

Maricopa County *Aedes aegypti* Response Plan



John Townsend
Maricopa County Environmental Services
Vector Control Division Manager



Maricopa County

Environmental Services Department

**Working with our community
to ensure a safe and healthy environment**

VISION STATEMENT:

As the recognized regional environmental leader, we will develop and foster innovative environmental health protection programs for the safety of our residents and their environment.

MISSION STATEMENT:

The mission of the Environmental Services Department is to provide safe food, water, waste disposal and vector borne disease reduction controls to the people of Maricopa County so that they may enjoy living in a healthy and safe community.



MARICOPA COUNTY ENVIRONMENTAL HEALTH CODE

CHAPTER III

RODENTS, INSECTS AND VERMIN

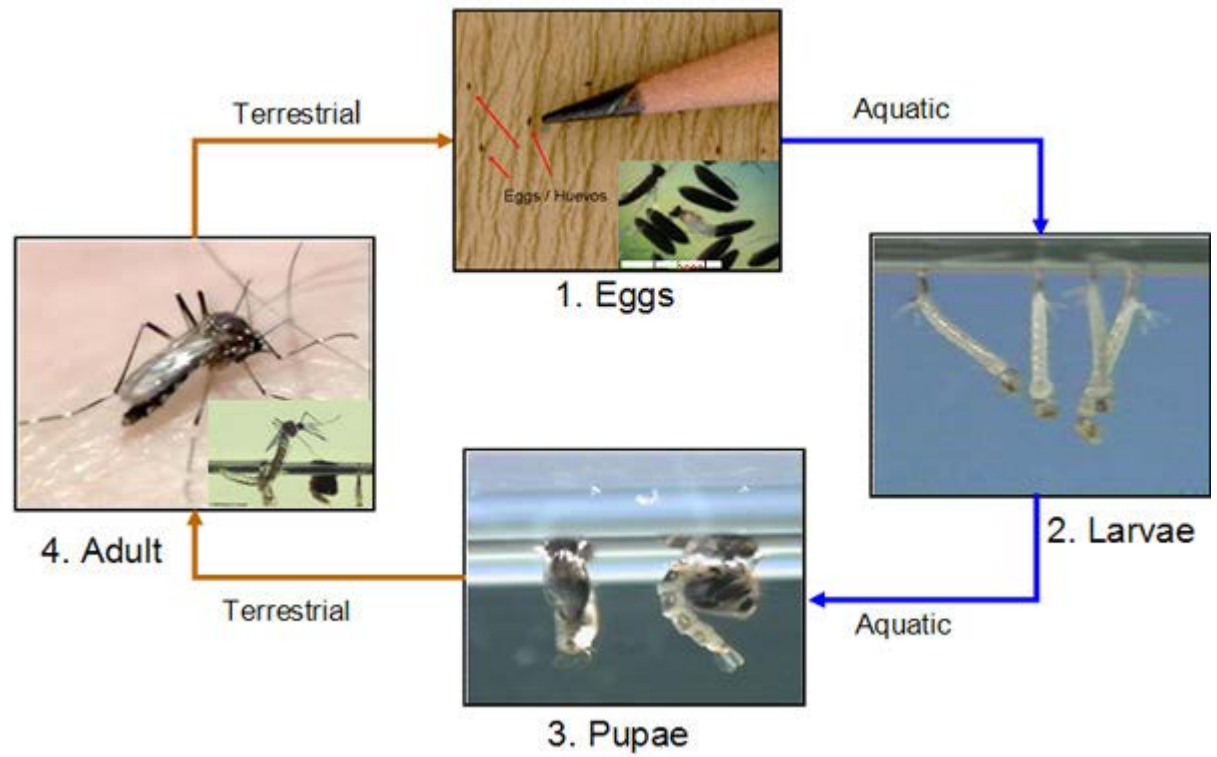
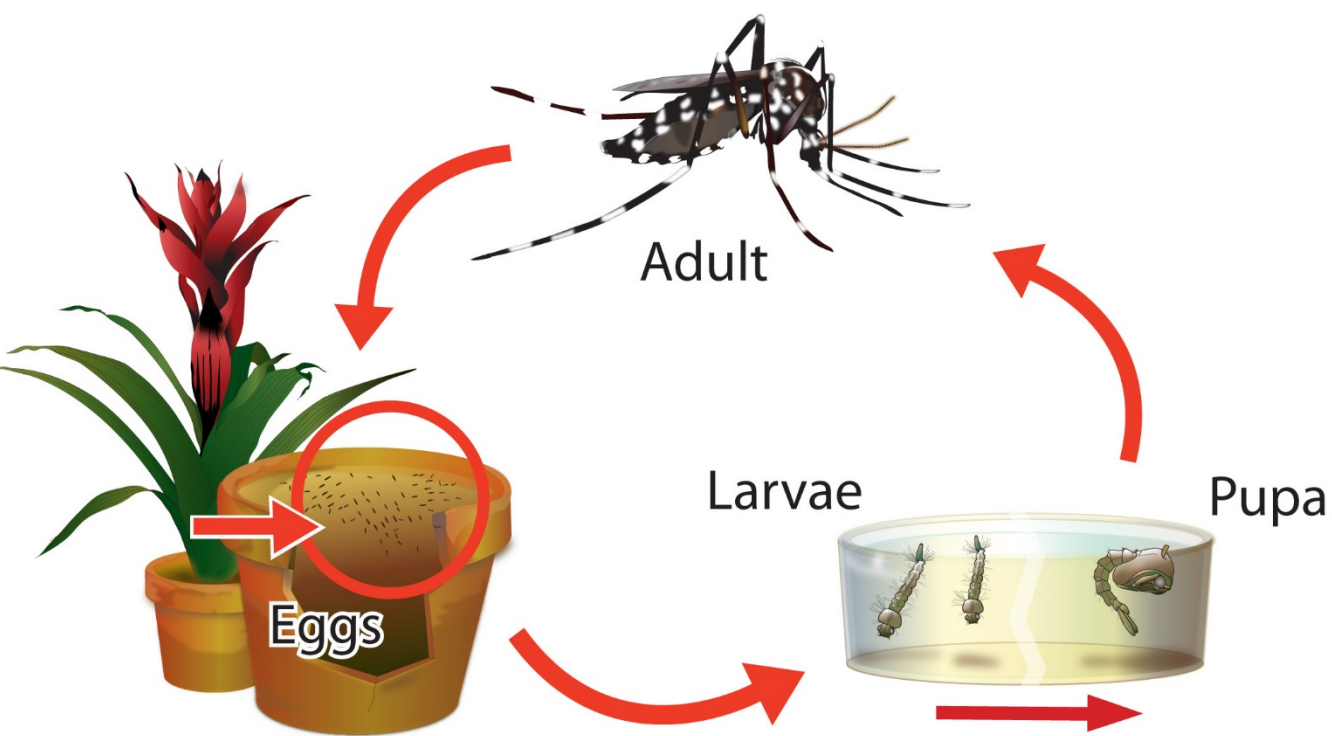
REGULATION 2. Mosquitoes

No person shall cause, maintain or, within his control, permit any accumulation of water in which mosquitoes breed or are likely to breed. The owner, occupant, or person in control of any place where mosquitoes are breeding, or which constitutes a breeding place for mosquitoes shall take all necessary and proper steps to eliminate the mosquito breeding and to prevent its recurrence through the elimination of or the institution of necessary control measures at mosquito breeding sites.

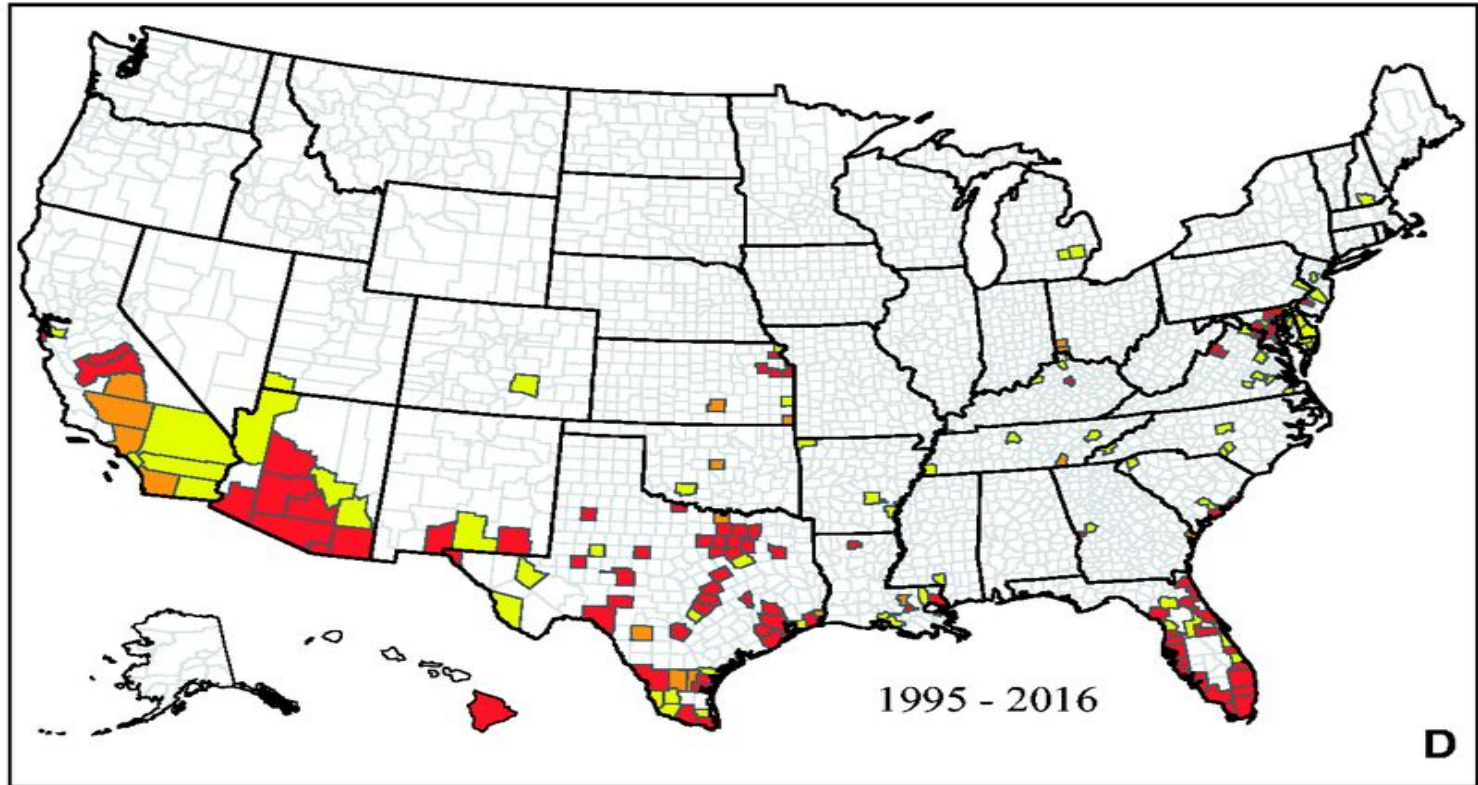
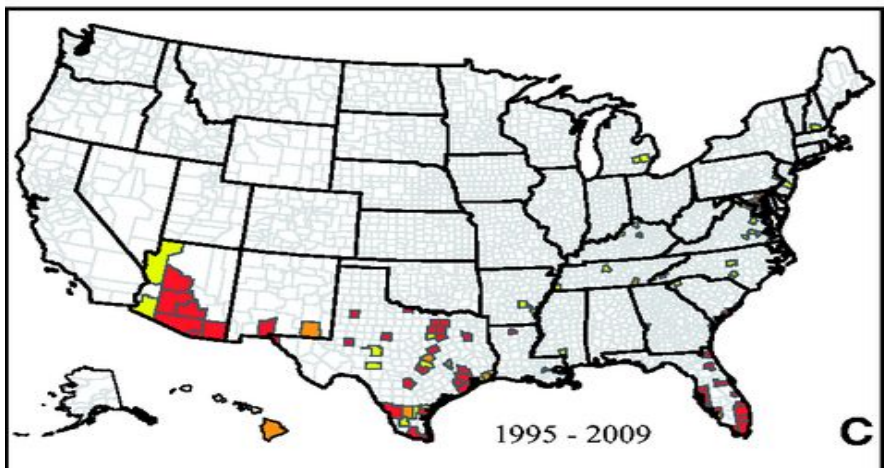
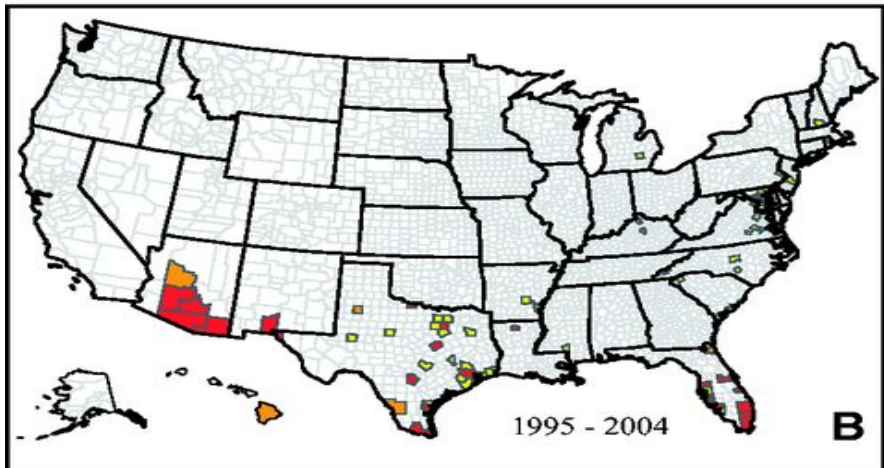
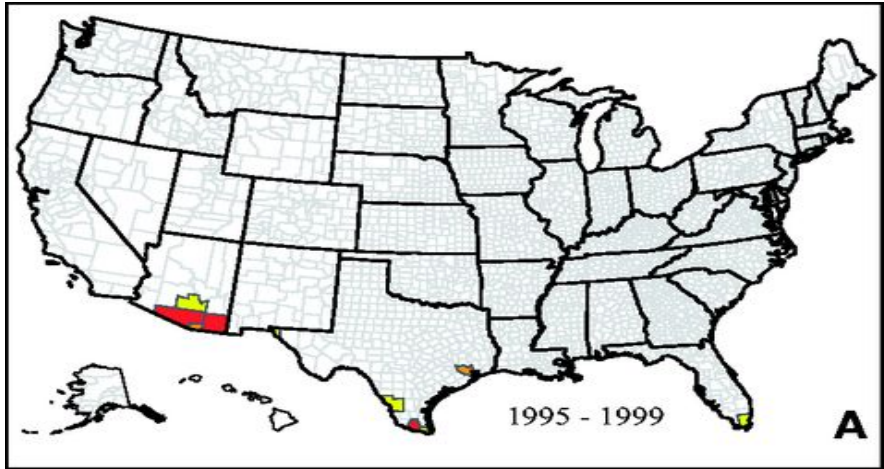


Aedes aegypti 101









Number of years with at least one mosquito reported

- No reported records
- 1 year
- 2 years
- 3 or more years

Maricopa County Dengue / Chikungunya / Zika Response Plan

Response level	Conditions	Vector Presence	Vector Abundance	Vector Response / Action	Epi Response / Action
1	No Human Case Activity	None	Not Present	None	Routine Passive Human Case Surveillance
2	No Human Case Activity	Present	High	Increased <i>Aedes aegypti</i> trapping and testing	Routine passive surveillance; consider initiating enhanced passive surveillance
3	Suspect / Probable or Confirmed Human Case (Import Only)	Present	Some Vector Activity	Check historical CO2 trapping records for the presence of <i>Aedes aegypti</i> in the area, increase trapping and testing of mosquitoes in the area surrounding the suspect case with traps designed to collect <i>Aedes aegypti</i> . Will get address of patient from epi and confirm if we have permission to set traps immediately near the house. Will test mosquito for chik/dengue/Zika as possible for PCR and if positive mosquito is found see level 4/5.	Rapid case investigation, including arranging for additional laboratory testing and patient and/or family interview (includes questions about travel/exposure history, if the patient is seeing mosquitos in or near their home, and asking permission to set traps immediately near their house). Will also give prevention education to the patient and family. MCVV to be notified.
4	Strong Suspect / Probable / Confirmed Human Case	Vector Presence High	Above Established Thresholds and/ or PCR + Mosquito samples	Extensive mosquito trapping and testing of the mosquito population in the neighborhood with traps designed to collect <i>Aedes aegypti</i> . Sample at least 100 meter radius surrounding the suspect/probable/confirmed human case. Placement of lethal ovi-traps and resting boxes in the area, backyard inspections to reduce breeding sites. neighborhood adulticide treatments based on trapping data. Conduct source reduction and/or larviciding as indicated.	Same as #3 above. Plus: Public health team to assess need to go door to door in the immediate neighborhood (minimum area = 100 meter radius surrounding suspect patient house). Will leave door hangers and give education to all the home owners in the neighborhood. This might also be the level that an emergency will be declared, and EOC (virtual or actual) is initiated, especially if mosquitoes test positive by PCR.
5	Human Case(s) w/ Evidence of Local Transmission within one or more communities	Present	N/A*	Extensive mosquito trapping and testing of the mosquito population in the neighborhood with traps designed to collect <i>Aedes aegypti</i> surrounding the confirmed human case. Sample at least 100 meter radius surrounding the confirmed human case. Placement of lethal ovi-traps and resting boxes in the area, backyard inspections to reduce breeding sites. neighborhood adulticide treatments, if possible, barrier spraying in the neighborhood	Same as #3 and #4 above. Emergency to be declared including to allow entrance of vector team into neighborhood of case patient(s). Large education campaign to surrounding neighborhood of case patients. Press release. Continue and/or expand door-to-door outreach efforts based on outbreak monitoring.

Maricopa County Dengue / Chikungunya / Zika Response Plan

Response level	Conditions	Vector Presence	Vector Abundance	Vector Response / Action	Epi Response / Action
1	No Human Case Activity	None	Not Present	None	Routine Passive Human Case Surveillance



Maricopa County Dengue / Chikungunya / Zika Response Plan

Response level	Conditions	Vector Presence	Vector Abundance	Vector Response / Action	Epi Response / Action
2	No Human Case Activity	Present	High	Increased <i>Aedes aegypti</i> trapping and testing	Routine passive surveillance; consider initiating enhanced passive surveillance



Maricopa County Dengue / Chikungunya / Zika Response Plan

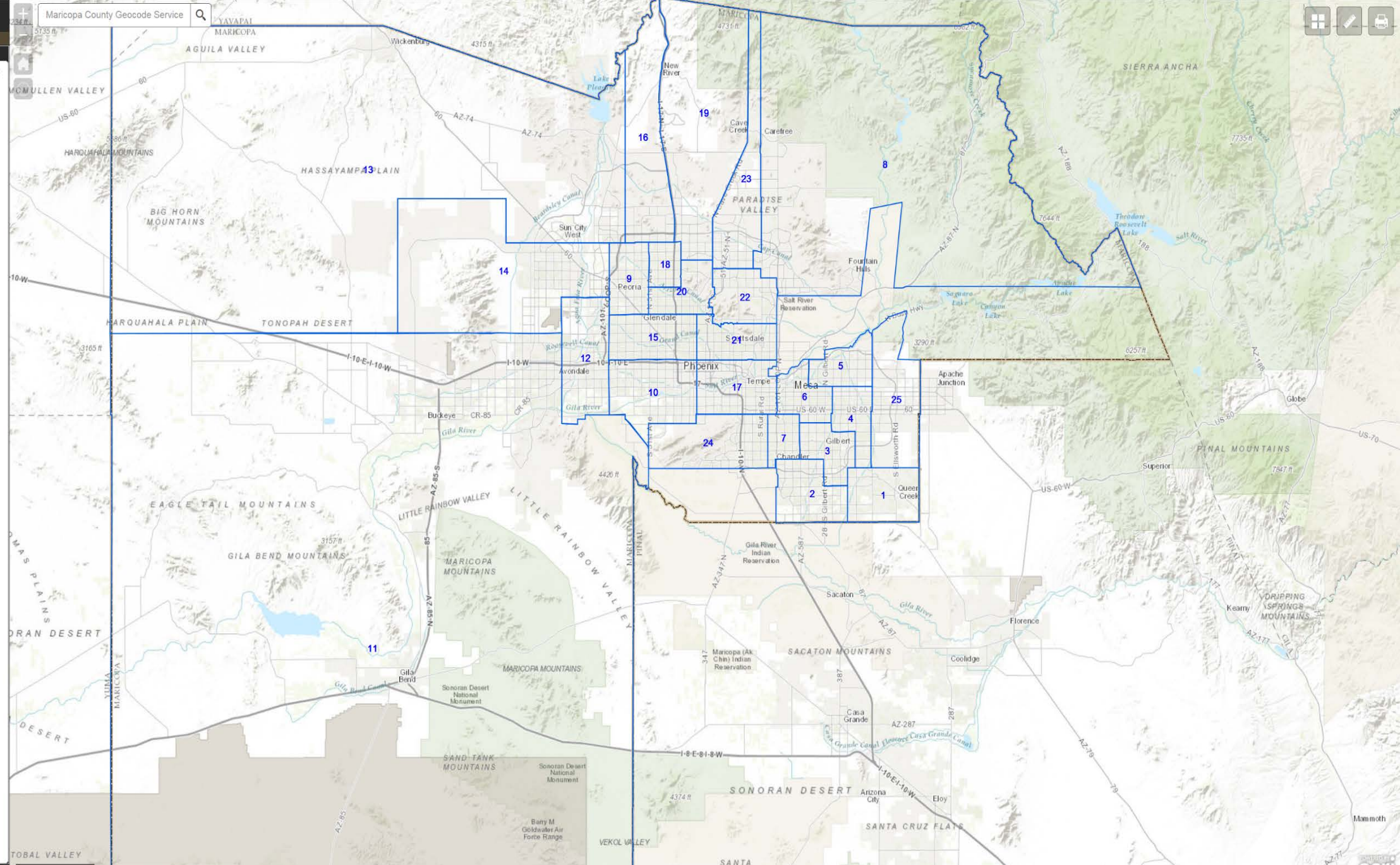
Response level	Conditions	Vector Presence	Vector Abundance	Vector Response / Action	Epi Response / Action
3	Suspect / Probable or Confirmed Human Case (Import Only)	Present	Some Vector Activity	Check historical CO2 trapping records for the presence of <i>Aedes aegypti</i> in the area, increase trapping and testing of mosquitoes in the area surrounding the suspect case with traps designed to collect <i>Aedes aegypti</i> . Will get address of patient from epi and confirm if we have permission to set traps immediately near the house. Will test mosquito for chik/dengue/Zika as possible for PCR and if positive mosquito is found see level 4/5.	Rapid case investigation, including arranging for additional laboratory testing and patient and/or family interview (includes questions about travel/exposure history, if the patient is seeing mosquitos in or near their home, and asking permission to set traps immediately near their house). Will also give prevention education to the patient and family. MCVV to be notified.



Layer List

Operational Layers

- MC_Section
- 2015_Districts
- ZeroTraps2016_W38
- Aedes Species
- Culex Species
- RSI
- Service Requests
- Routine Trap
- CountyMaricopa



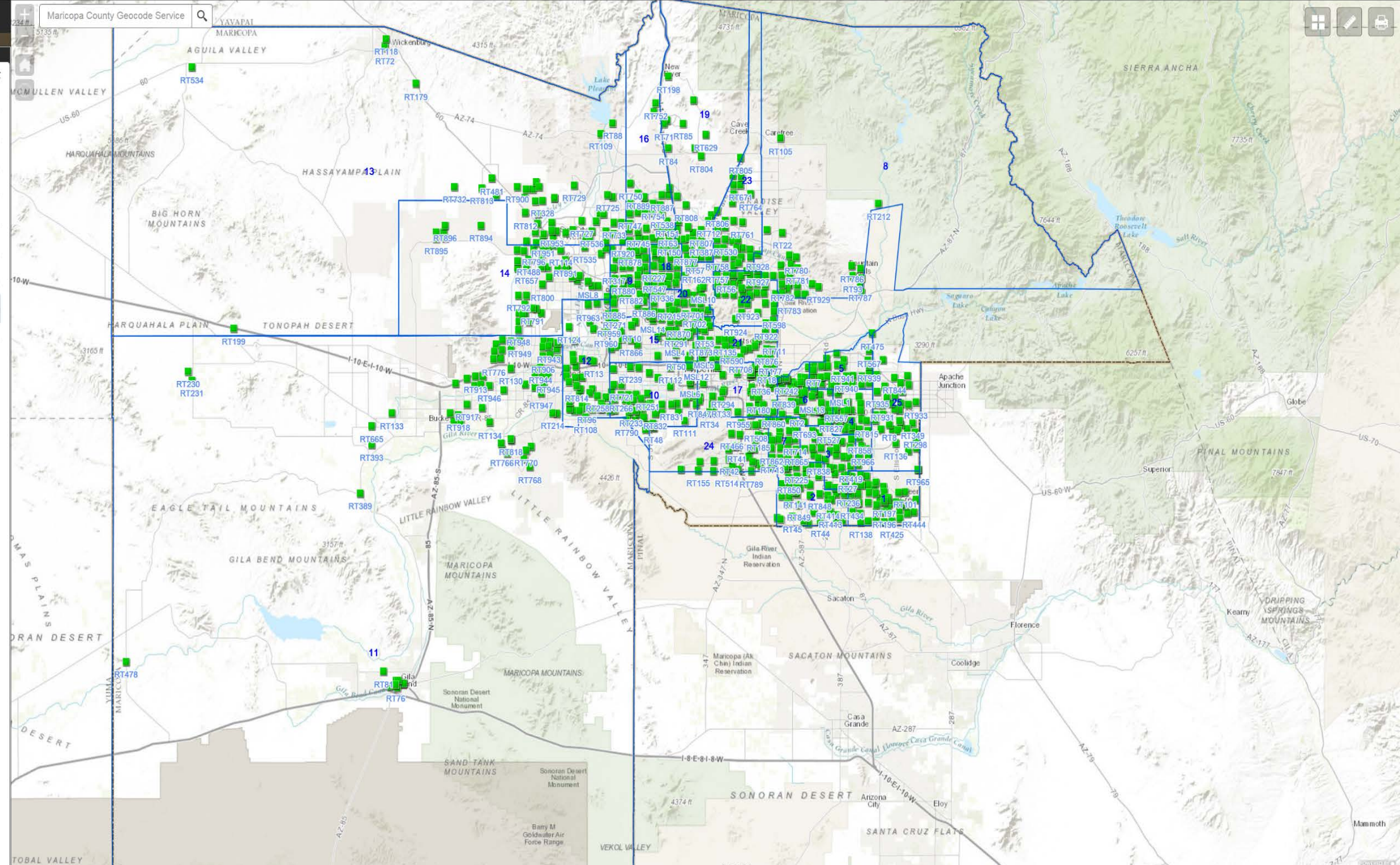
Maricopa County Geocode Service

YAVAPAI MARICOPA

Layer List

Operational Layers

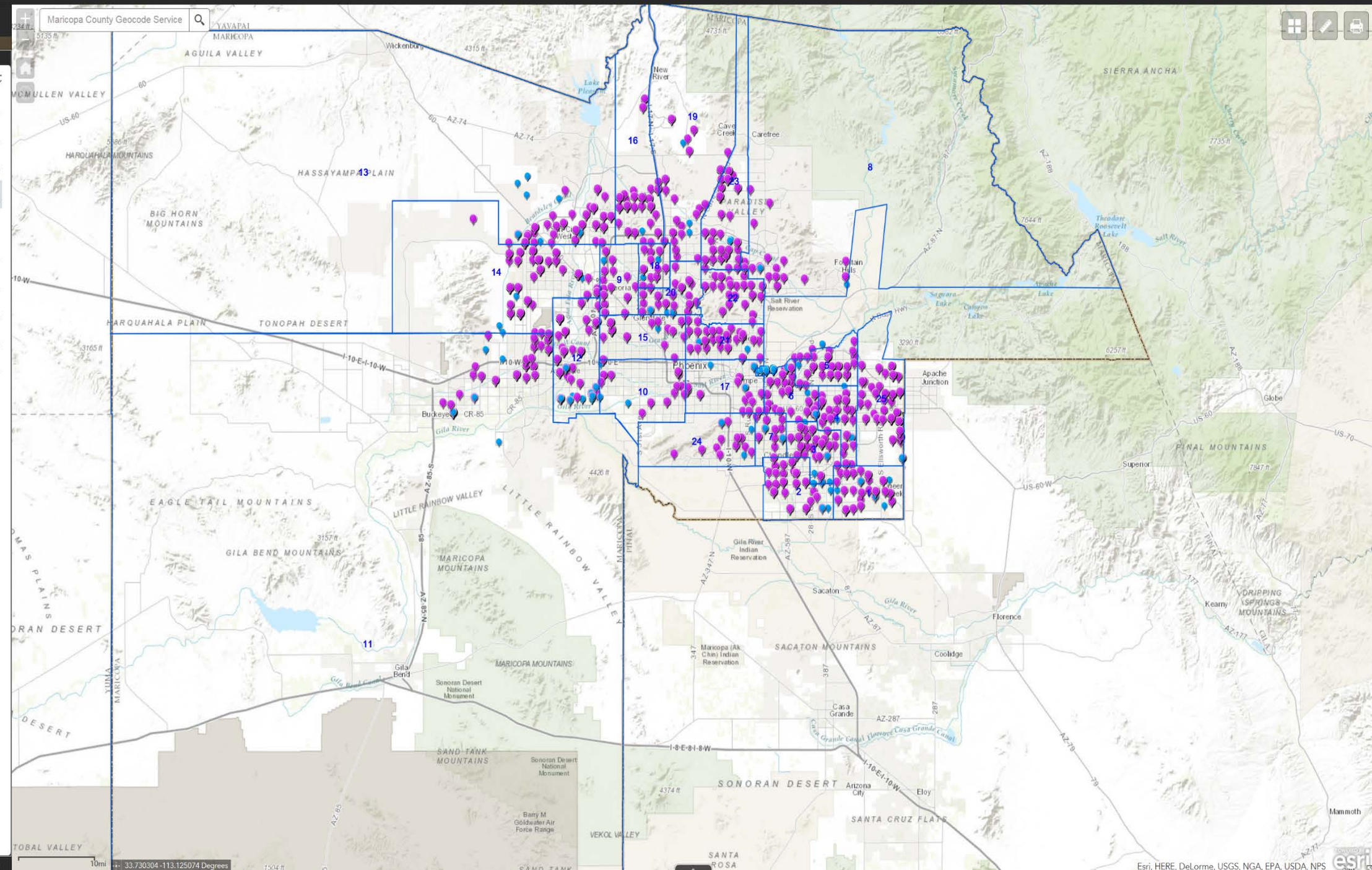
- MC_Section
- 2015_Districts
- ZeroTraps2016_W38
- Aedes Species
- Culex Species
- RSI
- Service Requests
- Routine Trap
- CountyMaricopa



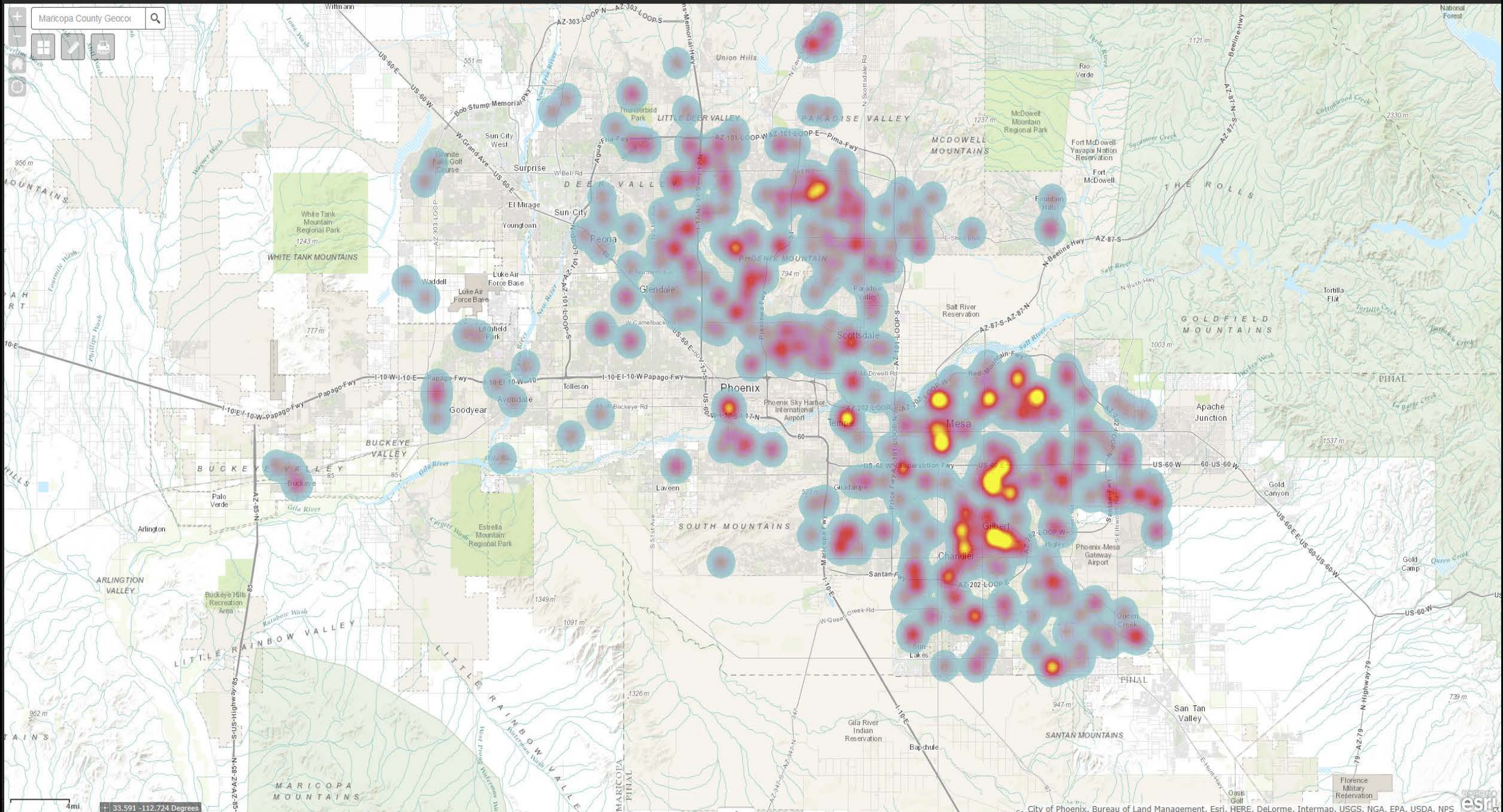
Layer List

Operational Layers

- MC_Section
- 2015_Districts
- ZeroTraps2016_W38
- Aedes Species
 - Ae aegypti
 - Ae vexans
- Culex Species
- RSI
- Service Requests
- Routine Trap
- CountyMaricopa



2016 Aedes aegypti activity-Maricopa County Vector Control



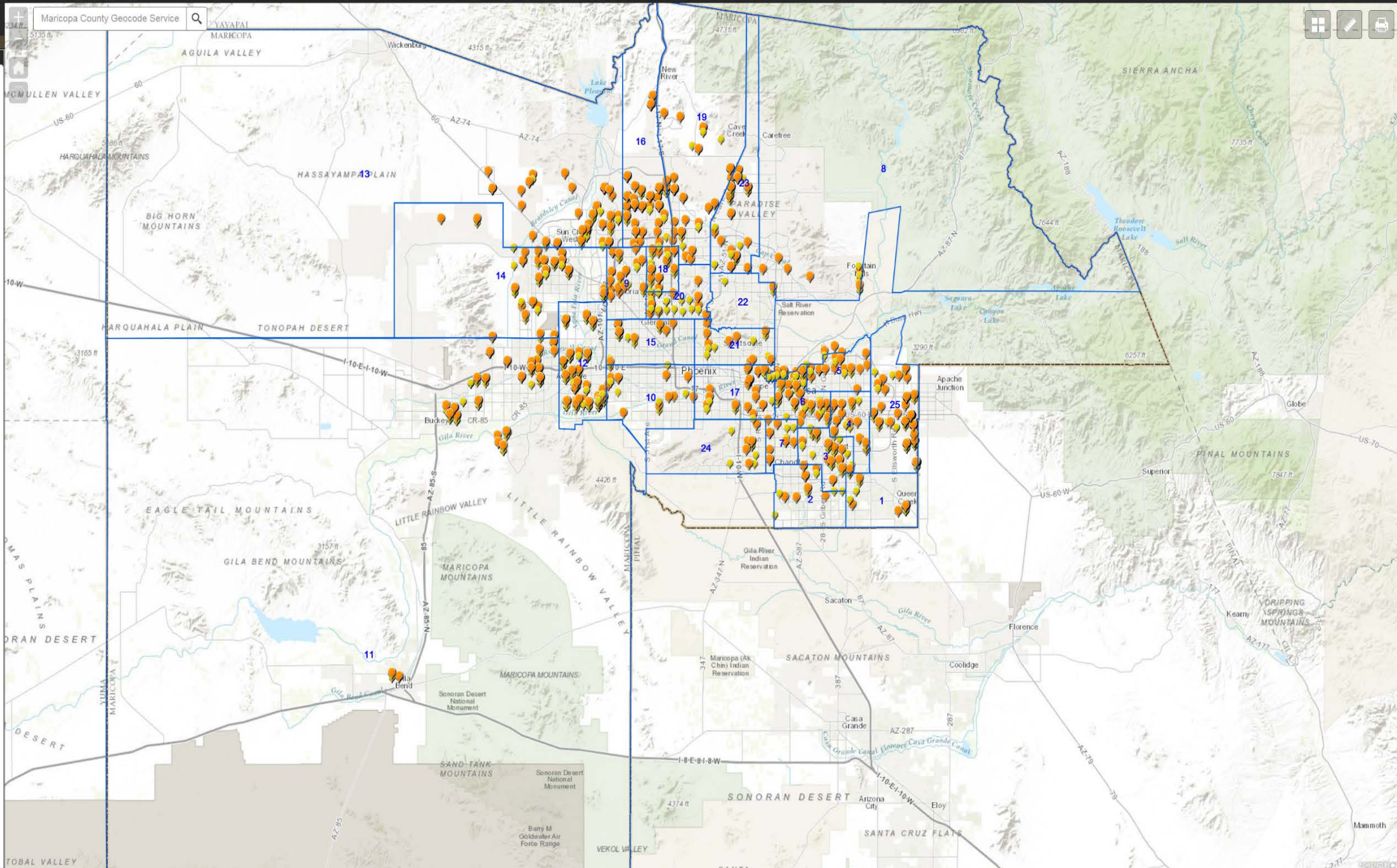
Layer List

Operational Layers

- MC_Section
- 2015_Districts
- ZeroTraps2016_W38
- Aedes Species
- Culex Species
- RSI
- Service Requests
- Routine Trap
- CountyMaricopa

Cx quinquefasciatus

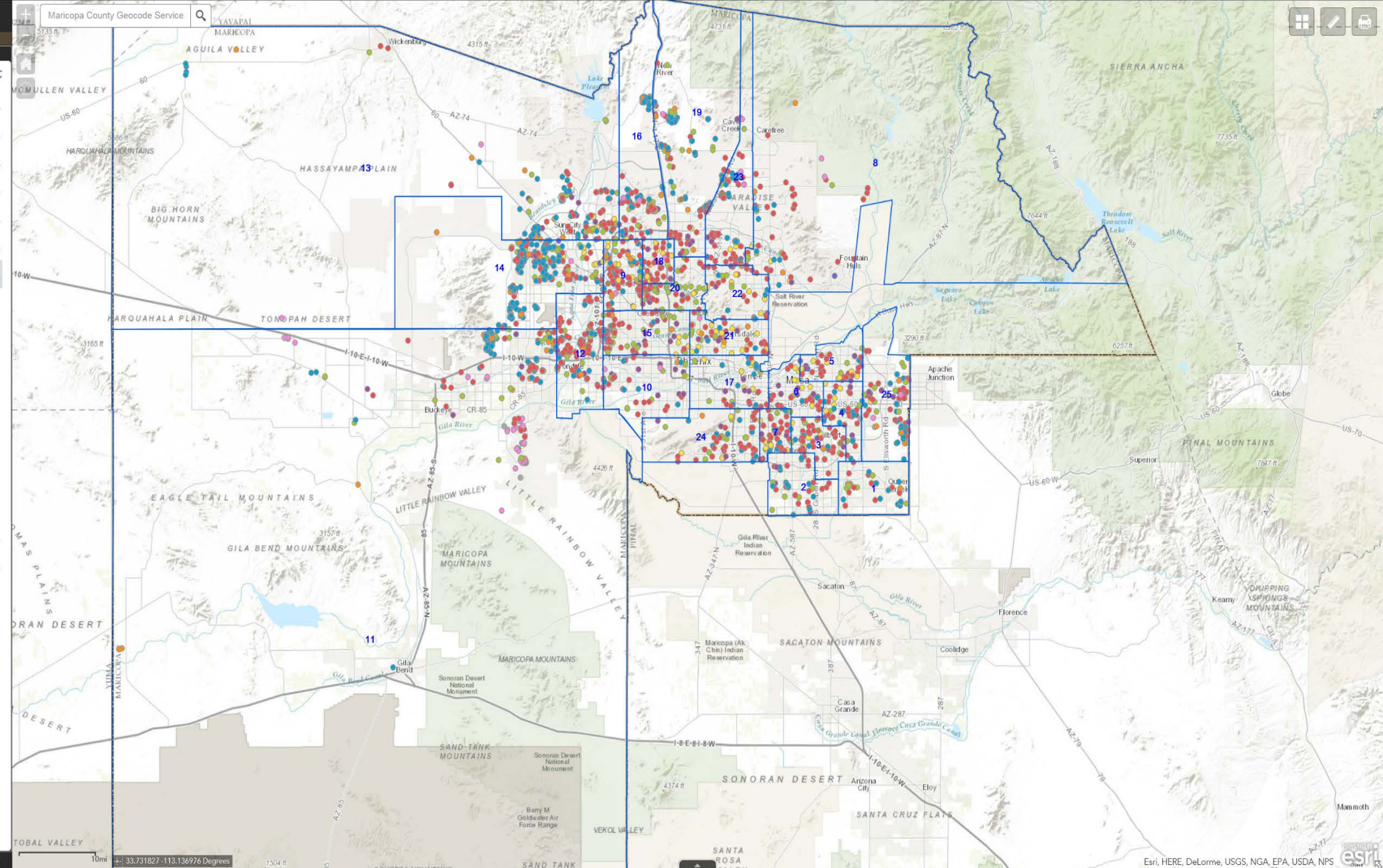
Cx tarsalis



Layer List

Operational Layers

- MC_Section
- 2015_Districts
- ZeroTraps2016_W38
- Aedes Species
- Culex Species
- RSI
- Service Requests
- Green Pool
- Source Unknown
- Stagnant Water
- Bees
- Source Known
- Rodent
- Flies
- Fogging List
- General Information
- Info on Roof Rats
- Other
- Routine Trap
- County/Maricopa

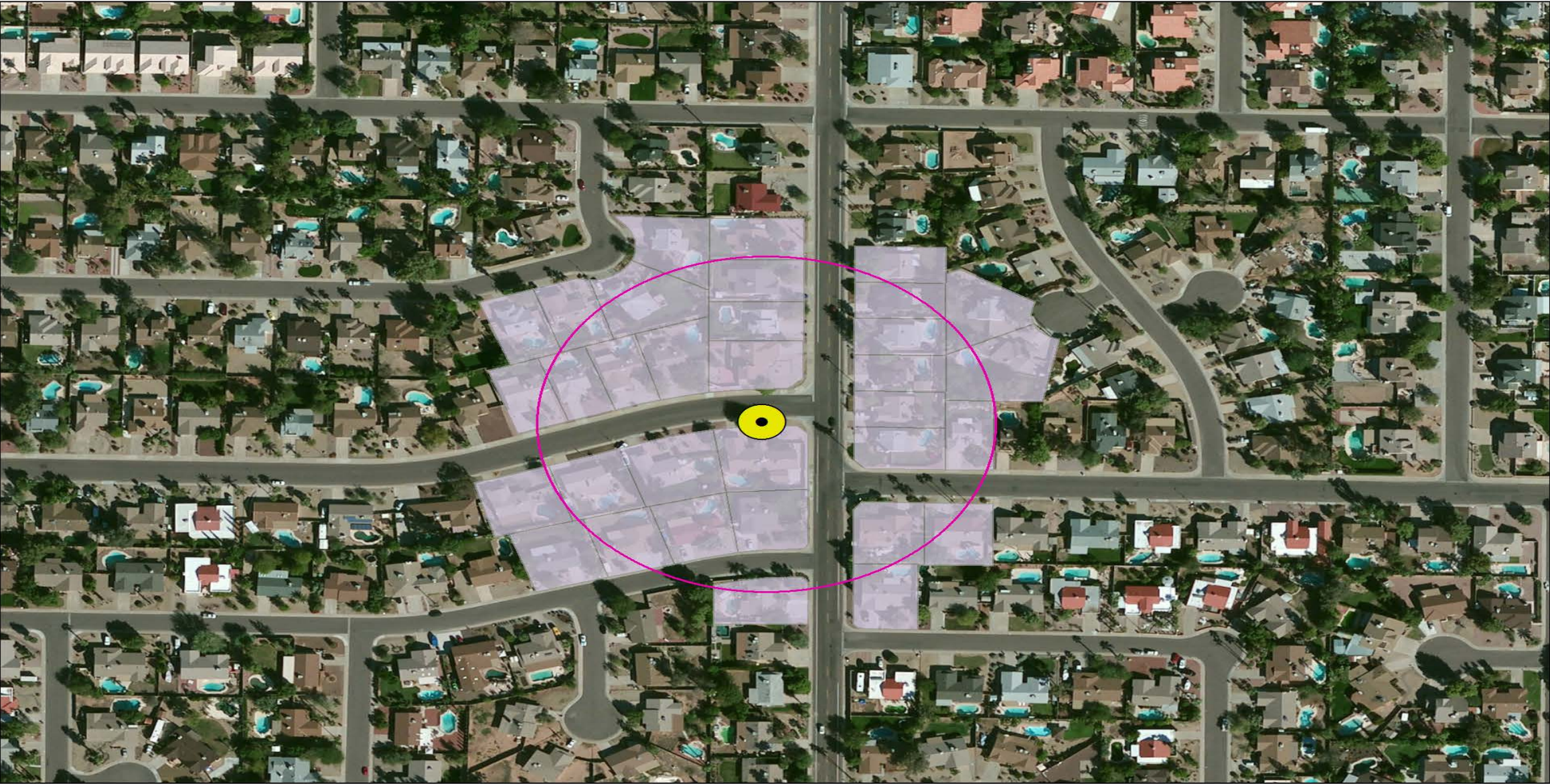


Maricopa County Dengue / Chikungunya / Zika Response Plan

Response level	Conditions	Vector Presence	Vector Abundance	Vector Response / Action	Epi Response / Action
	<p>Strong Suspect / Probable / Confirmed Human Case</p>	<p>Vector Presence High</p>	<p>Above Established Thresholds and/or PCR + Mosquito samples</p>	<p>Extensive mosquito trapping and testing of the mosquito population in the neighborhood with traps designed to collect <i>Aedes aegypti</i>. Sample at least 100 meter radius surrounding the suspect/probable/confirmed human case. Placement of lethal ovi-traps and resting boxes in the area, backyard inspections to reduce breeding sites. neighborhood adulticide treatments based on trapping data. Conduct source reduction and/or larviciding as indicated.</p>	<p>Same as #3 above. Plus: Public health team to assess need to go door to door in the immediate neighborhood (minimum area = 100 meter radius surrounding suspect patient house). Will leave door hangers and give education to all the home owners in the neighborhood. This might also be the level that an emergency will be declared, and EOC (virtual or actual) is initiated, especially if mosquitoes test positive by PCR.</p>



Zika Scenario



0 50 100 Yards

Legend:

-  Zika Case Location
-  Zika affected parcels (33)



Maricopa County Dengue / Chikungunya / Zika Response Plan

Response level	Conditions	Vector Presence	Vector Abundance	Vector Response / Action	Epi Response / Action
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Human Case(s) w/ Evidence of Local Transmission within one or more communities

Present

N/A*

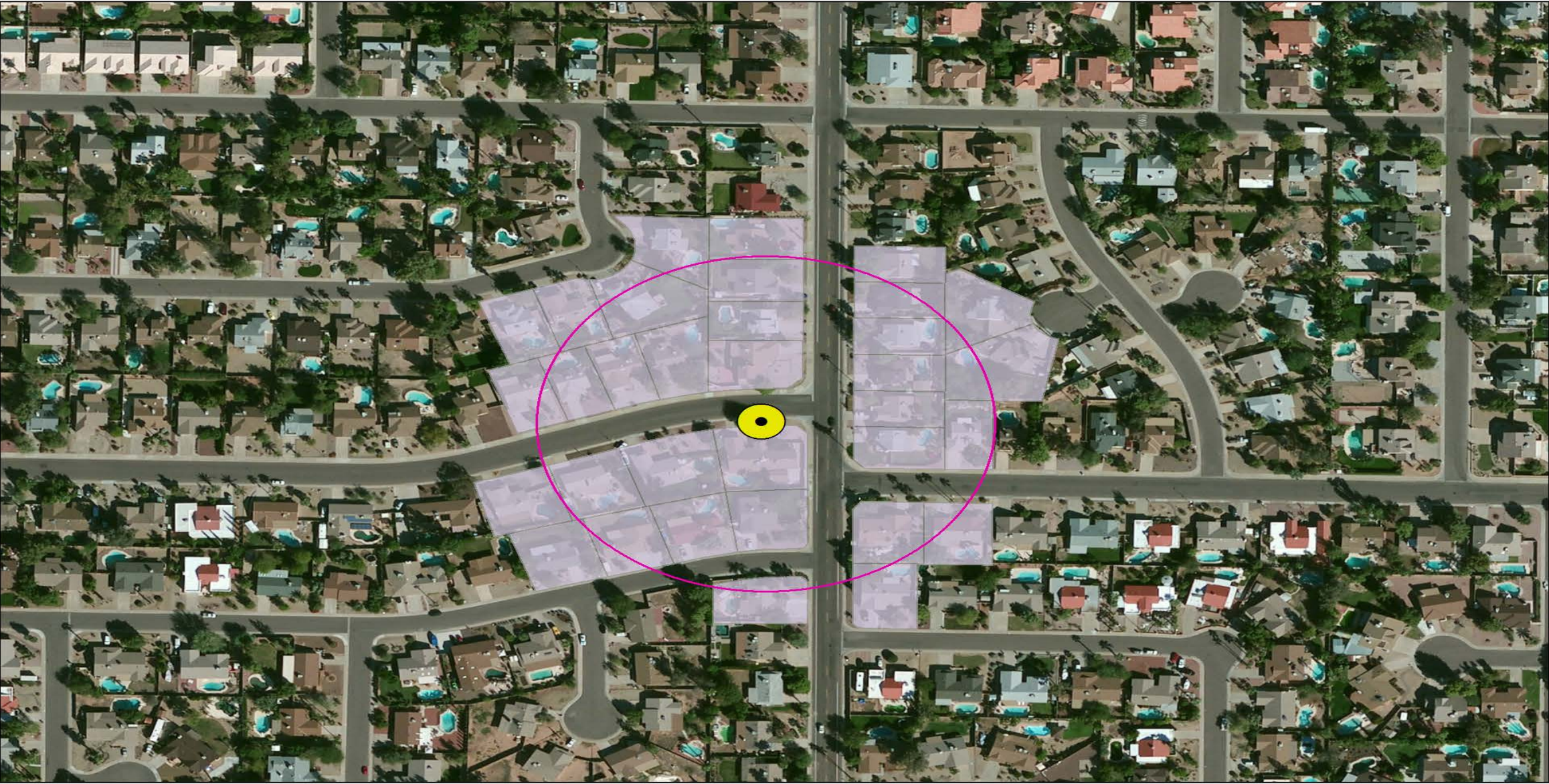
Extensive mosquito trapping and testing of the mosquito population in the neighborhood with traps designed to collect *Aedes aegypti* surrounding the confirmed human case. Sample at least 100 meter radius surrounding the confirmed human case. Placement of lethal ovi-traps and resting boxes in the area, backyard inspections to reduce breeding sites. neighborhood adulticide treatments, if possible, barrier spraying in the neighborhood

Same as #3 and #4 above. Emergency to be declared including to allow entrance of vector team into neighborhood of case patient(s). Large education campaign to surrounding neighborhood of case patients. Press release. Continue and/or expand door-to-door outreach efforts based on outbreak monitoring.





Zika Scenario



0 50 100 Yards

Legend:

-  Zika Case Location
-  Zika affected parcels (33)



**MARICOPA COUNTY
ENVIRONMENTAL SERVICES DEPARTMENT**

AFFIDAVIT FOR SEARCH WARRANT

COUNTY OF MARICOPA, STATE OF ARIZONA

SEARCH WARRANT # _____

Your affiant, _____, a deputy officer in the State of Arizona, being first duly sworn, upon oath, deposes and says:

That on or about the _____ day of _____, 2016, in the County of Maricopa, State of Arizona, the crime of Maintaining a Public Nuisance was being committed by

_____, in the following manner.

_____ is/are maintaining a public health nuisance, as described below, that is breeding mosquitoes or has a potential for breeding mosquitoes at a property under their ownership or where they reside.

That the following facts included in this Affidavit for Search Warrant establish probable cause for believing that grounds for the issuance of a search warrant exist for the premises at _____, AZ 85____:

A person residing at the above mentioned property has contracted a mosquito borne virus capable of infecting local mosquito populations which can spread the virus to other residents in the community.

And/or

The above mentioned property is within 100 meters of a property where a person has contracted a mosquito borne virus capable of infecting local mosquito populations which can spread the virus to other residents in the community.

And/or

There is a history of Aedes aegypti and/or Aedes albopictus mosquitoes within 100 meters of the above mentioned property which are capable of spreading mosquito borne diseases for at least 100 meters from the affected property.

And/or

A positive mosquito sample has already been identified from the above mentioned property.

And/or

Property owner/resident refused inspection of their property for the presence of mosquitoes capable of spreading vector borne diseases on the inspector’s initial visit.

**MARICOPA COUNTY
ENVIRONMENTAL SERVICES DEPARTMENT**

AFFIDAVIT FOR SEARCH WARRANT

That affiant has probable cause to believe, that there is now on the above mentioned premises conditions constituting a likelihood that the property may be a breeding place for mosquitoes which are capable of carrying and transmitting disease, including Dengue Fever, Chikungunya and Zika Virus, to any person or persons. This condition is in violation of Maricopa County Environmental Health Code, Chapter III, Regulation 2.

On _____, 2016, Inspector _____ with Maricopa County Environmental Services Department (“Department”) was dispatched to the property at _____, Arizona 85__ to investigate a report of a human case of a mosquito borne disease at the property a property within 100 meters of property reported to have a human case of a mosquito borne disease a report of a positive mosquito sample at the property a history of Aedes aegypti and/or Aedes albopictus mosquitoes within 100 meters of the property. Inspector _____ arrived at approximately _____ am/pm and knocked on the door but received no response. Inspector _____ then filled out and attached a Department Order to the **front door** requesting the property owner/resident contact the Maricopa County Vector Control Office immediately to arrange for an inspection of the property to determine if there are mosquitoes on the property that are breeding or likely to breed. The Inspector then departed.

Property owner/resident did not contact the Department so on _____, 2016, Inspector _____ returned to the property at _____ at approximately _____ am/pm to check on the condition of the property. Inspector knocked on the door but received no response. The Department Order had been had not been removed from the front door.

Wherefore affiant prays that a search warrant be issued commanding that an immediate search be made of the premises to determine if the human case of vector borne mosquito disease history of Aedes aegypti and/or Aedes albopictus mosquitoes at the property property located within 100 meters of the human case of vector borne mosquito disease property located within 100 meters of the property with a history of Aedes aegypti and/or Aedes albopictus mosquitoes has infected local mosquitoes in the area, to examine the property’s yard to determine if it constitutes breeding locations for, and/or there are, mosquitoes which are capable of carrying and transmitting disease, including Dengue Fever, Chikungunya or Zika Virus to any person or persons and to destroy, remove, or prevent such nuisance, source of filth, or cause of sickness by implementing methods approved by the Department’s Director, pursuant to A.R.S. § 36-603.

AFFIANT
MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT

SUBSCRIBED AND SWORN before me this _____ day of _____, 2016.

JUSTICE OF THE PEACE

JUSTICE COURT

ABATEMENT ORDER

W/O#

ORDEN DE GESTIÓN

MARICOPA COUNTY VECTOR CONTROL

LA OFICINA DE CONTROL VECTORIAL DEL CONDADO DE MARICOPA

The Maricopa County Environmental Health Code (MCEHC), Chapter III, Regulation 2, prohibits a person from maintaining or permitting any accumulation of water in which mosquitoes breed or are likely to breed. This Regulation requires that "the owner, occupant, or person in control of any place where mosquitoes are breeding, or which constitutes a breeding place for mosquitoes shall take all necessary and proper steps to eliminate the mosquito breeding and to prevent its recurrence through the elimination of or the institution of necessary control measures at mosquito breeding sites." If mosquito breeding is present on your property and you do not take immediate action to abate the breeding present on your property the Maricopa County Vector Control Division (MCVC) may obtain a search warrant pursuant A.R.S. §36-603 to abate all breeding sites observed. MCVC may also take action to recoupe any costs associated with the abatement efforts which may include placing a lien against your property as allowed under MCEHC Chapter I, Regulation 14.

El Código de Salud Ambiental del Condado de Maricopa, Capítulo III, Regulación 2, prohíbe que una persona mantenga o permita cualquier acumulación de agua en la que se propicie la propagación de mosquitos o exista un criadero de mosquitos. Esta Regulación requiere que "el dueño, ocupante, o la persona en control de cualquier lugar en el que se crien mosquitos o que propicie el que se puedan propagar mosquitos, debe tomar toda la acción necesaria y los pasos adecuados para eliminar el foco de mosquitos y para prevenir que la actividad recurra. Esto mediante la eliminación de los criaderos o la implementación de las medidas necesarias de control en los lugares donde se propagan mosquitos." Si la propagación de mosquitos se da en su propiedad y usted no toma acción inmediata para eliminar esta propagación en su propiedad, la Oficina de Control Vectorial del Condado de Maricopa (MCVC) puede obtener una orden de cateo conforme a A.R.S. § 36-603 para eliminar todos los criaderos de mosquitos observados. MCVC también puede tomar acción para recuperar todos los costos implicados en la eliminación de estos criaderos de mosquitos, incluyendo la imposición de un derecho de retención o embargo preventivo (lien) sobre su propiedad, como está establecido en el Código de Salud, Capítulo I, Regulación 14 (lien)

A Maricopa County Vector Control Officer has been to your *property* to conduct an inspection for the accumulation of water in which mosquitoes are breeding or are likely to breed, pursuant to MCEHC Chapter III, Regulation 2.
En conformidad con la Regulación 2 descrita en la parte superior de este documento, un Oficial de Control Vectorial del Condado Maricopa, estuvo en esta localidad, para realizar una inspección relacionada a acumulación de agua en la que se están criando o pudieran propagarse mosquitos.

A person residing at the above mentioned property has contracted a mosquito borne virus capable of infecting local mosquito populations in violation of Maricopa County Environmental Health Code ("MCEHC") Chapter III, Regulation 2.
Una persona residente de la propiedad mencionada arriba ha contraído un virus transmitido por un mosquito y ahora puede infectarse la población local de mosquitos, en violación al Código de Salud Ambiental del Condado Maricopa (MCEHC), Capítulo III, Regulación 2.

And/or Y/O The above mentioned property is within 100 meters of a property where a person has contracted a mosquito borne virus capable of infecting local mosquito populations in violation of MCEHC Chapter III, Regulation 2.
La propiedad mencionada arriba está a unos 100 metros de una propiedad donde hay una persona infectada con un virus transmitido por un mosquito y ahora puede infectarse la población local de mosquitos, en violación al Código de Salud Ambiental del Condado Maricopa (MCEHC), Capítulo III, Regulación 2.

And/or Y/O The above mentioned property is within 100 meters of a property that has a history of Aedes aegypti and/or Aedes albopictus mosquitoes constituting a likelihood that the property and or the surrounding area is a breeding place for mosquitoes which are capable of carrying and transmitting disease, including Dengue Fever, Chikungunya and Zika Virus, to any person or persons in violation of MCEHC Chapter III, Regulation 2.
La propiedad mencionada arriba está a unos 100 metros de una propiedad con un historial de criadero de mosquitos Aedes aegypti y/o Aedes albopictus, lo que constituye una posibilidad de que la propiedad o el área circunvecina esté propagando mosquitos que pueden transmitir a cualquier persona enfermedades como Dengue, Chikungunya y Zika, lo que es una violación al Código de Salud Ambiental del Condado Maricopa (MCEHC), Capítulo III, Regulación 2.

And/or Y/O A positive mosquito sample has been identified at the above mentioned property in violation of MCEHC Chapter III, Regulation 2.
Una muestra de mosquito que resultó positiva/infectada fue registrada en la propiedad mencionada arriba, lo que es una violación al Código de Salud Ambiental del Condado Maricopa (MCEHC), Capítulo III, Regulación 2.

Officer's Name/Nombre del Oficial: _____

Property Address/Dirección de la Propiedad: _____

Date/Fecha: _____ **Time/Hora:** _____ a.m. or p.m.

.(A) The Officer observed an accumulation of water on your property, which may be or is likely to breed mosquitoes. It is therefore ORDERED pursuant to A.R.S. § 36-602, that you take all necessary *steps* to eliminate mosquito breeding immediately.
El Oficial encontró agua acumulada en su propiedad, la cual probablemente es un criadero de mosquitos. De acuerdo a la regulación A.R.S. § 36-602, se ORDENA que usted tome todos los pasos necesarios para eliminar el criadero de mosquitos inmediatamente.

YOU ARE THEREFORE COMMANDED
POR LO TANTO, SE LE ORDENA

To make a search, accompanied by and under the direction of at least one member of Maricopa County Environmental Services Department ("Department"), between the hours of 6:30 A.M. and sunset as may be necessary to examine the yard at the premises to determine if it constitutes a breeding place for mosquitoes which are capable of carrying and transmitting disease, including Dengue Fever, Chikungunya or Zika Virus, to any person or persons; and to destroy, remove, or prevent such nuisance, source of filth, or cause of sickness by implementing methods approved by the Department's Director, pursuant to A.R.S. § 36-603. This may be accomplished by various methods including stocking the water with mosquito larvae-eating fish that may be obtained at the MCVC Office. Mosquito larvae-eating fish are available at no cost by calling 602-506-0700.

Realizar un recorrido/búsqueda acompañado por y bajo la dirección de por lo menos un miembro del Departamento de Servicios Ambientales del Condado Maricopa ("Departamento"), entre las horas de 6:30 am y el atardecer, según sea necesario, para examinar su patio en la propiedad para determinar si constituye ser un criadero de mosquitos con la capacidad de transmitir enfermedades a cualquier persona, incluyendo Dengue, Chikungunya o Zik; y para destruir, remover o prevenir molestias, fuentes de suciedad, o causa de enfermedad, al implementar métodos aprobados por el director del Departamento, conforme a la regulación A.R.S. § 36-603. Ud. puede optar por varios métodos para solucionar este problema, incluyendo: colocar peces Gambusia en el agua para que coman las larvas de los mosquitos. Estos peces pueden ser obtenidos sin costo alguno en la Oficina de Control Vectorial del Condado de Maricopa llamando al 602-506-0700.

Problem Area/Problema: _____

(B) The Officer was unable to conduct a full inspection of your property. Please call *the* Officer immediately to arrange for an inspection of your property to determine if there are bodies of water in which mosquitoes are breeding or are likely to breed. Failure to allow MCVC access to your property may lead to MCVC obtaining a search warrant to conduct a full inspection of your property.

El Oficial no pudo realizar una inspección completa en su propiedad. Por favor llame de inmediato al Oficial para coordinar que se lleve a cabo una inspección adecuada en su propiedad para determinar si existen o no focos de mosquitos o agua estancada en la que puedan propagarse mosquitos en su propiedad. Si Ud. no permite el acceso de la Oficina de Control Vectorial del Condado (MCVC) a su propiedad, MCVC obtendrá una orden de cateo para realizar una inspeccion completa de su propiedad.

Officer's Telephone #/Número de Teléfono del Oficial: _____

The Officer will return to your property. If you have failed to take necessary steps to eliminate mosquito breeding and to prevent its recurrence on your property, further legal action may be taken. Further legal action may include a criminal citation, a Search warrant, a lien against your property or monetary penalties.

Es posible que el Oficial regrese a su propiedad en aproximadamente 24 horas. Si usted falla en tomar los pasos necesarios para eliminar los criaderos de mosquitos o la posibilidad de que esta situación se repita en su hogar, se habrá de tomar entonces la debida acción legal. Esta acción puede incluir una citación criminal, una orden de cateo, un derecho de retención sobre su propiedad o una multa.

THIS ORDER WAS RECEIVED BY (PRINT)

ON (DATE)

ESTA ORDEN FUE RECIBIDA POR: (ESCRIBA SU NOMBRE EN LETRA DE MOLDE:

EN (FECHA)

**MARICOPA COUNTY
ENVIRONMENTAL SERVICES DEPARTMENT**

SEARCH WARRANT

COUNTY OF MARICOPA, STATE OF ARIZONA

WARRANT # _____

TO ANY PEACE OFFICER IN THE STATE OF ARIZONA:

Proof by affidavit having been made this date by _____, I am satisfied that there is probable cause to believe the following for the property at:

_____, **Maricopa County, Arizona 85**_____

in the County of Maricopa, State of Arizona:

A person residing at the above mentioned property has contracted a mosquito borne virus capable of infecting local mosquito populations in violation of Maricopa County Environmental Health Code (“MCEHC”) Chapter III, Regulation 2.

And/or

The above mentioned property is within 100 meters of a property where a person has contracted a mosquito borne virus capable of infecting local mosquito populations in violation of MCEHC Chapter III, Regulation 2.

And/or

The above mentioned property is within 100 meters of a property that has a history of Aedes aegypti and/or Aedes albopictus mosquitoes constituting a likelihood that the property and or the surrounding area is a breeding place for mosquitoes which are capable of carrying and transmitting disease, including Dengue Fever, Chikungunya and Zika Virus, to any person or persons in violation of MCEHC Chapter III, Regulation 2.

And/or

A positive mosquito sample has been identified at the above mentioned property in violation of MCEHC Chapter III, Regulation 2.

YOU ARE THEREFORE COMMANDED,

To make a search of the above-named premises, accompanied by and under the direction of at least one member of Maricopa County Environmental Services Department (“Department”), between the hours of 6:30 A.M. and sunset as may be necessary to examine the yard at the premises to determine if it constitutes a breeding place for mosquitoes which are capable of carrying and transmitting disease

including Dengue Fever, Chikungunya or Zika Virus, to any person or persons and to destroy, remove, or prevent such nuisance, source of filth, or cause of sickness by implementing methods approved by the Department’s Director, pursuant to A.R.S. § 36-603.

Return this warrant to me within five (5) days of the date thereof, as directed by A.R.S. § 13-3918.

Given under my hand and dated this _____ day of _____, 2016.

JUSTICE OF THE PEACE

JUSTICE COURT

Questions ?



Thank You

