AFTERMATTHew, Came Irma!

MOSQUITOES & STORMS

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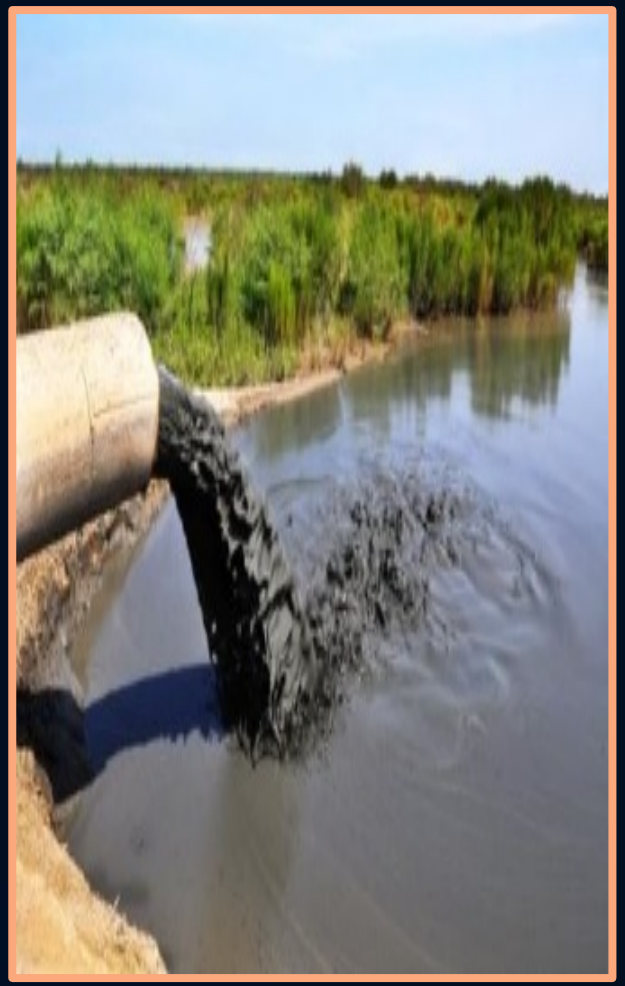
CHATHAM COUNTY MOSQUITO CONTROL
SAVANNAH GA

CHATHAM COUNTY, Georgia

Major factors contributing to high mosquito numbers in our area include:

Rain

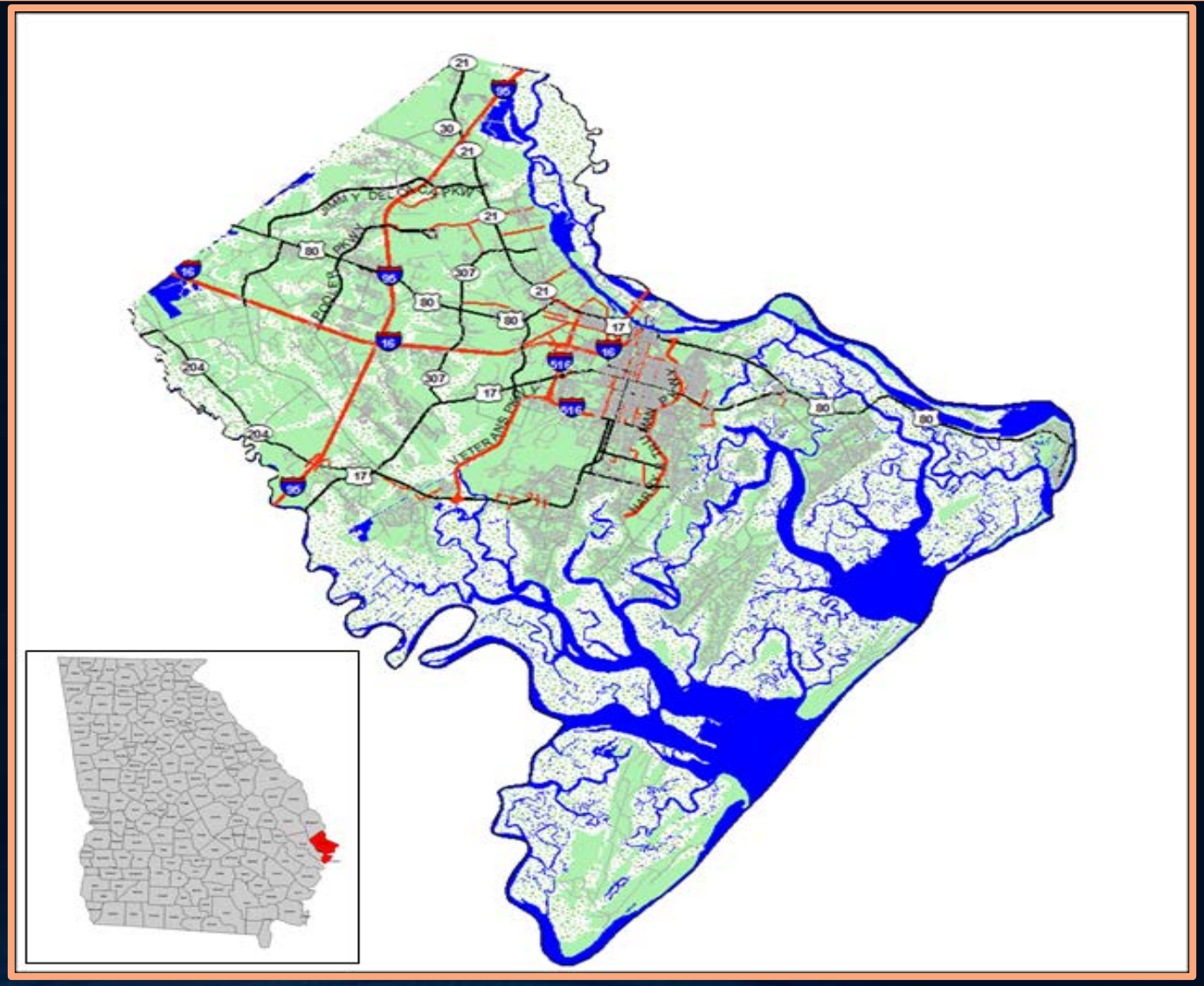
Tides



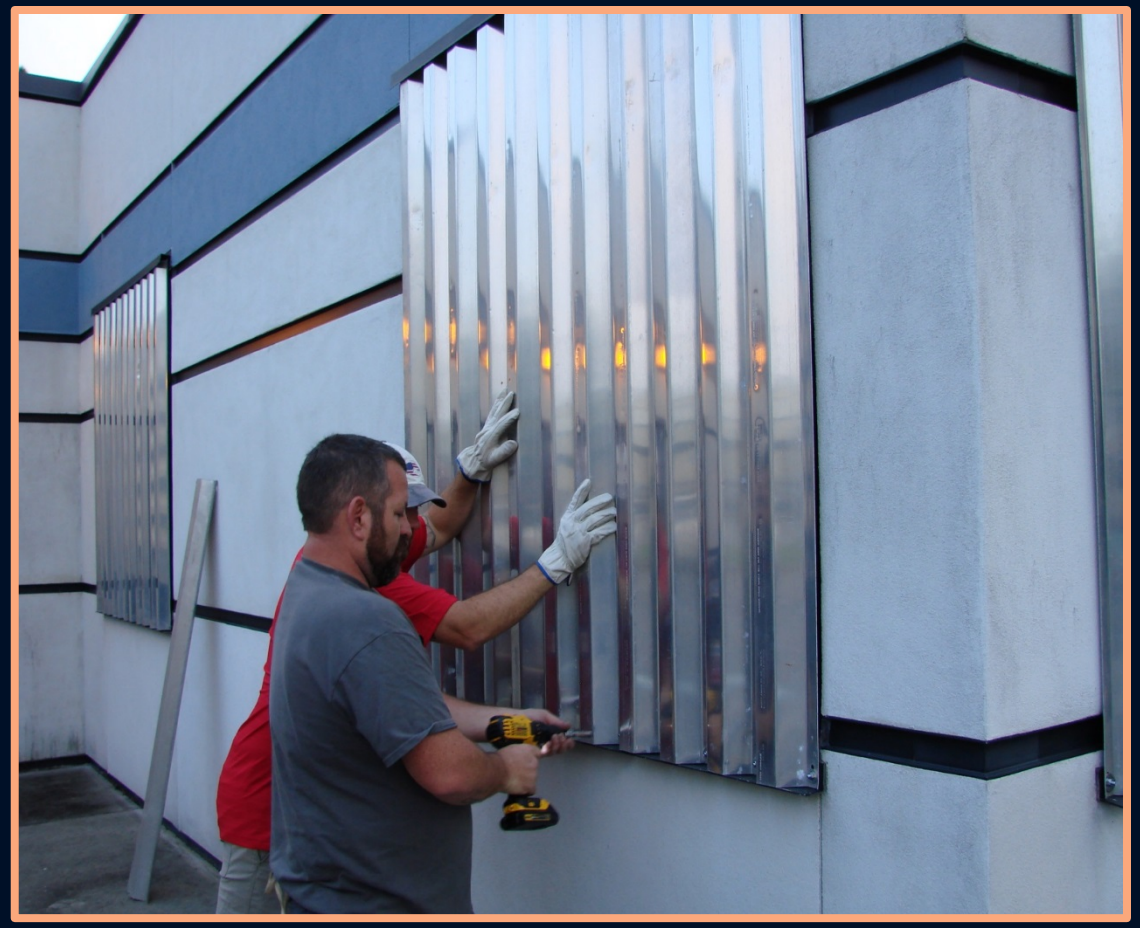
Dredging operations

Coastal flooding can surround some of our northern islands during a particularly high spring tide

Seasonal flooding can be associated with the 3 major river systems and the tributaries that flow into them



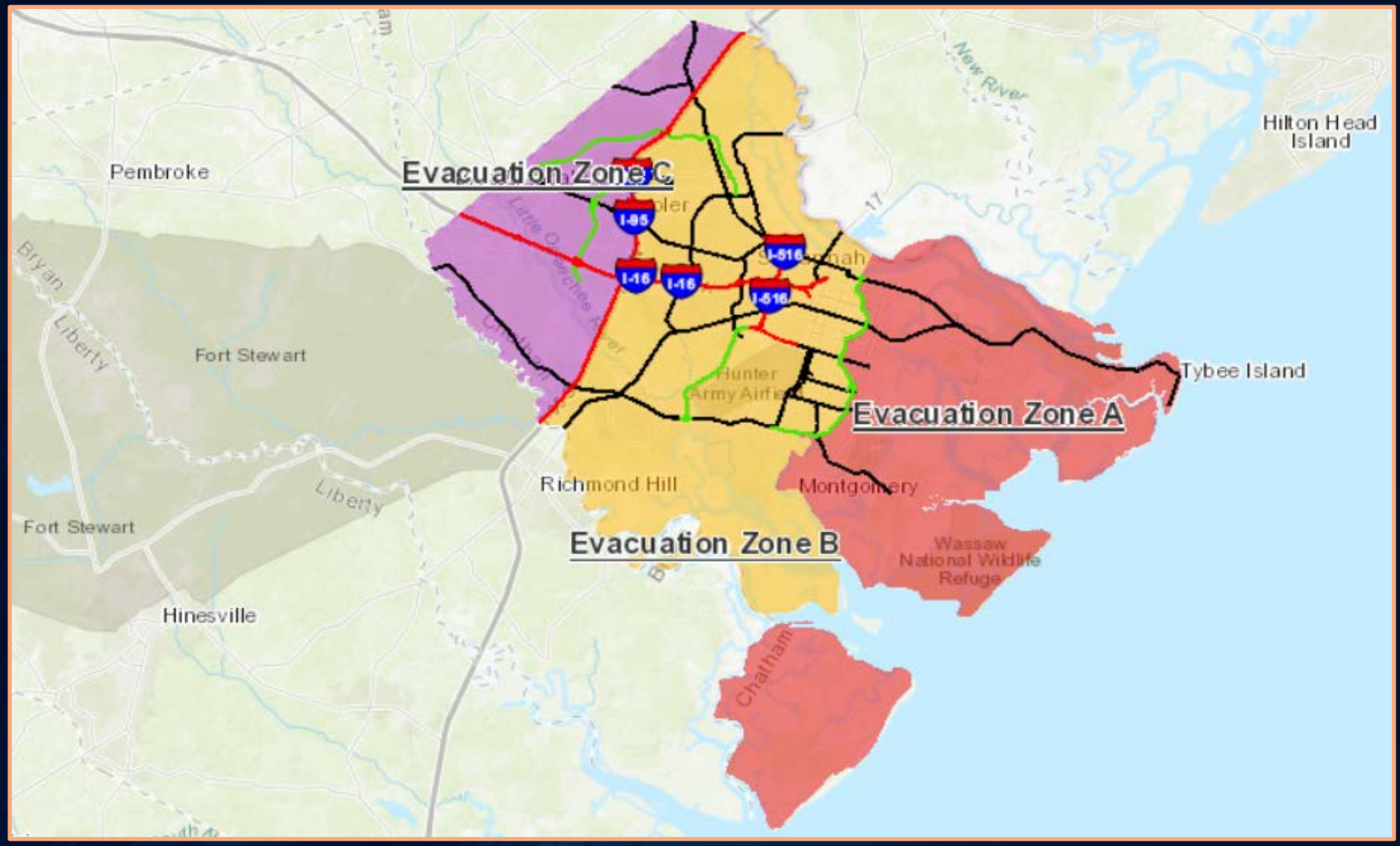
Although it seems a direct hit from a Hurricane would be unlikely, 2016 and 2017 showed us that our area can be impacted significantly from powerful storms even hundreds of miles away



Our larger pieces of equipment were all fueled and secured out in the field or inside aircraft hangars ready to resume operations as soon as possible

Our vehicles were fueled, parked and our trailer was set up to assist with pre and post-storm tasks with many departments and other agencies

Evacuation zones were designed to allow plenty of time for residents to leave in phases



We chose not to larvicide breeding grounds after Hurricane Matthew for several reasons:

1. Larval inspections found 4th instar and pupae

2. County-wide rain event

3. Large scale larviciding would inevitably be followed by adulticiding throughout the county

4. Nearing the end of our mosquito season; not the end of the fiscal year

Trap sites and equipment were inspected for damage and repairs were made allowing surveillance to continue days after the storm

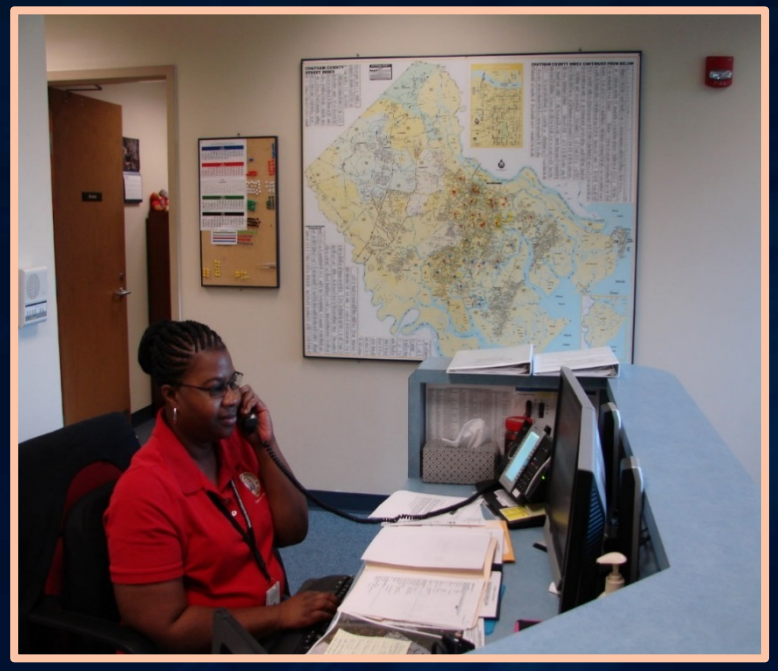
Trails were cleared of debris to restore access for staff to breeding sites to inspect for larval populations

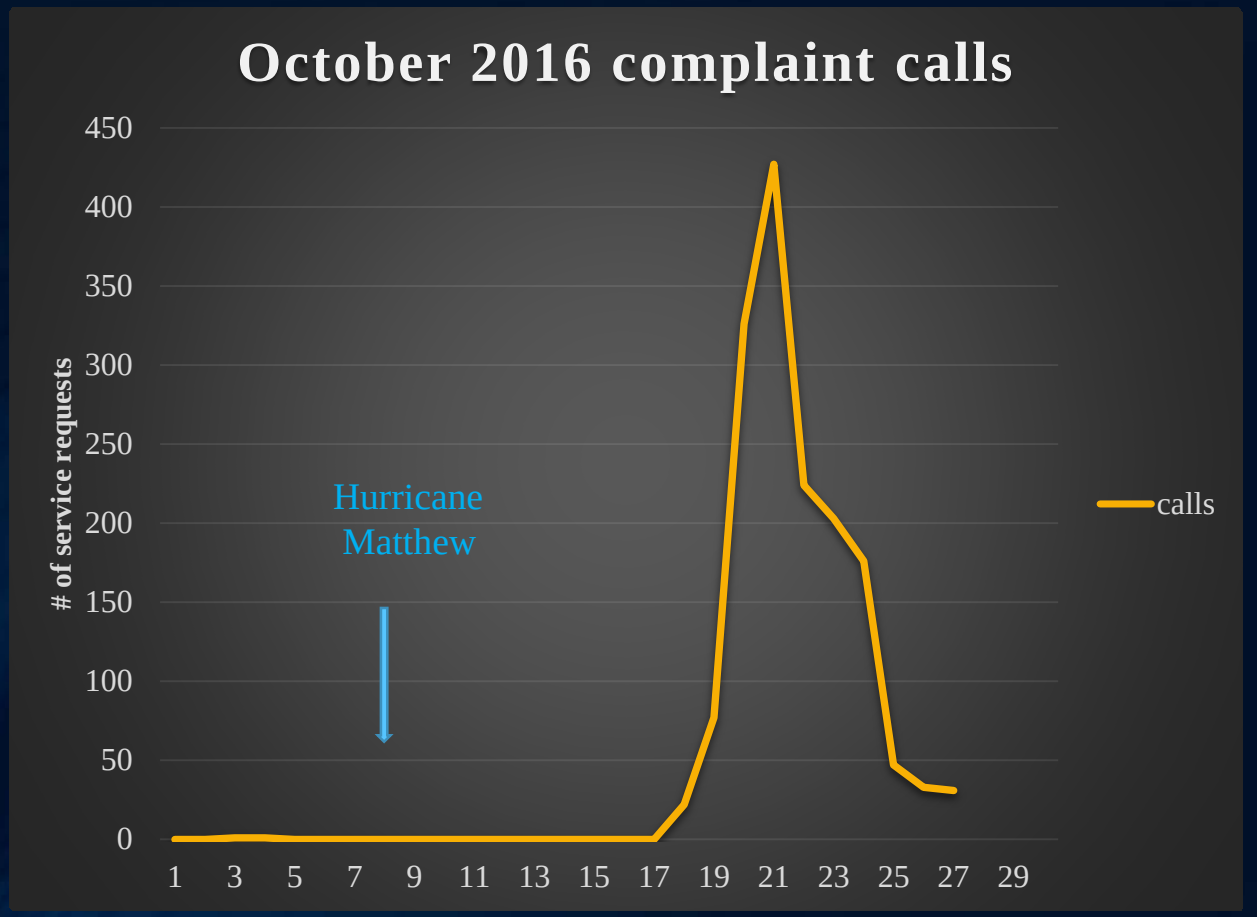
Estimating new larval breeding sites caused by the storm may prove to be difficult

Large debris piles were formed in several locations around the county

Service request calls slowly, then rapidly, increased throughout the entire county

Year	October			
	2013	2014	2015	2016
# of calls	24	68	101	1574





We were initially concerned with the emergence of several mosquito species of nuisance mosquitoes that would inundate the county

Nuisance mosquitoes

- Saltmarsh species
- Floodwater species
- Container breeders

Aedes taeniorhynchus

Aedes sollicitans

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Psorophora ferox

Aedes atlanticus

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Aedes albopictus

Our primary disease vectors for eastern equine encephalitis (EEE) and West Nile virus (WNv) were closely monitored through the quick deployment of traps across the county, if conditions permitted

Primary disease vectors

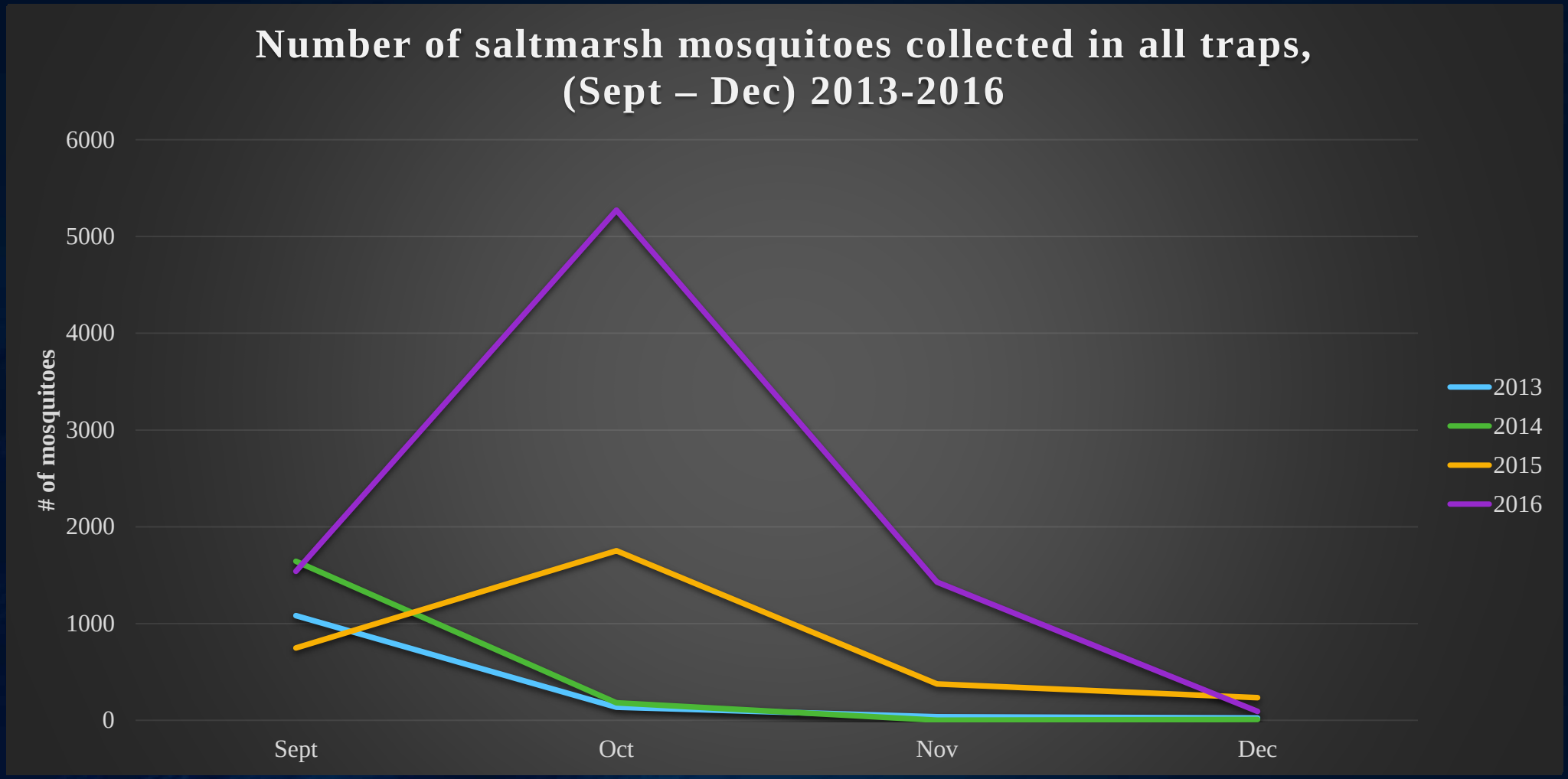
- *Culiseta melanura*

Culiseta melanura

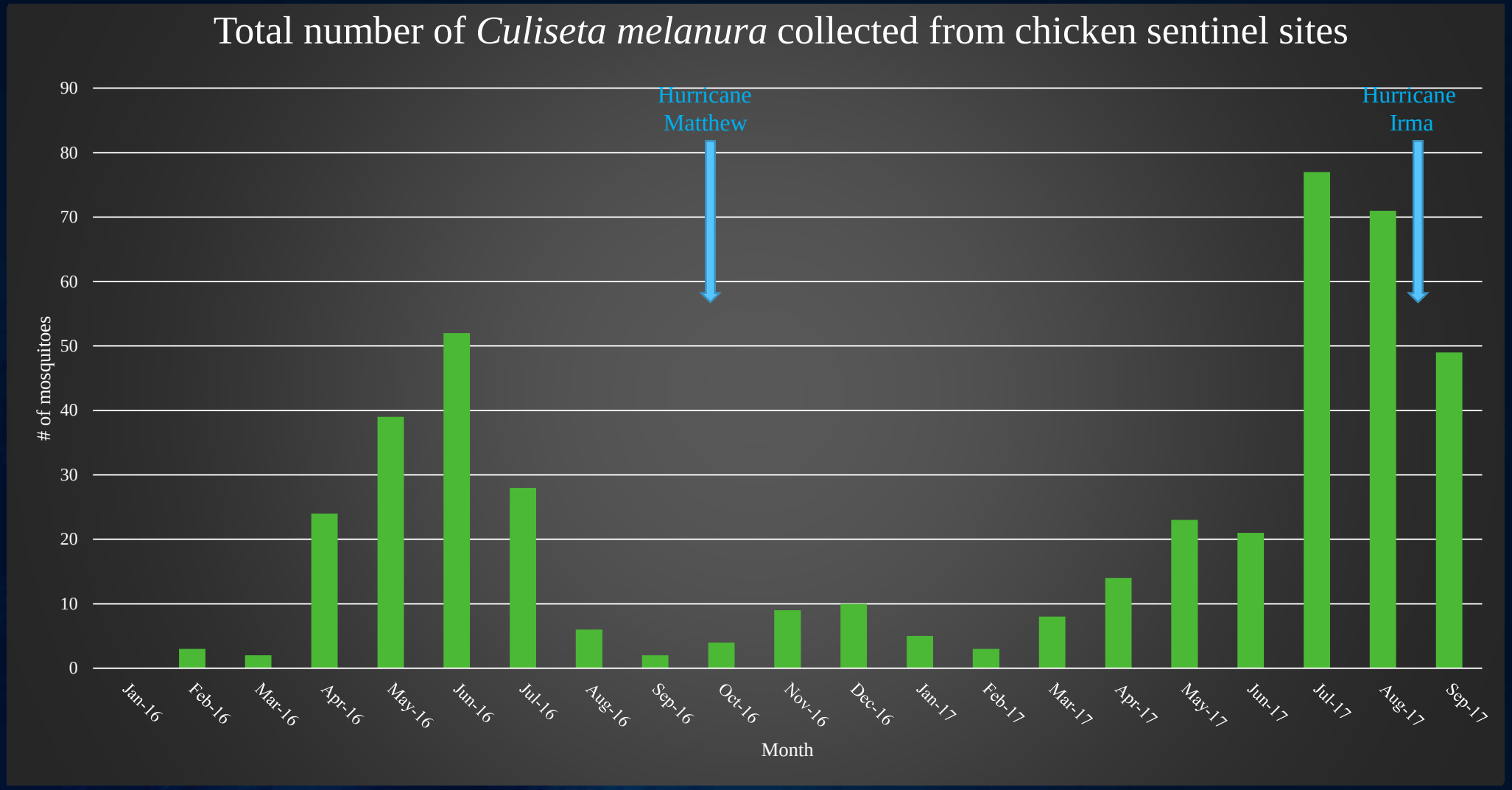
- *Culex quinquefasciatus*

Culex quinquefasciatus

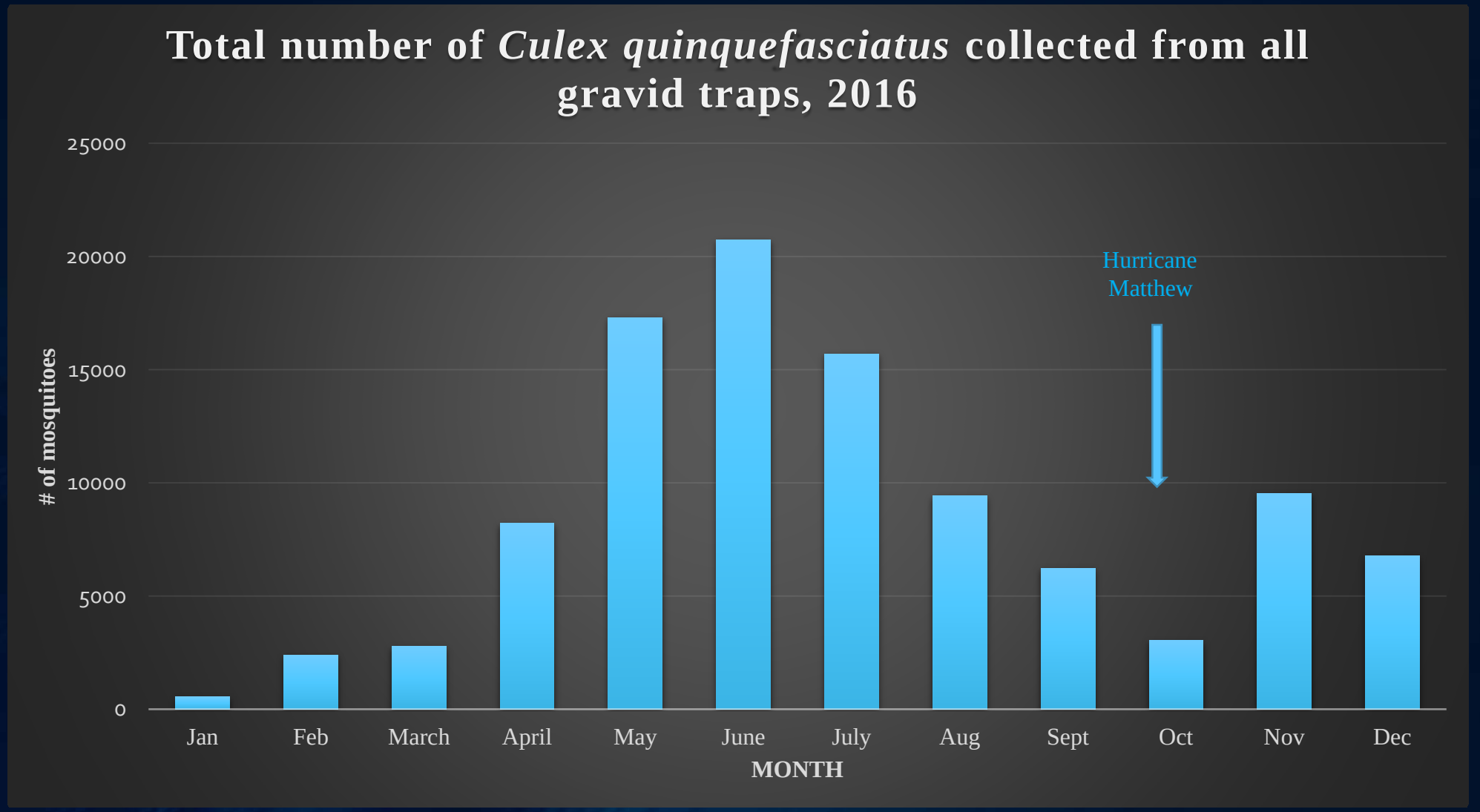
An increase in our saltmarsh mosquito populations was noted in our trap counts including in areas where these species were rarely found



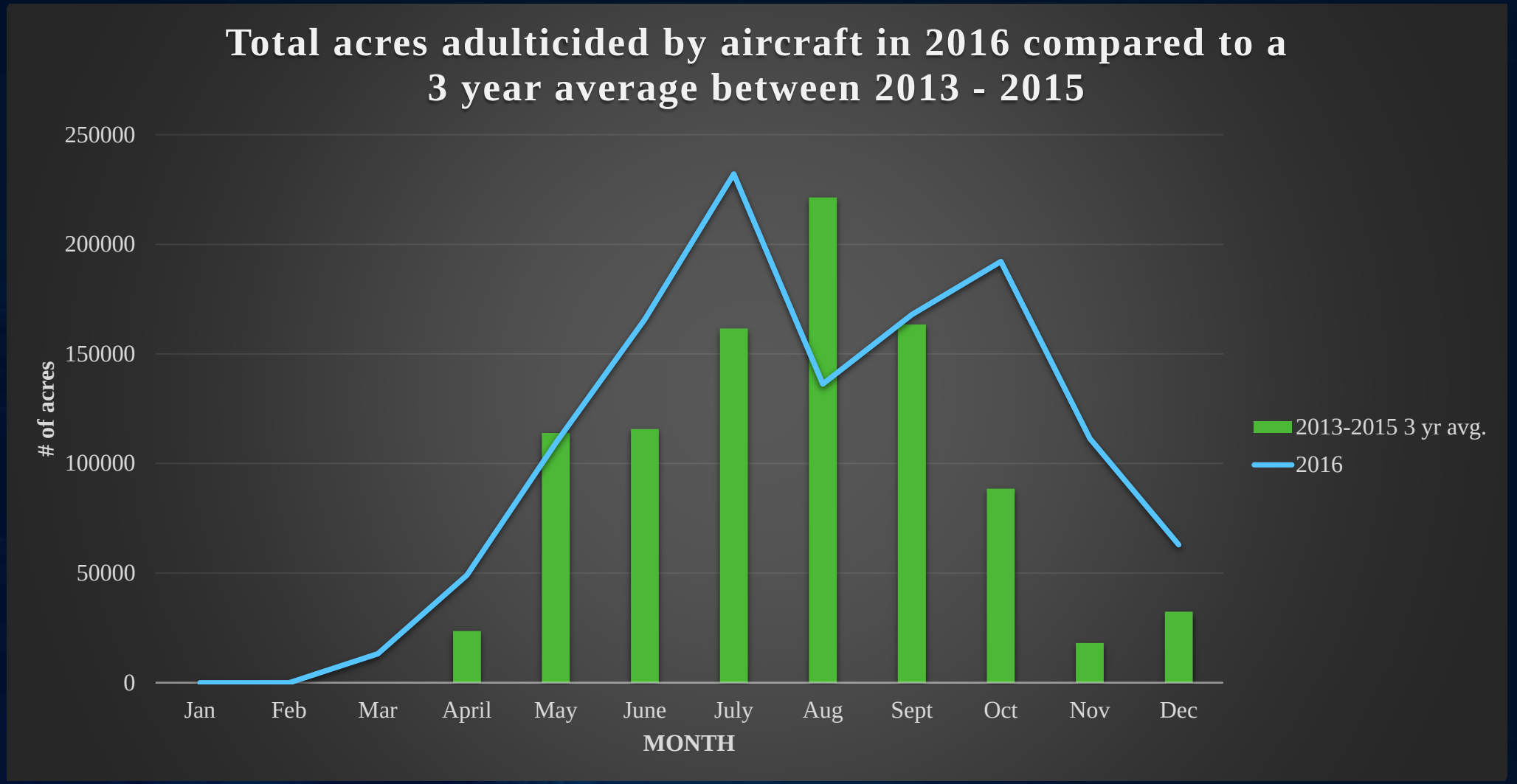
Our *Culiseta melanura* collections increased slightly the following year due to a later, colder start to the year



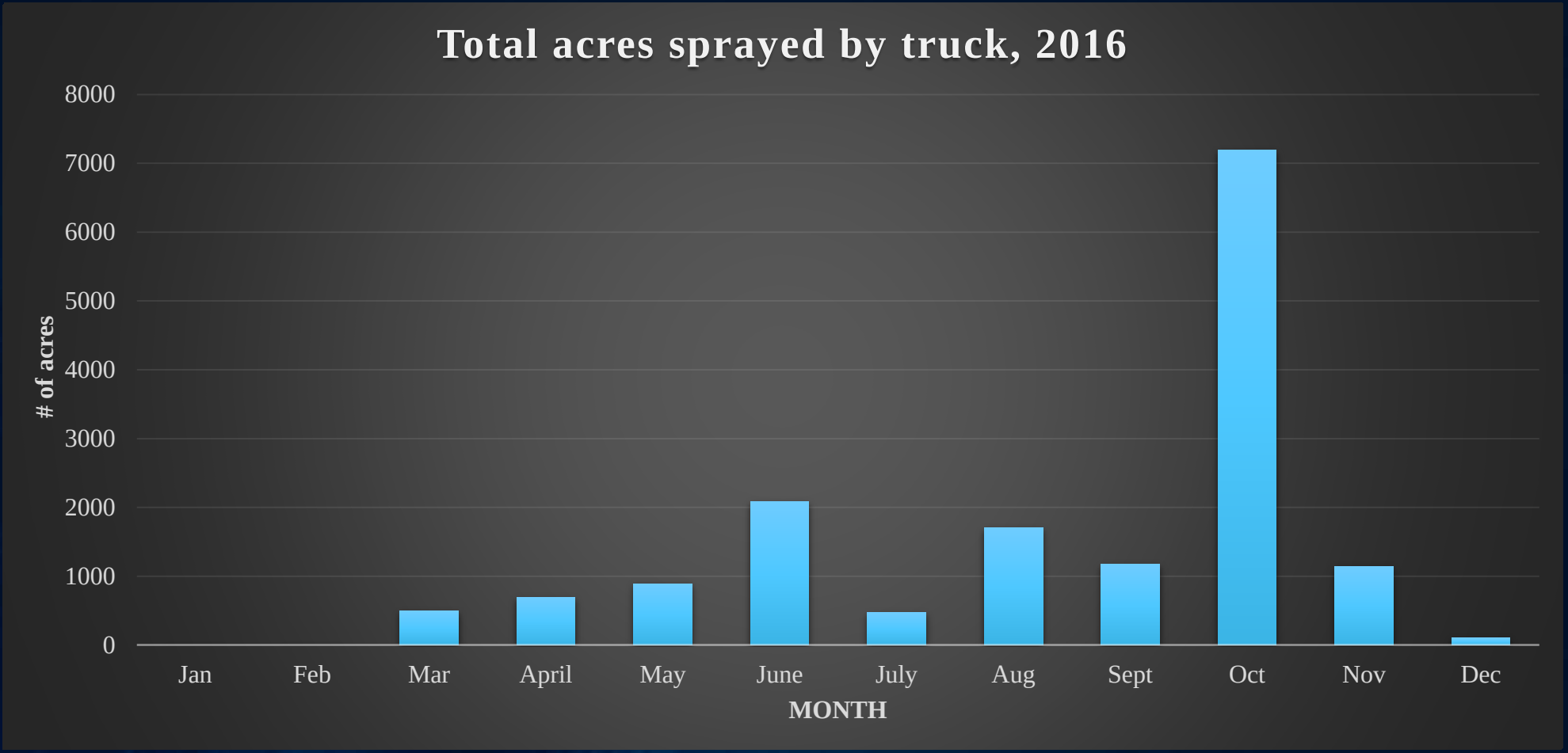
The flushing of our storm drain systems may have led to a reduction in *Culex* larvae; yet adult populations were quick to rebound



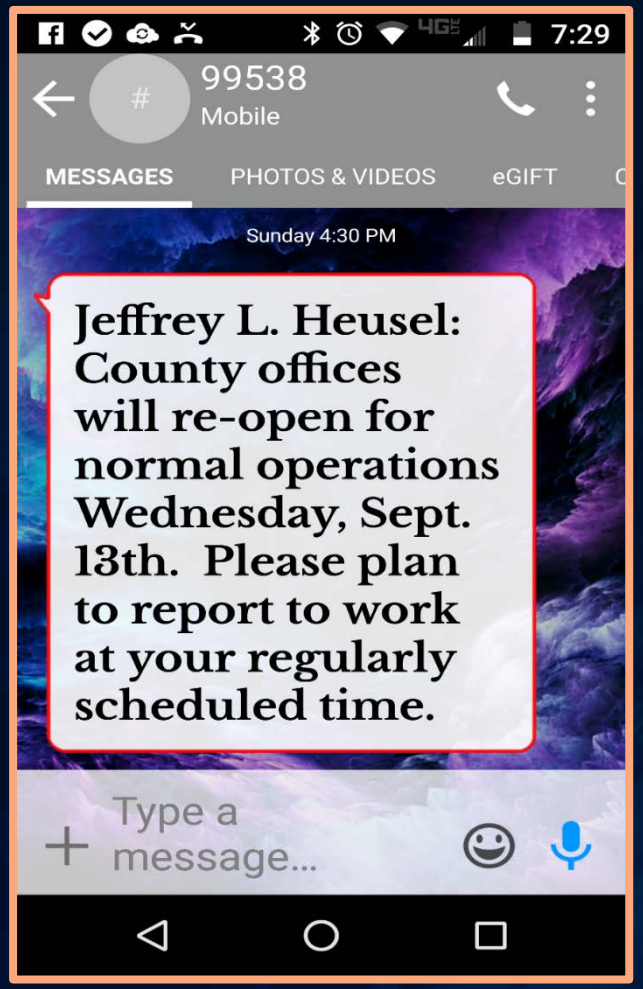
Our normal spray block boundaries were increased for our aerial missions allowing us to cover more acreage

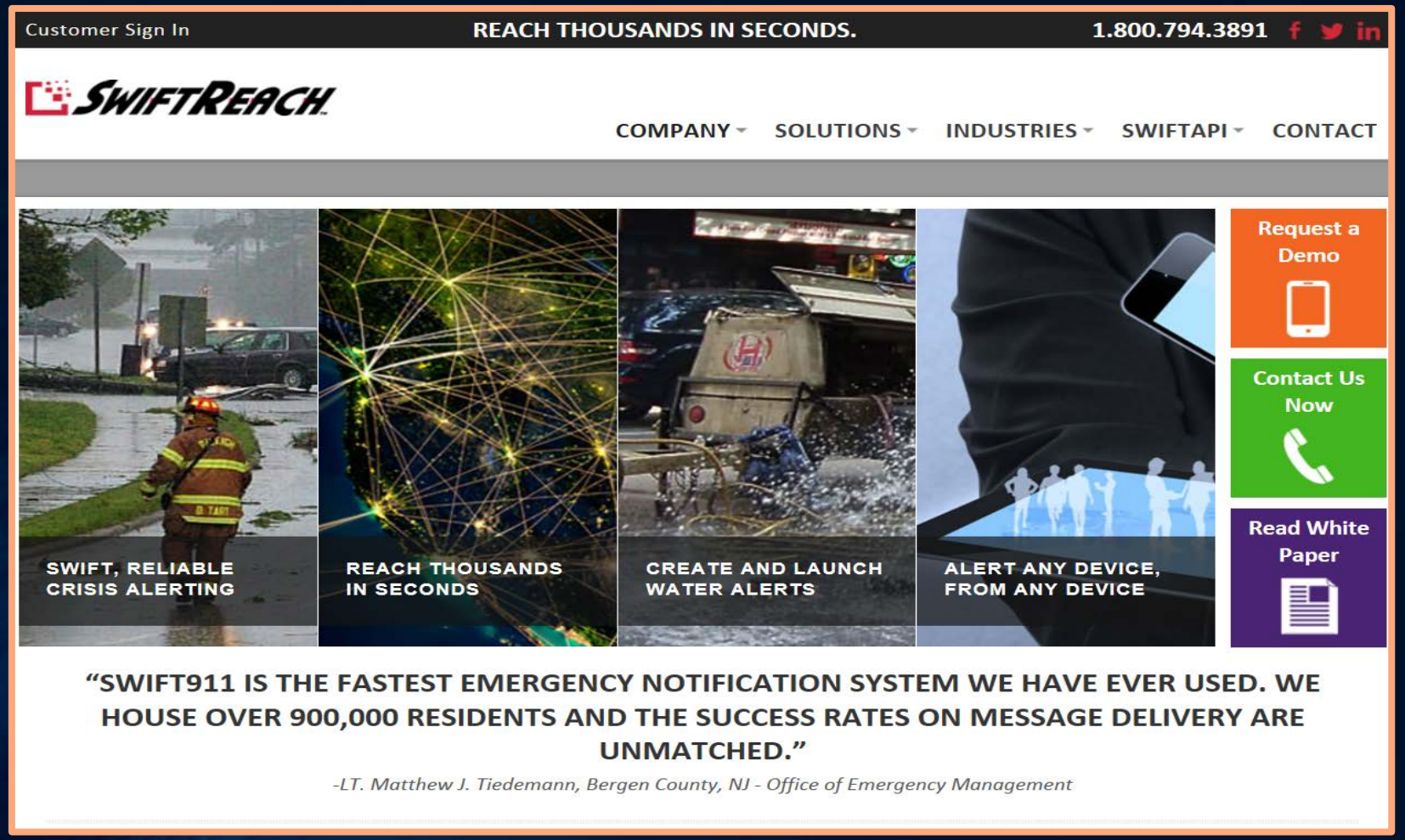


Our ULV trucks assisted with sprays to help reduce adult mosquito numbers, but were faced with new challenges



Our automated notification system allowed quick, reliable messages to be sent to staff via several methods





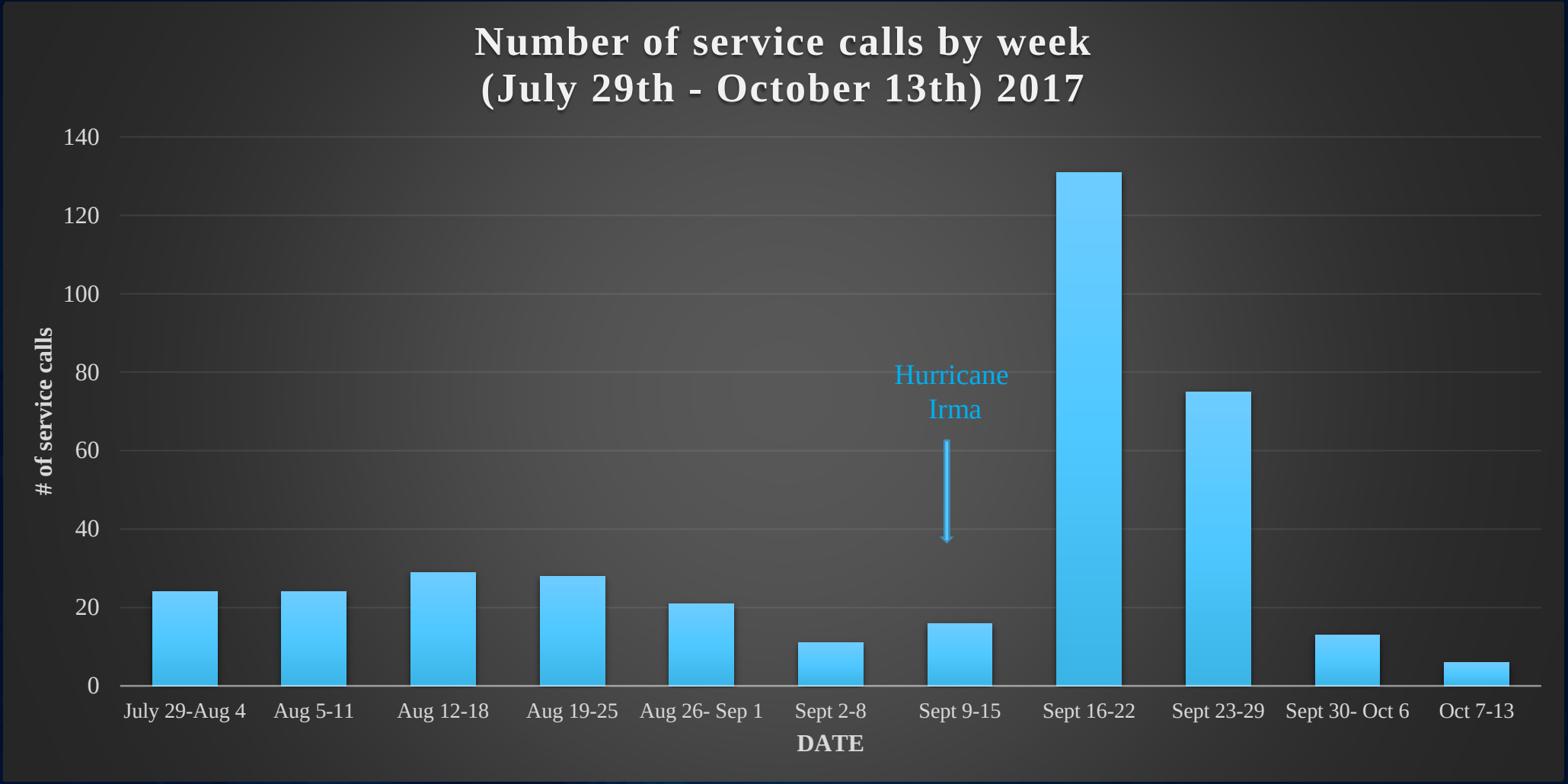
Coastal flooding over high marshes left after Hurricane Irma took many days to dry down; some even introduced fish into saturated areas

Hurricane Irma produced significant tidal surges leading to widespread coastal flooding, however the majority of rainfall fell in the western portions of the county causing two waves of mosquito problems

7 days after Hurricane Irma

10 days later….

A sudden increase of calls from our residents dropped quickly once our evening aerial missions resumed



Lessons learnt

1. Not all storm systems are the same
2. People without power left screens and windows open = human exposure?
3. Keep essential hurricanes supplies inventoried i.e. batteries, cots, MRE’s, sand for larviciding etc.
4. New mosquitoes being introduced into areas?
5. Know your role
6. Document EVERYTHING!

Thank you. Questions?