

# CDC Hurricane Funding and Current Activities of the Arboviral Disease Branch 2019

Roxanne Connelly

Entomology and Ecology, Arboviral Disease Branch

Division of Vector-Borne Diseases

Centers for Disease Control and Prevention

*The findings and conclusions in this report are those of the author and do not necessarily represent the official position of the Centers for Disease Control and Prevention*



# Division of Vector-Borne Diseases

VISION: Create a future where vector-borne diseases no longer threaten public health

---

MISSION: Reduce illness and death due to VBDs

GOAL 1: Identify and detect vector-borne pathogens that cause disease in people

GOAL 2: Understand when, where, how often and how people are exposed to vector-borne pathogens

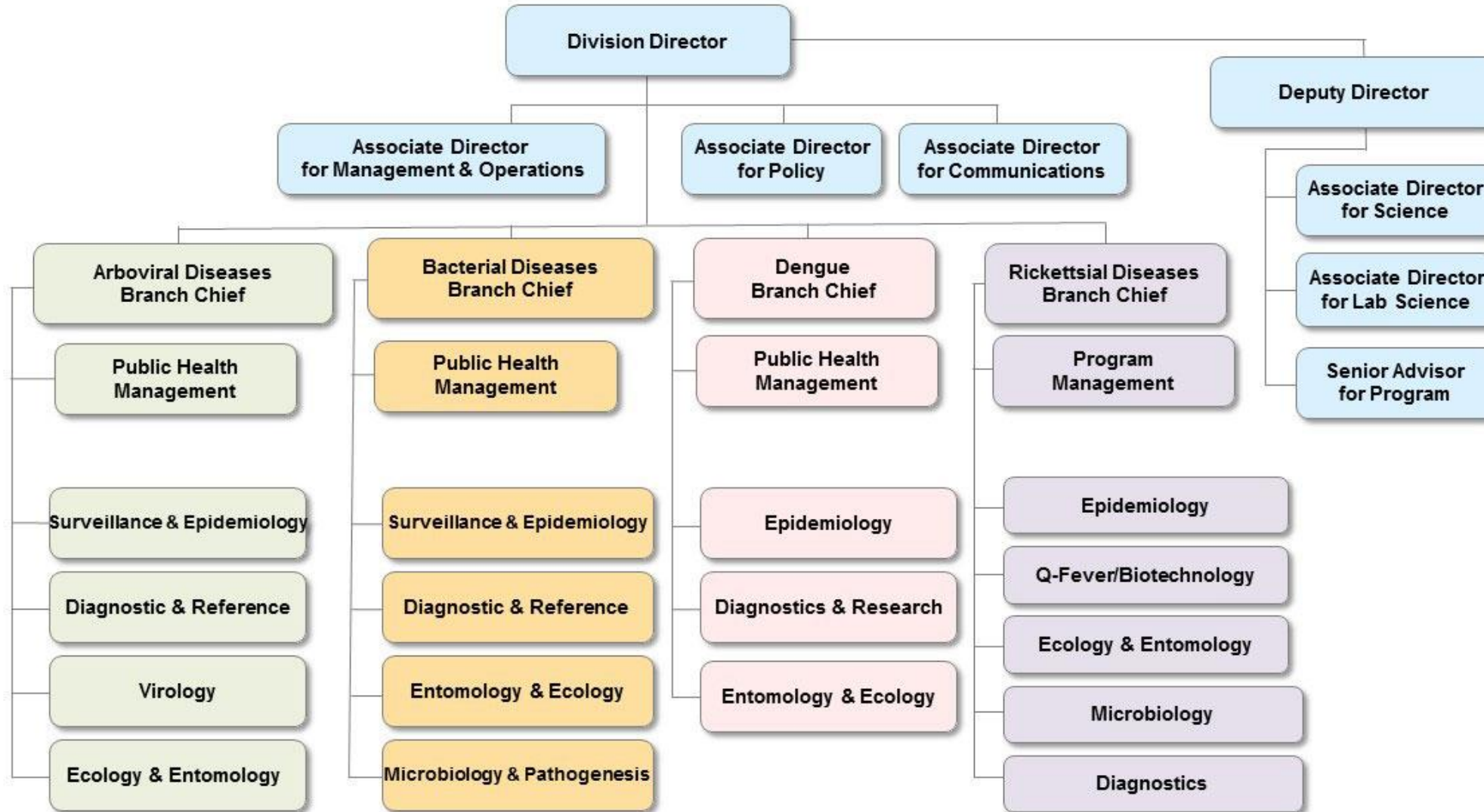
GOAL 3: Prevent exposure to vector-borne pathogens and mitigate consequences of infection

GOAL 4: Implement vector-borne disease diagnostics, surveillance, control and prevention programs



# National Center for Emerging and Zoonotic Infectious Diseases

## Division of Vector-Borne Diseases



Fort Collins CO

Puerto Rico

Atlanta GA

# Division of Vector-Borne Diseases: Funding Mechanisms

---

Broad Agency Agreements

Cooperative Agreements

Epidemiology and Laboratory Capacity Grants

Hurricane and Disaster Funding

Vector-borne Disease Centers of Excellence

# Broad Agency Agreements

- **Proposals for innovative research to improve the ability of CDC and its partners to effectively respond to public health outbreaks, conduct research, and perform disease prevention and control activities.**
- **In 2017, CDC awarded over \$10 million to eight institutions. CDC anticipates that the knowledge resulting from awards will contribute significantly to the evidence base for prevention and control of vector-borne diseases.**

John Hopkins University	2 years	\$500,000
<i>Improve understanding of behavior, biology and ecology of Zika virus vectors</i>		
MosquitoMate, Inc.	3 years	\$1,000,000
<i>Develop and evaluate strategies to suppress Zika virus vectors and reduce human virus transmission</i>		
Texas A&M University	4 years	\$1,200,923
<i>Improve understanding of Zika virus vector biology and ecology and dynamics of virus transmission in mosquito and at mosquito-human interface</i>		
University of Arizona	4 years	\$1,250,000
<i>Develop and evaluate strategies to suppress Zika virus vectors and reduce human virus transmission</i>		
University of New Mexico School of Medicine	4 years	\$1,301,000
<i>Develop and evaluate novel insecticide</i>		

# **CDC's Epidemiology and Laboratory Capacity (ELC) cooperative agreement**

- **provides annual funding to state, local, and territorial health departments to battle infectious disease threats in the United States.**
- **The goal of ELC vector-borne disease funding is to reduce the overall risk and number of people getting sick with illnesses from mosquito, tick, and flea bites.**
- **Health departments use funds to train or hire health department personnel who can identify, report, prevent, and respond to vector-borne disease threats and outbreaks.**





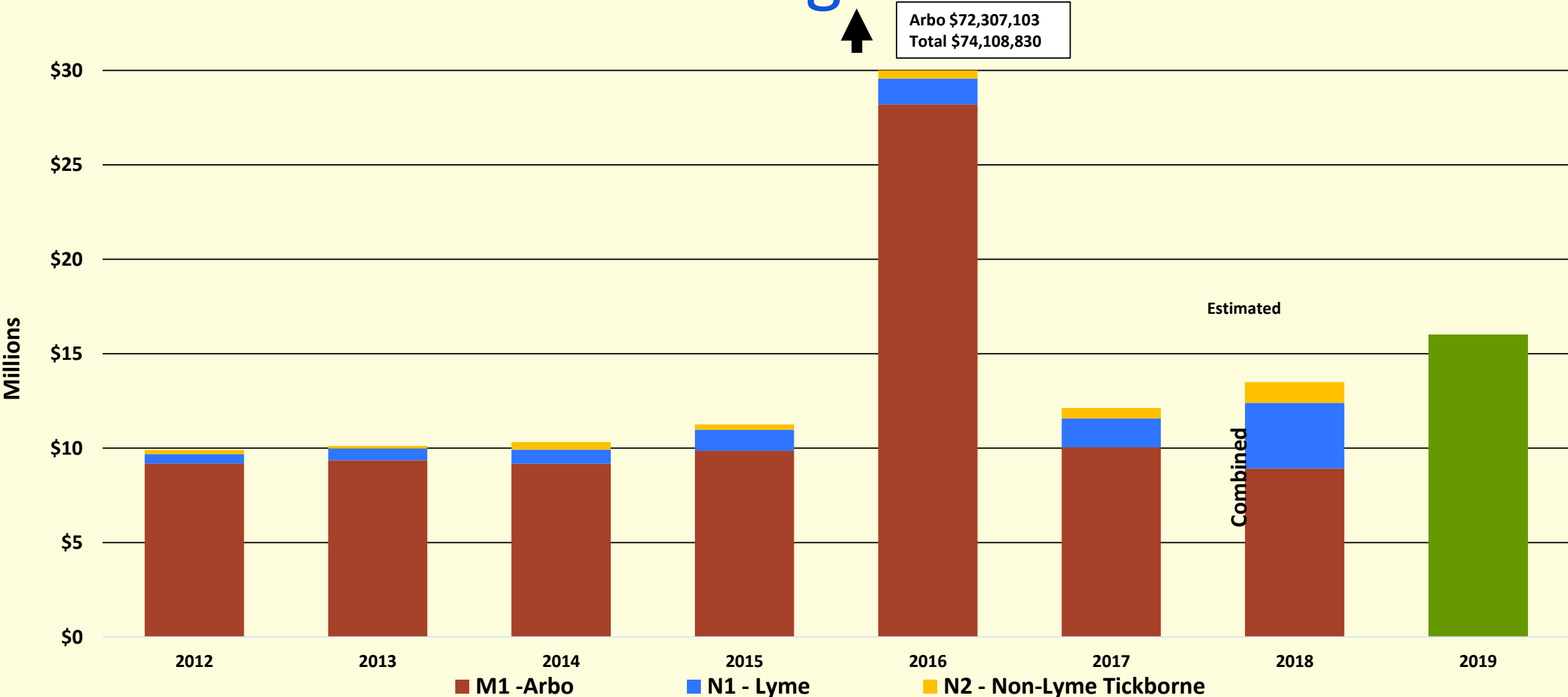
# ELC Vector-Borne Diseases Program Goal

Support Jurisdictions to build sustainable,  
locally relevant programs to identify, prevent  
and respond to vector-borne diseases





# ELC VBD Funding 2012-2019



## BUILDING OUR NATION'S CAPACITY TO RESPOND

### APPLIED RESEARCH

Conduct applied research to develop and validate innovative and effective vector-borne disease prediction, prevention, and control tools and methods.

- Improve mosquito & tick surveillance
- Address gaps in knowledge of vector biology & disease transmission
- Investigate and identify effective prevention and control methods
- Disseminate findings directly to the public health community

### RESPONSIVE TRAINING

Train vector biologists, entomologists, and medical providers in the knowledge and skills required to address vector-borne disease concerns.

- Training grants for working professionals
- Innovative academic programs for the next generation of public health entomologists
- Hands-on and web-based workshops to reach broad audiences in the vector surveillance & control community

### COMMUNITY OF PRACTICE

Strengthen and expand collaboration between academic communities and public health organizations for surveillance, prevention, and response.

- Targeted working groups with diverse membership from academic and public sectors
- Guidance to state and local agencies on effective approaches for vector surveillance & control
- Enhanced networks for communication, data sharing, and integration of research and public health practice

# VBD Centers of Excellence



**CDC Southeastern  
Center of Excellence in  
Vector Borne Diseases**  
The Gateway Program



**PACIFIC SOUTHWEST CENTER OF  
EXCELLENCE IN  
VECTOR-BORNE DISEASES**



**Midwest Center  
of Excellence**  
VECTOR-BORNE DISEASE



**Western Gulf Center of Excellence  
for Vector-Borne Diseases**

- Mississippi
- Alabama
- Georgia
- Florida
- North Carolina
- Tennessee

- California
- Arizona
- Nevada
- Utah
- Guam

- Wisconsin
- Michigan
- Iowa
- Illinois
- Minnesota

- New York
- NY City
- Maine
- Connecticut
- New Jersey
- Vermont
- Rhode Island

- Texas
- More

## Hurricane Funding – 2017 Hurricanes

- February 9, 2018
- Budget appropriated for an additional amount for “CDC-Wide Activities and Program Support”, \$200,000,000, to remain available until expended, for response, recovery, preparation, mitigation, and other expenses directly related to the consequences of Hurricanes Harvey, Irma, or Maria
- 64 eligible jurisdictions
- Ends Sept 2020/Dec 2020

# Hurricane Funding

- **Total amount awarded**
- CDC extramural funding total \$51,136,347
- DVBD – \$37,628,235
  - \$27,654,293 (states, includes both partner and jurisdiction awards).
  - \$10M for intramural, which funded \$600k to NACCHO and about \$2M to ICF

# Hurricane Funding

- Amount awarded to each state/territory – Vector only

Florida - \$5,454,237

Georgia - \$1,503,489

Louisiana - \$4,986,450

Mississippi - \$366,781

Texas - \$7,860,068

PR - \$ \$2,050,333

USVI - \$5,432,935

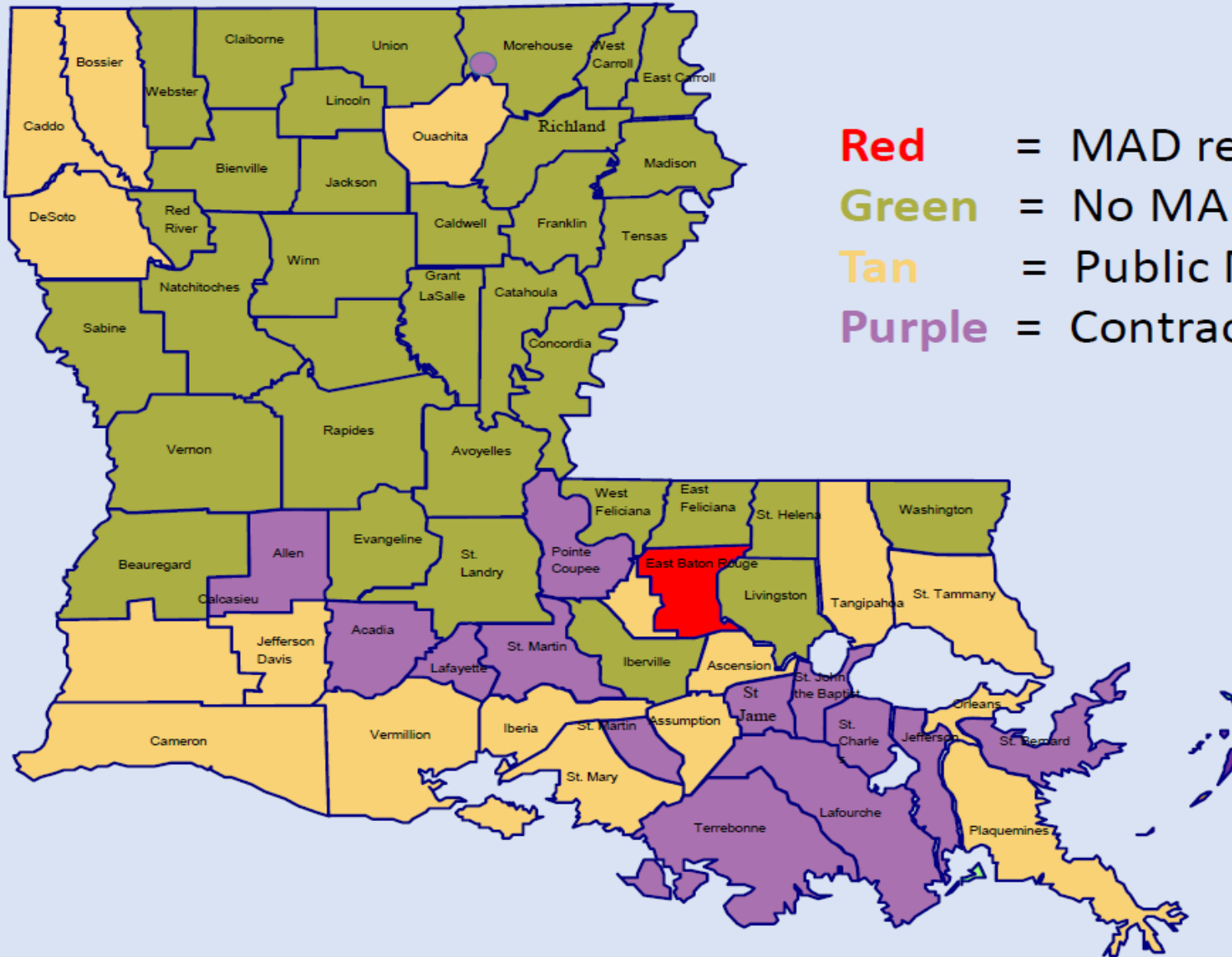


## Regional Tire Shredder

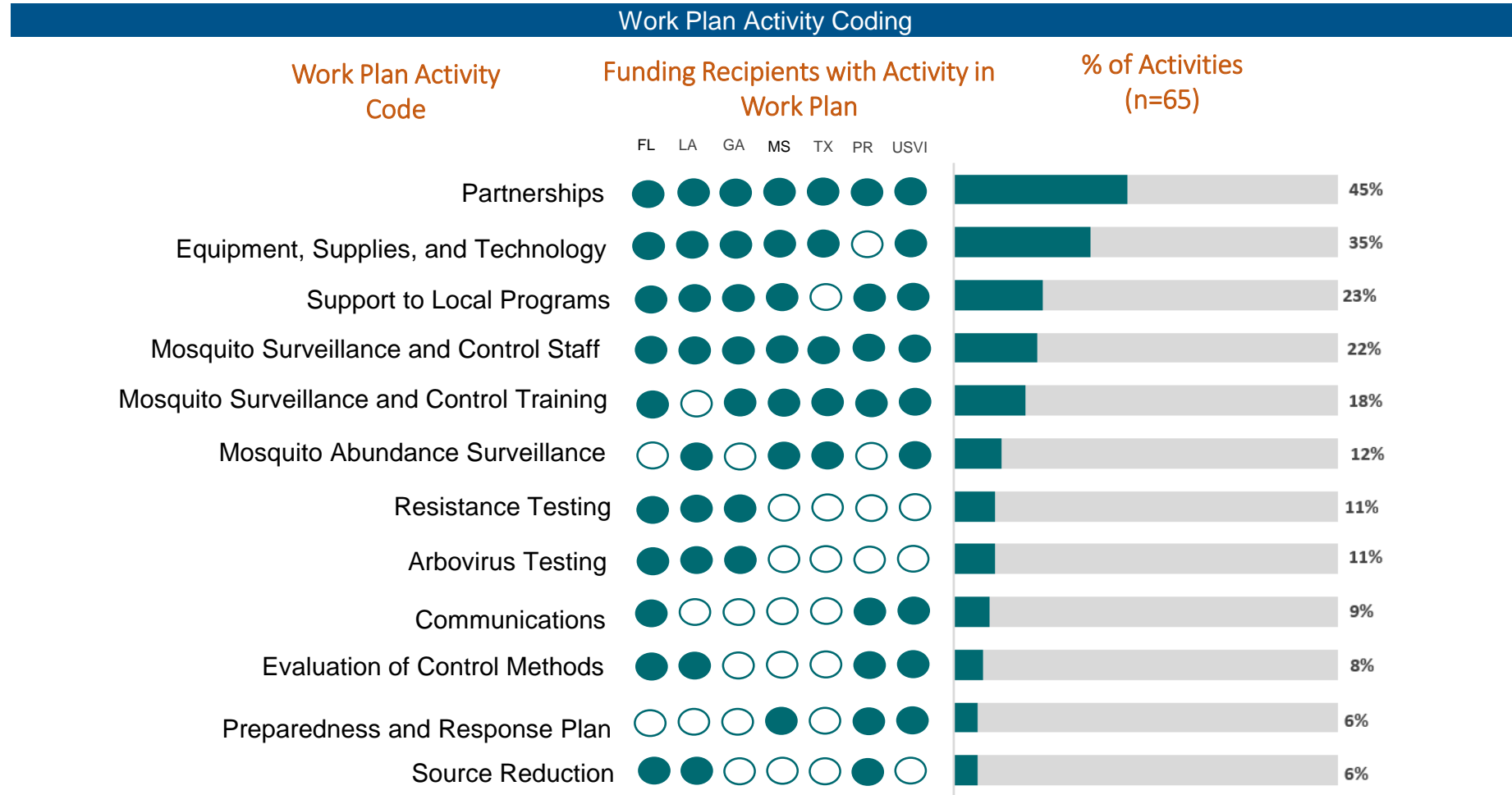




# Regional Tire Shredder



# Year 1 Results: Activities



# Year 1 Data



## Plans & SOPs

- 3 recipients have plans for mosquito surveillance and control during a hurricane response
- 5 recipients have SOPs for engaging with FEMA after a hurricane



## Trainings

- 4 recipients conducted 24 trainings on mosquito surveillance and control with 497 attendees



## Partnerships & Support

- 45 partnerships were established or maintained to support mosquito surveillance and control
- 213 local jurisdictions received funding for mosquito surveillance and control or insecticide resistance testing



## Staff Hired

- 43 new staff were hired (40.5 FTE) to perform mosquito surveillance, control, or management activities

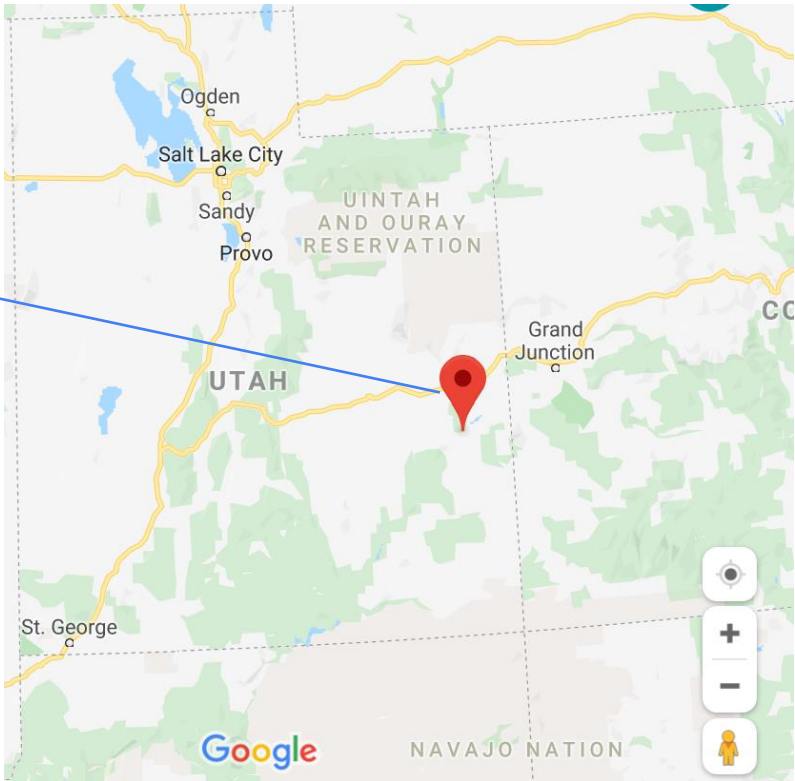
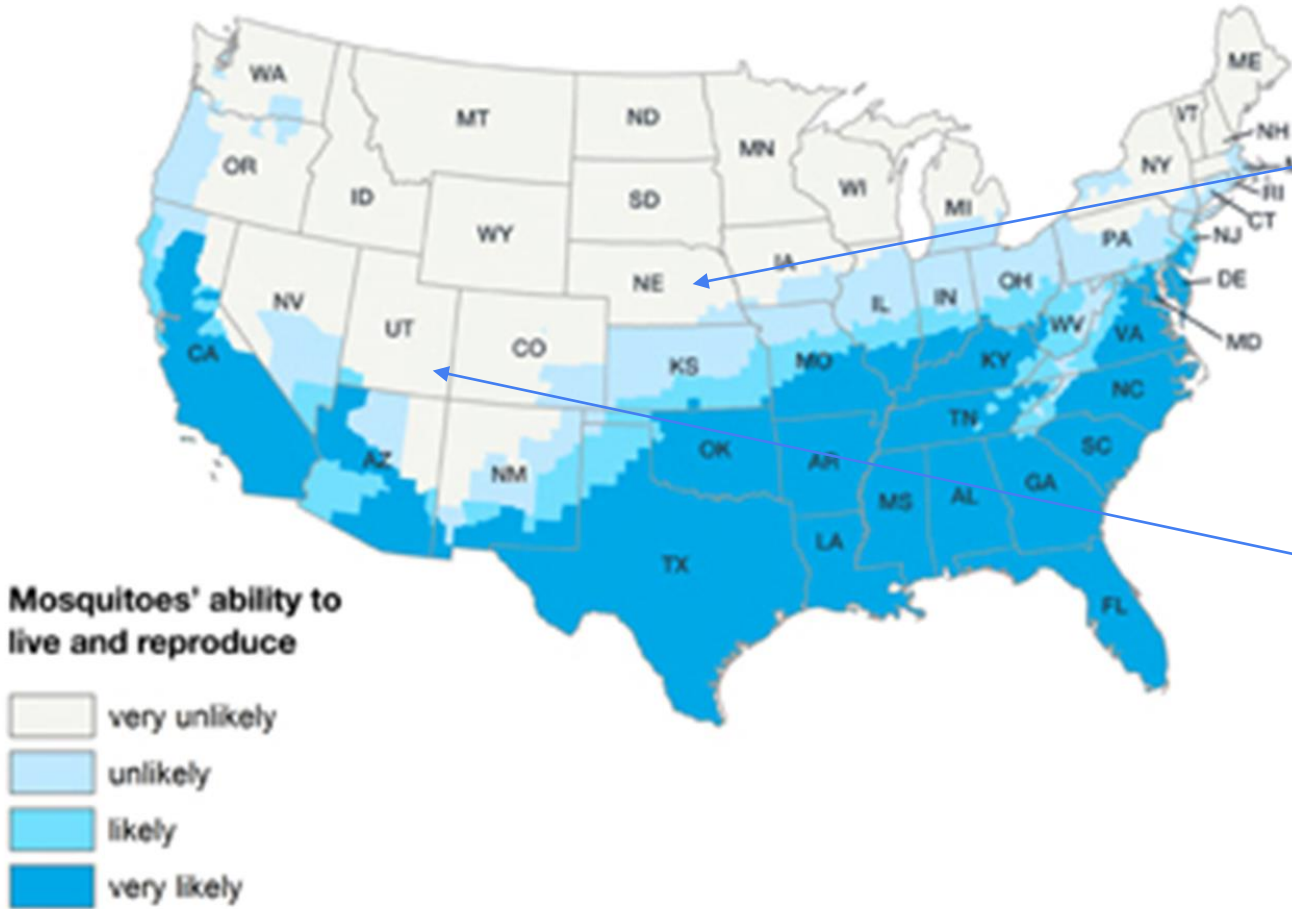
## **Intramural – DVBD/ADB/EET**

- **Insecticide Resistance Kits, Training, and Testing**
- **On-line taxonomic key**
- **Evaluation novel interventions – Wolbachia infected males – MosquitoMate/Harris County, TX and Verily/USVI**
- **JAMCA: Mosquito Control Response to Natural Disasters**

### Estimated Potential Range of *Aedes aegypti* in the United States, 2017



Estimated Potential Range of *Aedes aegypti* in the United States, 2017

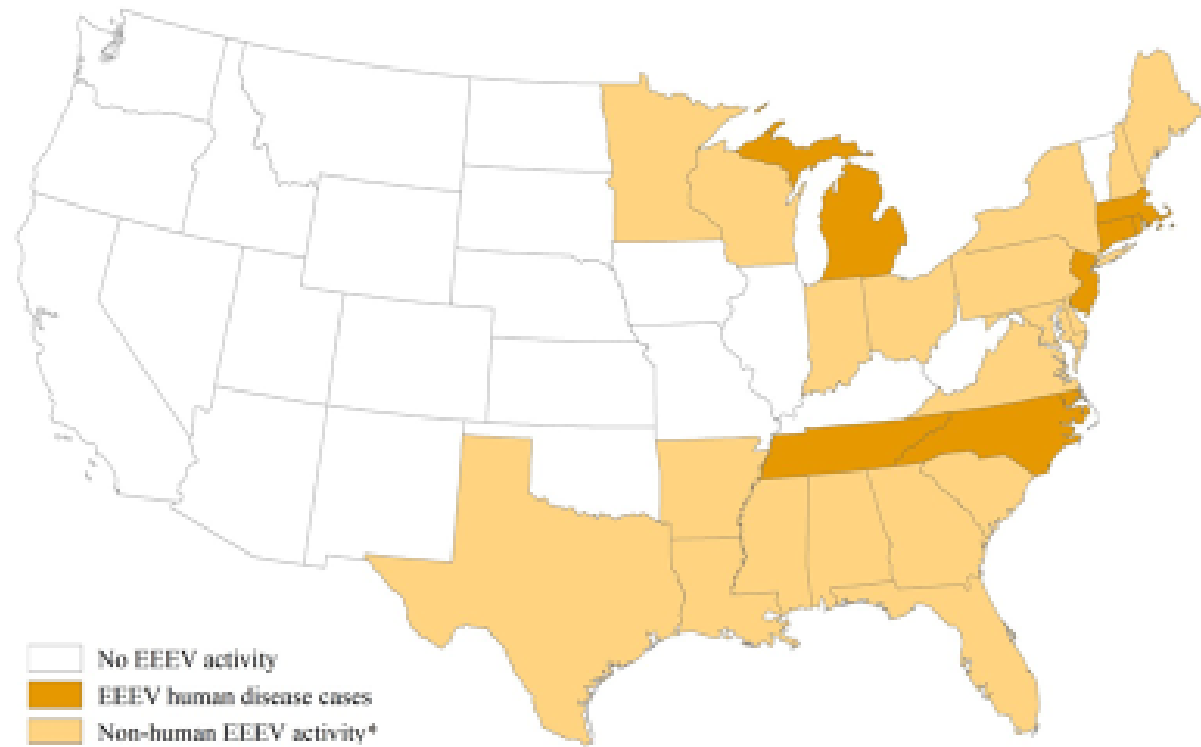




**Eastern equine encephalitis virus (EEEV) activity in 2019**

As of October 15<sup>th</sup>, 21 counties in seven states have reported human cases of EEEV disease to ArboNET for 2019 [Figure 4 and Table 2]. A total of 126 counties in 25 states have reported EEEV activity in non-human species only.

**Figure 4. Eastern equine encephalitis virus (EEEV) activity reported to ArboNET, by state — United States, 2019 (as of October 15, 2019)**



\*EEEV veterinary disease cases, or infections in mosquitoes, birds, or sentinel animals

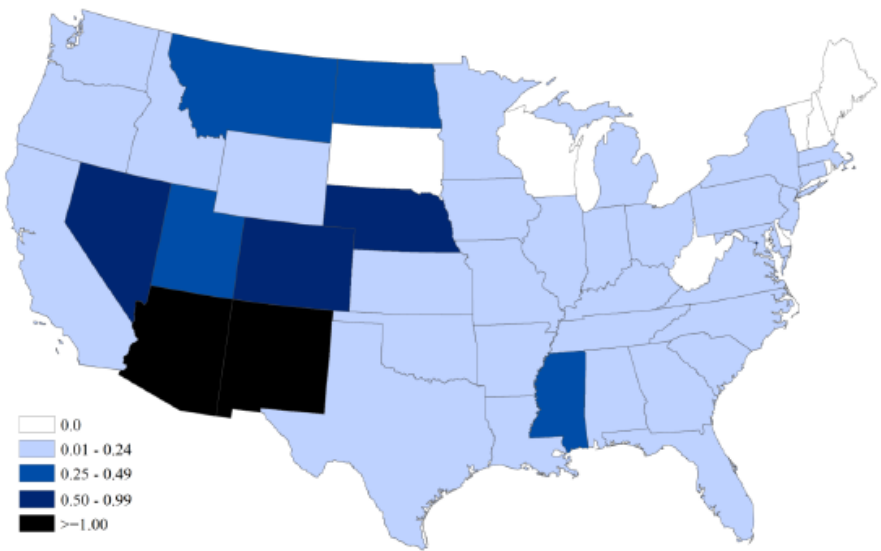
**Table 2. Eastern equine encephalitis virus human disease cases reported to ArboNET, United States, 2019**

State	Neuroinvasive diseasecases	Non-neuroinvasive diseasecases	Total cases*	Deaths
Connecticut	4	0	4	3
Massachusetts	12	0	12	3
Michigan	10	0	10	5
New Jersey	3	0	3	0
North Carolina	1	0	1	0
Rhode Island	3	0	3	1
Tennessee	1	0	1	0
<b>Totals</b>	<b>34</b>	<b>0</b>	<b>34</b>	<b>12</b>

\*Includes confirmed and probable cases.

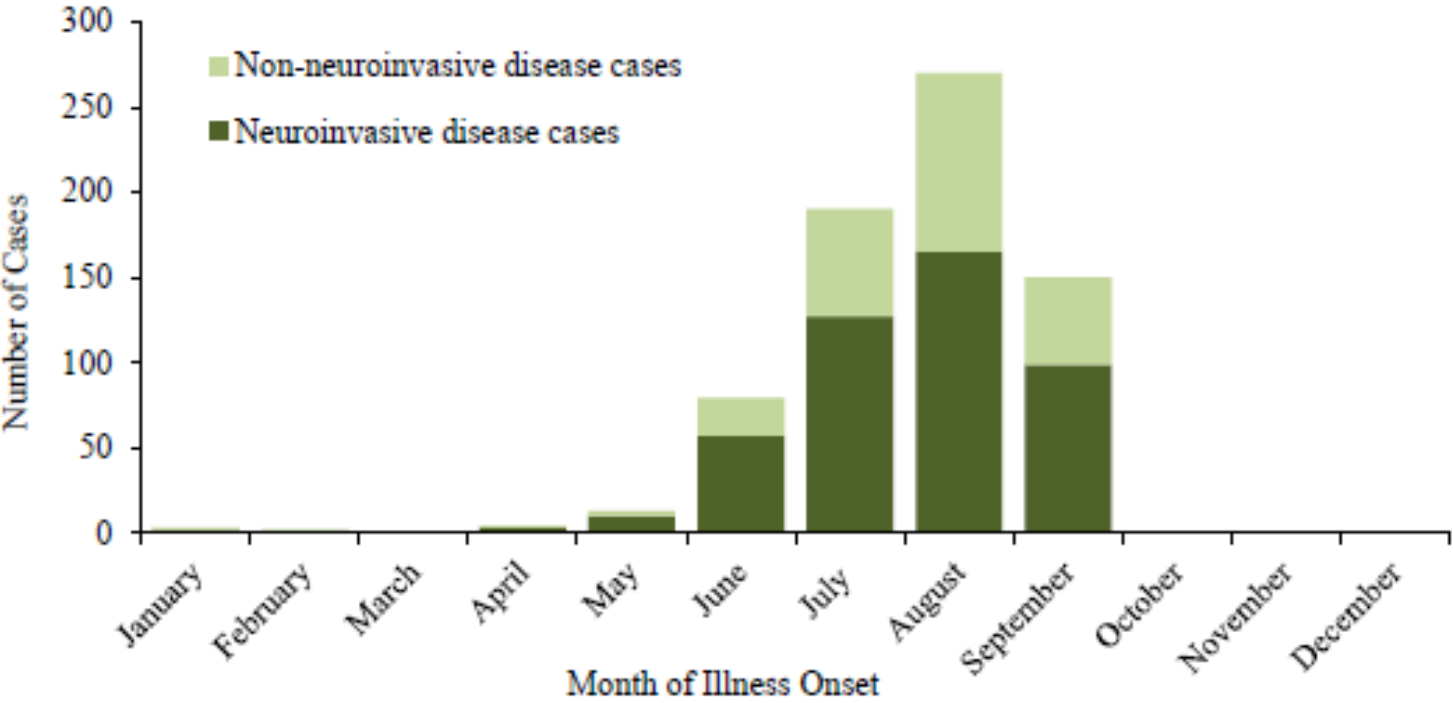


**Figure 3. West Nile virus (WNV) neuroinvasive disease incidence\* reported to ArboNET, by state — United States, 2019 (as of October 15, 2019)**



\*Incidence per 100,000 population

**Figure 2. West Nile virus disease cases reported to ArboNET, by month of onset\* — United States, 2019 (as of October 15, 2019)**



\*Cases missing onset date (n=19)

State	Total Cases – West Nile	Deaths
Arizona	168	16
California	145	4
Colorado	92	6
Nevada	39	0
New Mexico	38	4

# West Nile Virus - future

- Updating guidelines (from 2013)
- Meeting with ECDC
- Intervention evaluations

- Roxanne Connelly
- CDC, Division of Vector-borne Diseases
- [csz5@cdc.gov](mailto:csz5@cdc.gov)