethrin's widespread use can be attributed to its low cost, high effectiveness, low incidence of pest resistance, and broad labeling.



MOSQUITO SURVEILLANCE 2025

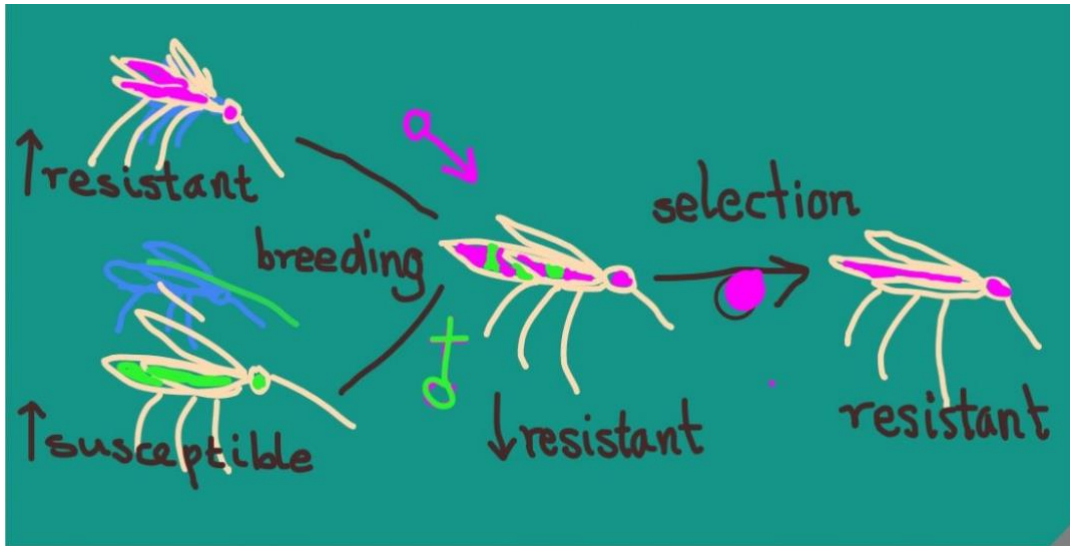


MAP OF AVERAGE MOSQUITO RESISTANCE TO PERMETHRIN IN GEORGIA, 2018-2024

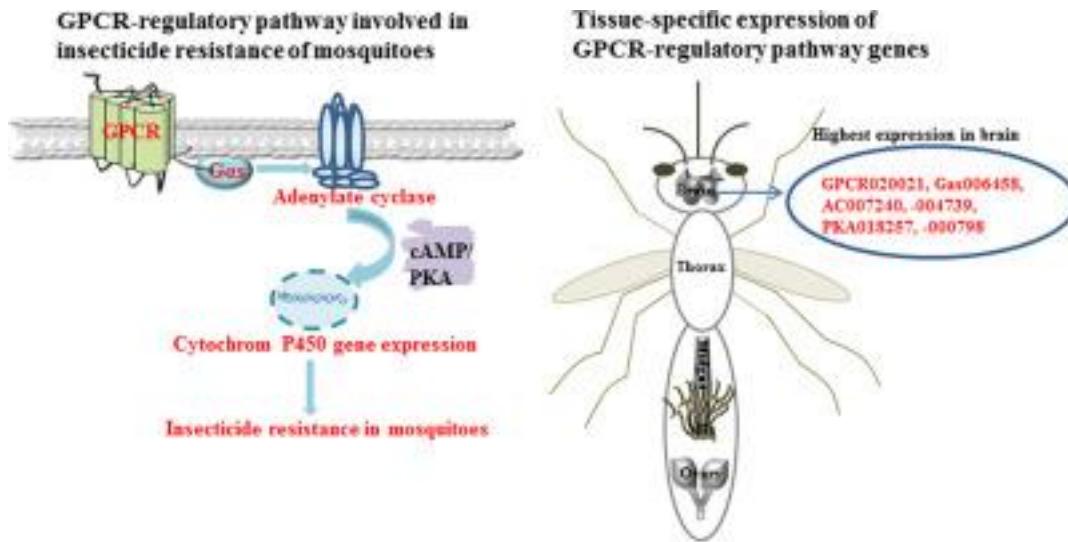
Resources

- <http://www.gamosquito.org/publications.htm>
- <http://cdcsercoevbd-flgateway.org/>
- <https://www.cdc.gov/parasites/hcp/bottle-bioassay/>
- <https://www.researchgate.net/publication/230625904> The possible role of entomological surveillance in mosquito-borne disease prevention

MOSQUITO SURVEILLANCE 2025



<https://www.sciencedirect.com/science/article/pii/S240558081730136X>



MOSQUITO SURVEILLANCE 2025

Conclusions

In 2024, mosquito surveillance was done in 69 of Georgia's 159 counties.

Year	# counties doing surveillance	% of counties
2001	2	1.3%
2002	11	6.9%
2003	26	16.4%
2004	56	35.2%
2005	55	34.6%
2006	28	17.6%
2007	28	17.6%
2008	28	17.6%
2009	26	16.4%
2010	22	13.8%
2011	19	11.9%
2012	12	7.5%
2013	13	8.2%
2014	15	9.4%
2015	13	8.2%
2016	60	37.7%
2017	159	100.0%
2018	159	100.0%
2019	159	100.0%
2020	142	89.3%
2021	103	64.8%
2022	79	49.7%
2023	101	63.5%
2024	78	49.0%
2025	69	43.4%

MOSQUITO SURVEILLANCE 2025

Surveillance was done in areas of highest risk of vector-borne diseases, but in many counties, surveillance was non-existent or limited. Surveillance was unfortunately lacking completely in 6 Health Districts (1-2, 3-3, 5-1, 5-2, 8-2, & 9-2).

This level of surveillance was only possible through the combined effort of State, District, and County Environmental Health, as well as assistance from several other agencies, including mosquito control, contracted services, interns, and volunteers.

Our goals for the 2026 mosquito surveillance season continue to be:

- Doing some level of mosquito surveillance in every county in Georgia
- Doing targeted surveillance in areas where *Ae aegypti* were found in the 1950s
- Do targeted surveillance in areas where *Anopheles* spp have been found as part of a collaboration with the CDC.
- Providing continued training to Environmental Health Specialists
- Support local outreach for mosquito complaints and arboviral disease cases
- Continued testing for adulticide resistance, especially in high-risk areas of Georgia
- Beginning testing for larvicide resistance in localized areas
- Spatial analysis of pesticide resistance in Georgia

The accomplishment of these goals will allow the Georgia Department of Public Health to be better prepared for the next mosquito-borne disease to emerge. However, these goals are not attainable without sustainable funding.

Acknowledgements

I would like to thank everyone who assisted with this mosquito surveillance project, at the State, District, and County Public Health levels, as well as the mosquito control programs, interns, and others who contributed data.

MOSQUITO SURVEILLANCE 2025

District Map

