

# NEW WORLD SCREW WORM ERADICATION, UNIFIED COMMAND AND OUTBREAK MANAGEMENT

Dr. Joe Fisch

Equine Programs Manager  
Division of Animal Industry



# New World Screwworm (NWS)

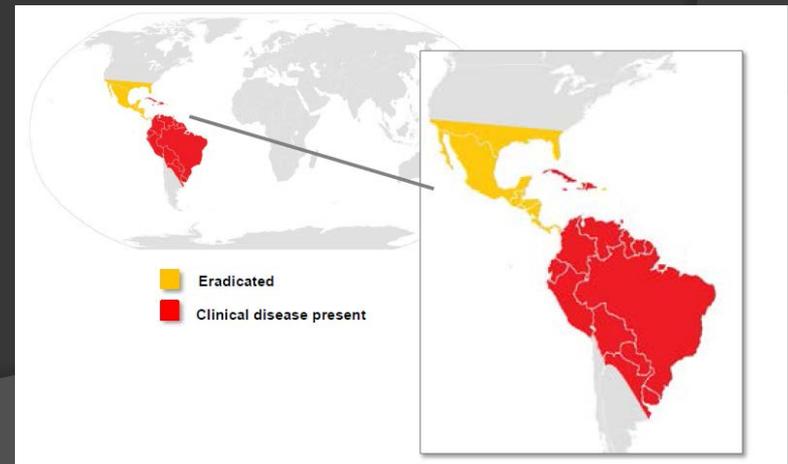
*Cochliomyia hominivorax*

- Only insect known to consume living tissue of warm-blooded animals
- Currently endemic in South America and some Caribbean Islands, including Cuba



# History of NWS

- 1852: First reports of New World Screwworm
- 1958: Development of sterile male technique
- **1966: U.S. free of Screwworm**
- 1991: Mexico declared free
- 2003: Sterile fly facility established in Panama



# Foreign Animal Disease Investigation

- Contact from biologist at National Key Deer Refuge (September 29, 2016)
- Severe fly infestation with aggressive myiasis
  - Over 20 deer had been euthanized for myiasis
  - Big Pine Key & No Name Key
- Original case – July 4, 2016 in deer
  - motor vehicle related injury
- Larvae sample shipped to NVSL
  - high priority investigation





# National Key Deer Refuge

- ⦿ Administered by US Fish and Wildlife Service
- ⦿ Endangered Key Deer reside on multiple keys
  - ~1000 deer; residing on ~20 keys
  - Reside on refuge and freely wander into urban/residential areas
  - Significant urban/wildlife interface
- ⦿ 2016 fawn crop was good and survival was good
  - Fawning season (Mid March – Late May)

# National Key Deer Refuge

- ◉ Government and Private lands mixed over multiple keys
- ◉ Multiple species on endangered list
  - Many are insects
  - Including Bartram's Hairstreak butterfly



Photo credit: USFWS

# National Key Deer Refuge



# Key Deer



# Incident Management Team (IMT)

- ① Unified Command – USDA, FDACS, Monroe County Emergency Operations
- ① Joint IMT deployed to Florida Keys
  - Multiagency
- ① Declaration of Agricultural Emergency
  - Commissioner of Agriculture and Consumer Services
- ① Controlled Animal Movement from Monroe County
  - Key Largo Interdiction Station

# Multiagency Coordination

- USDA APHIS Veterinary Services
- FDACS
- Monroe County EOC
- US Fish Wildlife Services
- USDA APHIS Wildlife Services
- Florida Fish & Wildlife Commission
- USDA ARS
- USDA IS
- COPEG – Panama Barrier Eradication Program

# Disease Surveillance Branch

- Office of Agricultural Law Enforcement
- Veterinary Support
- Animal Inspectors

# Sterile Fly Releases

- Over 130 million flies released to date



- Shipments from Panama on Monday & Thursday
- Releases on Tuesday and Friday
- 29 release sites on 14 keys
- Releases on keys with infestation, and
- Releases (4) in barrier zone (ended on 12/26/16)

# Sterile Fly Release



# Sterile Insect Release Branch

## ◎ Two Strike Teams

- Panamanian technicians
- FDACS/USDA facilitators
- Some releases require boat transportation

## ◎ Sterile Fly Release Plan based on:

- USDA ARS, USDA IS, COPEG Subject Matter Experts
- Aerial and Ground Assessment for release sites
- Mapping for habitat and access

# Sterile Fly Release Sites



Red border = Infested Zone; Orange border = Barrier Zone

# Fly Assessment

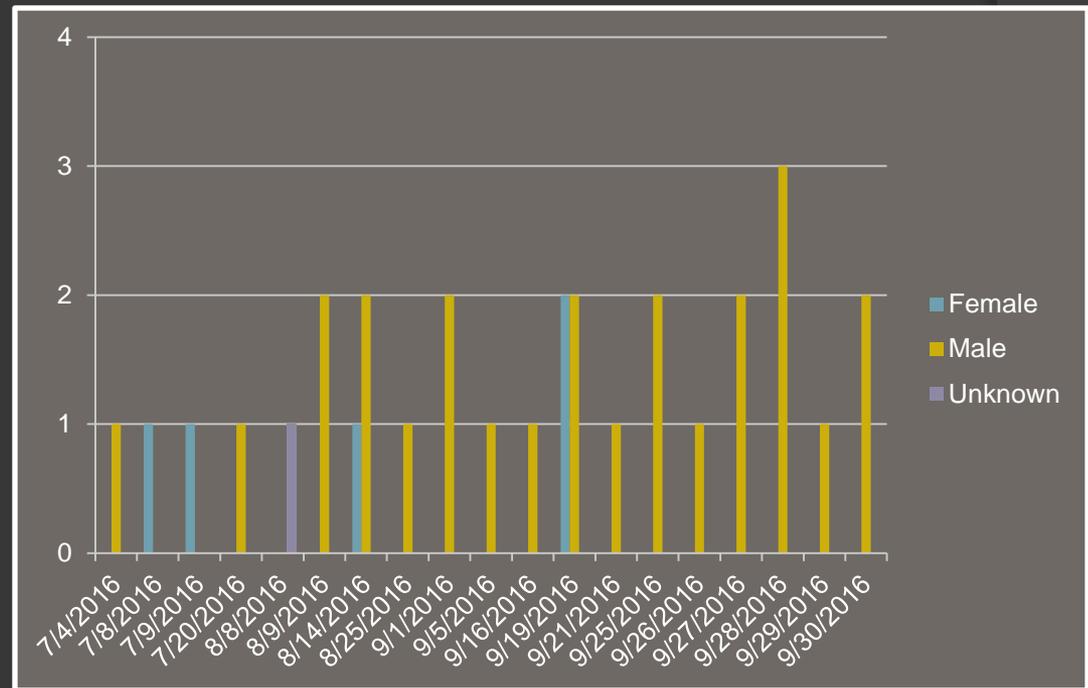
- ⦿ Baiting flies with liver, capturing adult flies
- ⦿ Entomologist evaluates
  - Wild type NWS Flies
  - Sterile NWS Flies (release flies)
- ⦿ 27 Keys in the NWS Infested Zone
- ⦿ 3 Keys in the NWS Barrier Zone
- ⦿ 7 Keys in the NWS Northern Surveillance Zone
- ⦿ 6 Keys in the NWS Southern Surveillance Zone



# Epidemiological Information for Key Deer

## ☉ Deaths (July – September 2016)

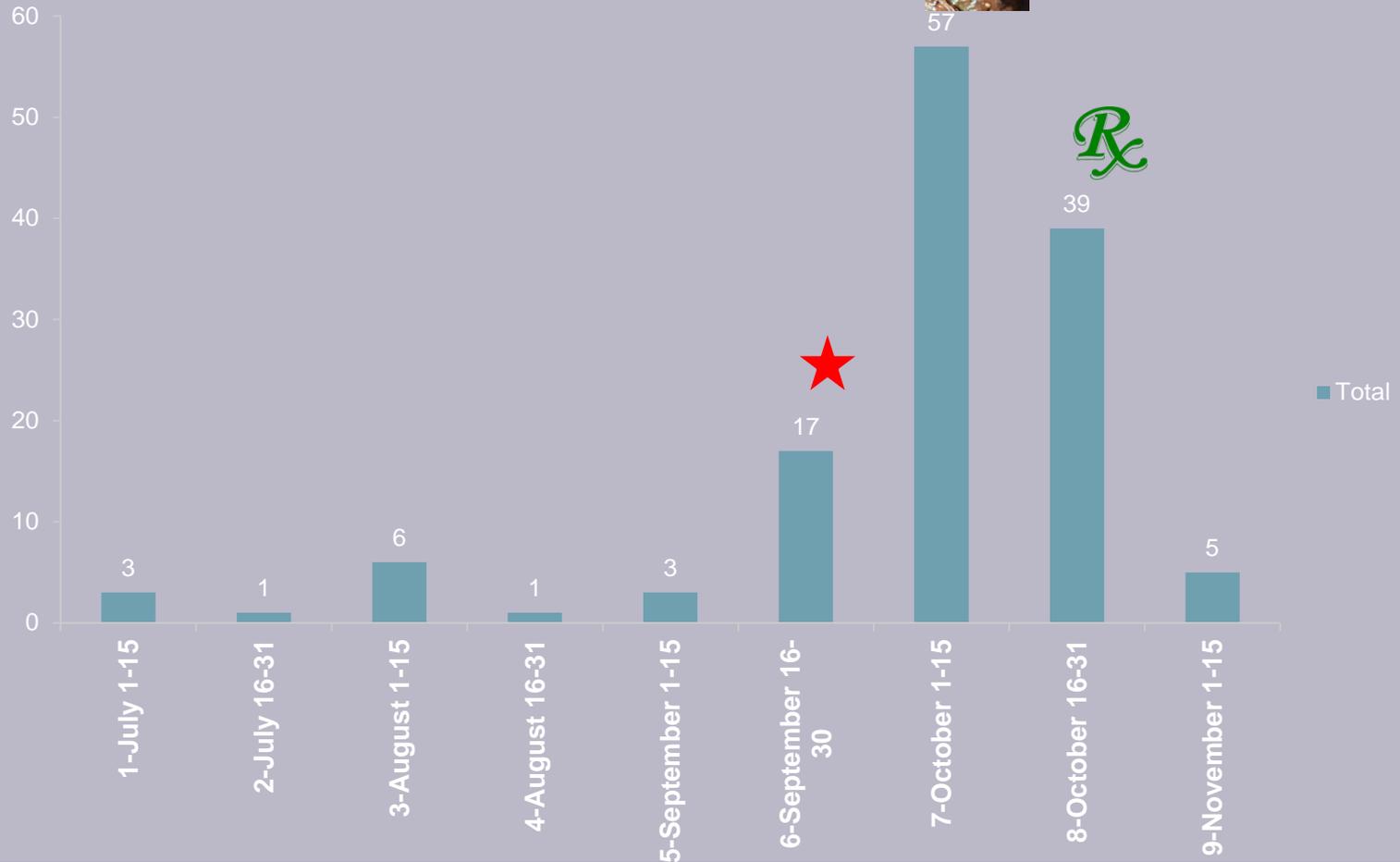
- July = 4
- August = 7
- September = 20
- Male = **25**
- Female = 5
- Unknown = 1



***Key Deer bucks had started rut by August***



# Key Deer Mortality due to NWS



Index case 09/29/2016



SIT 10/11/2016



Deer treatment 10/26/2016

**Thank You!**

**Questions?**

**Dr. Joe Fisch,**  
Equine Programs Manager,  
Florida Department of Agriculture  
and Consumer Services

