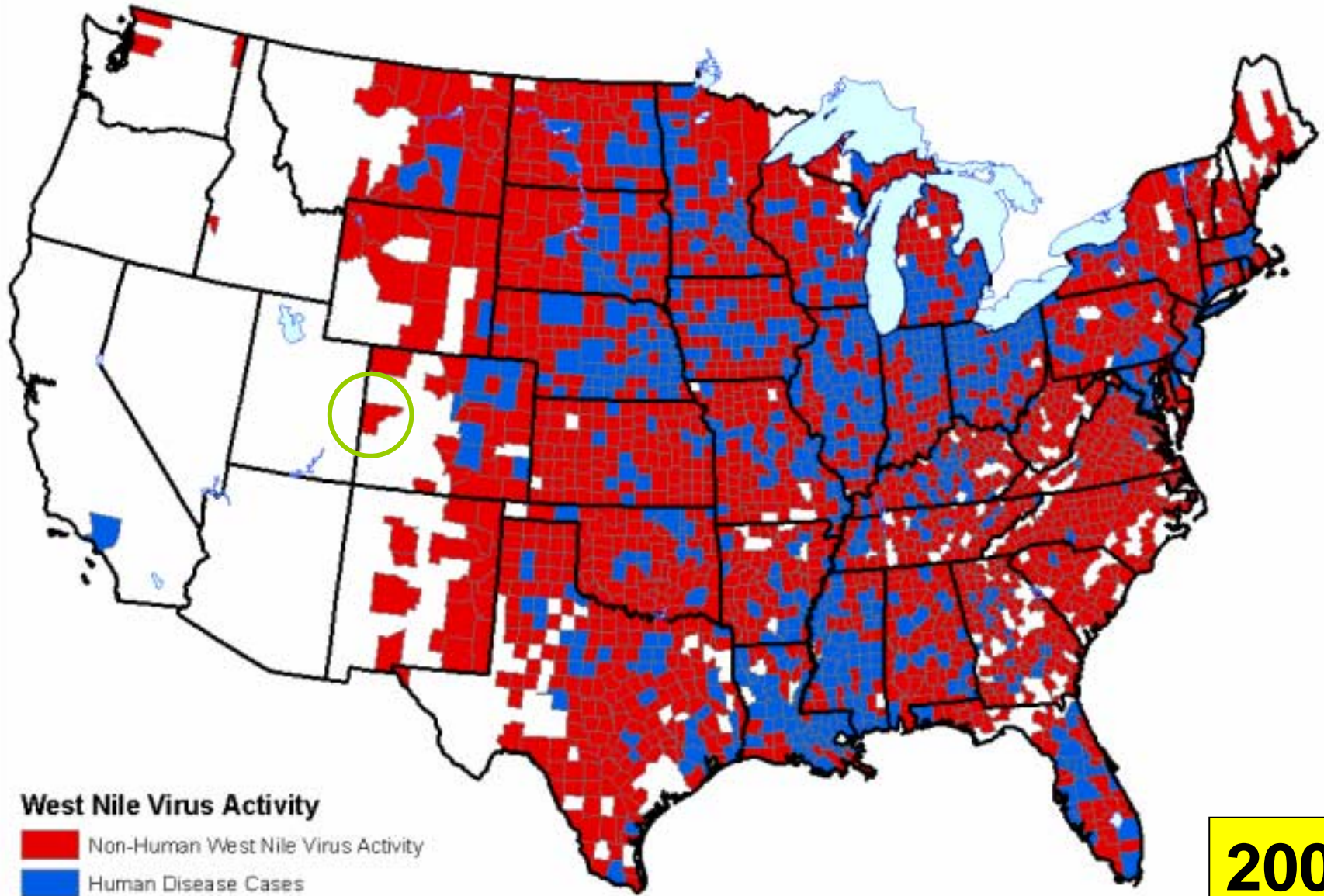




# **2004 West Nile Virus Response in Mesa County, Colorado**

Steven L. DeFeyer  
Director of Environmental Health  
Mesa County Health Department

Grand Mesa  
Mesa County, Colorado



**West Nile Virus Activity**

- Non-Human West Nile Virus Activity
- Human Disease Cases

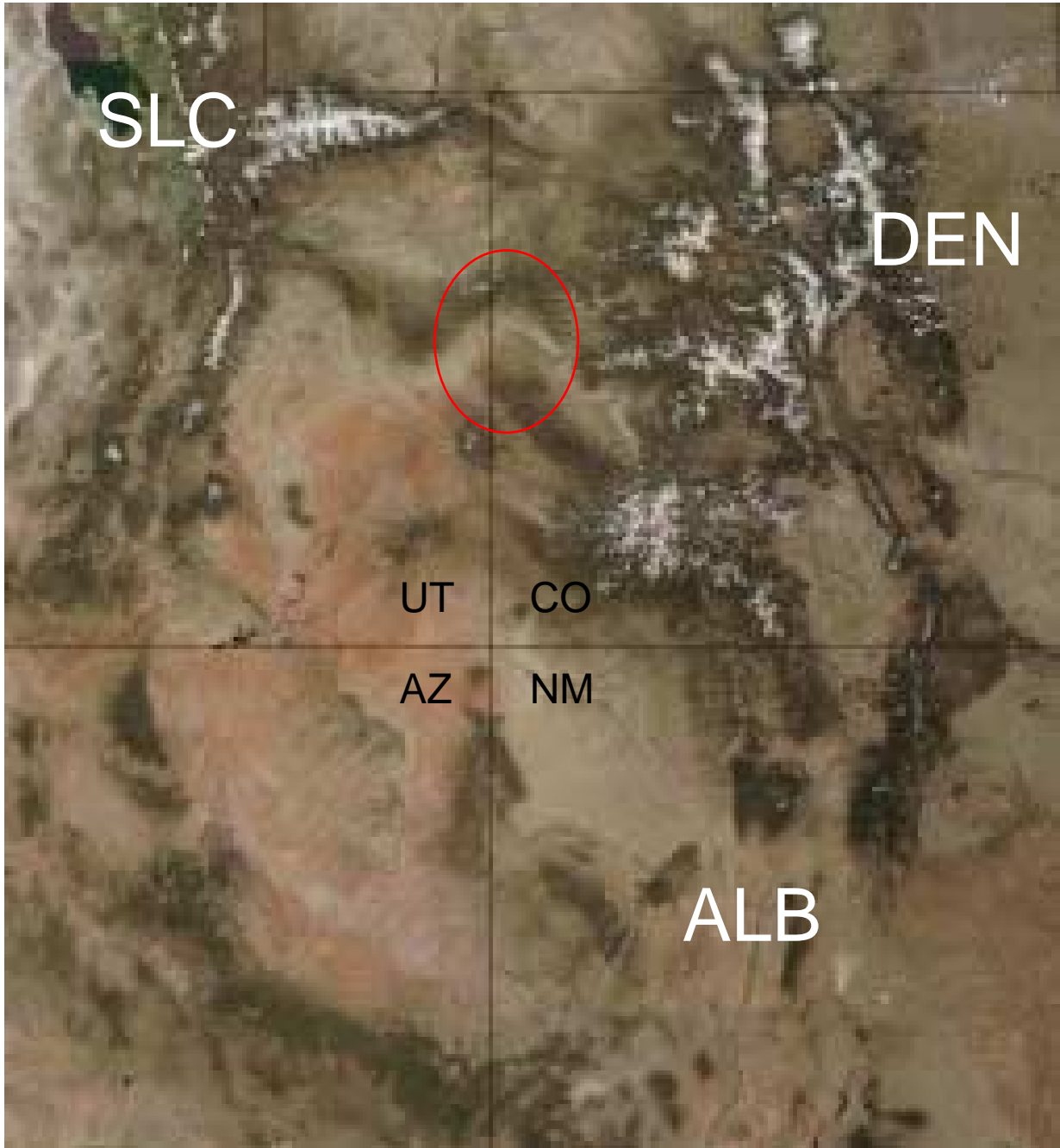
**2002**

National Center for Infectious Diseases

West Nile Virus Activity

Cumulative results for 2002 calendar year reported as of April 15, 2003







**INDEPENDENCE ROCK**  
Colorado National Monument



Gunnison River

Colorado River

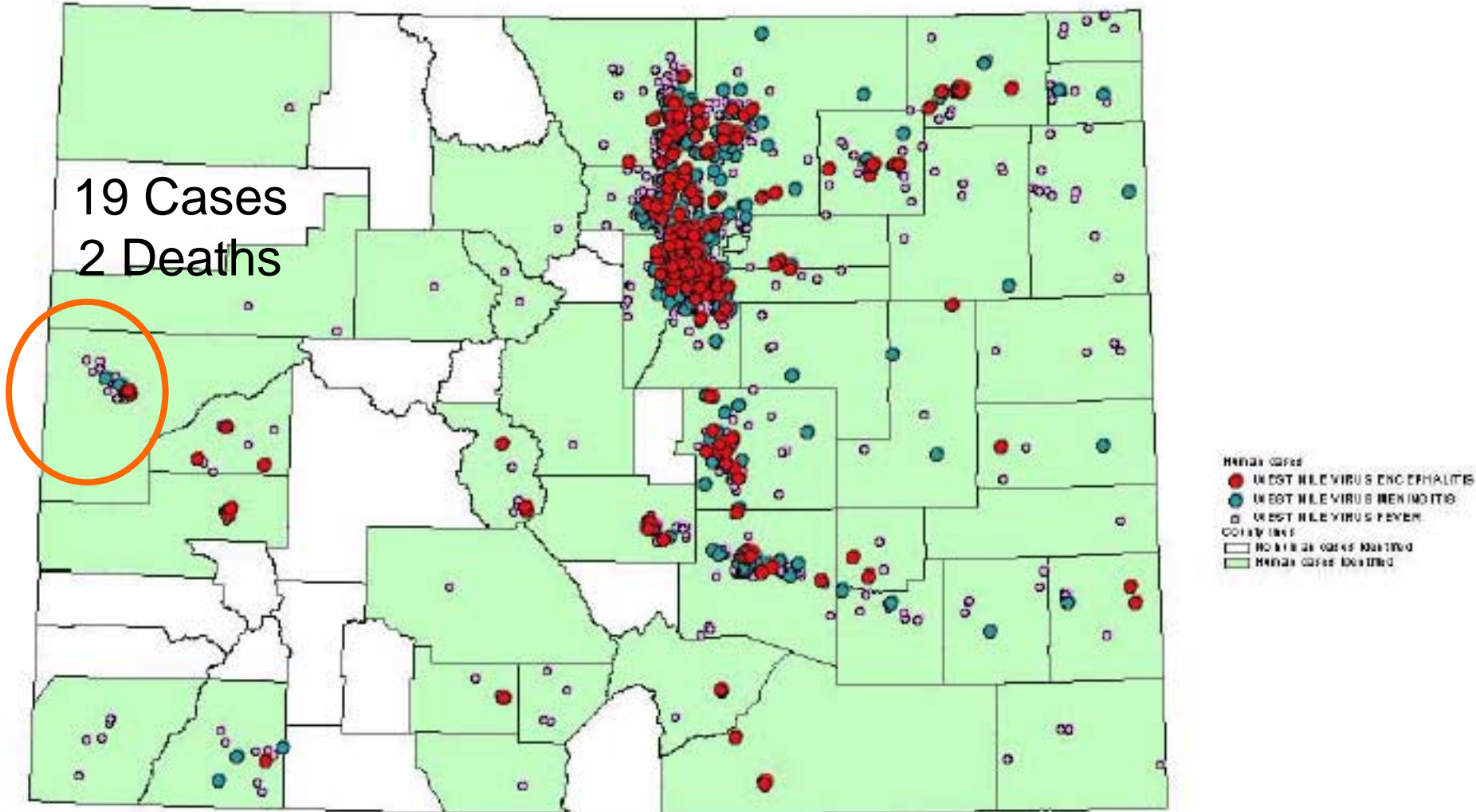
MESA CO SENTINEL  
Mosquito Trapping Site  
ME3



CITY OF GRAND JUNCTION

2003

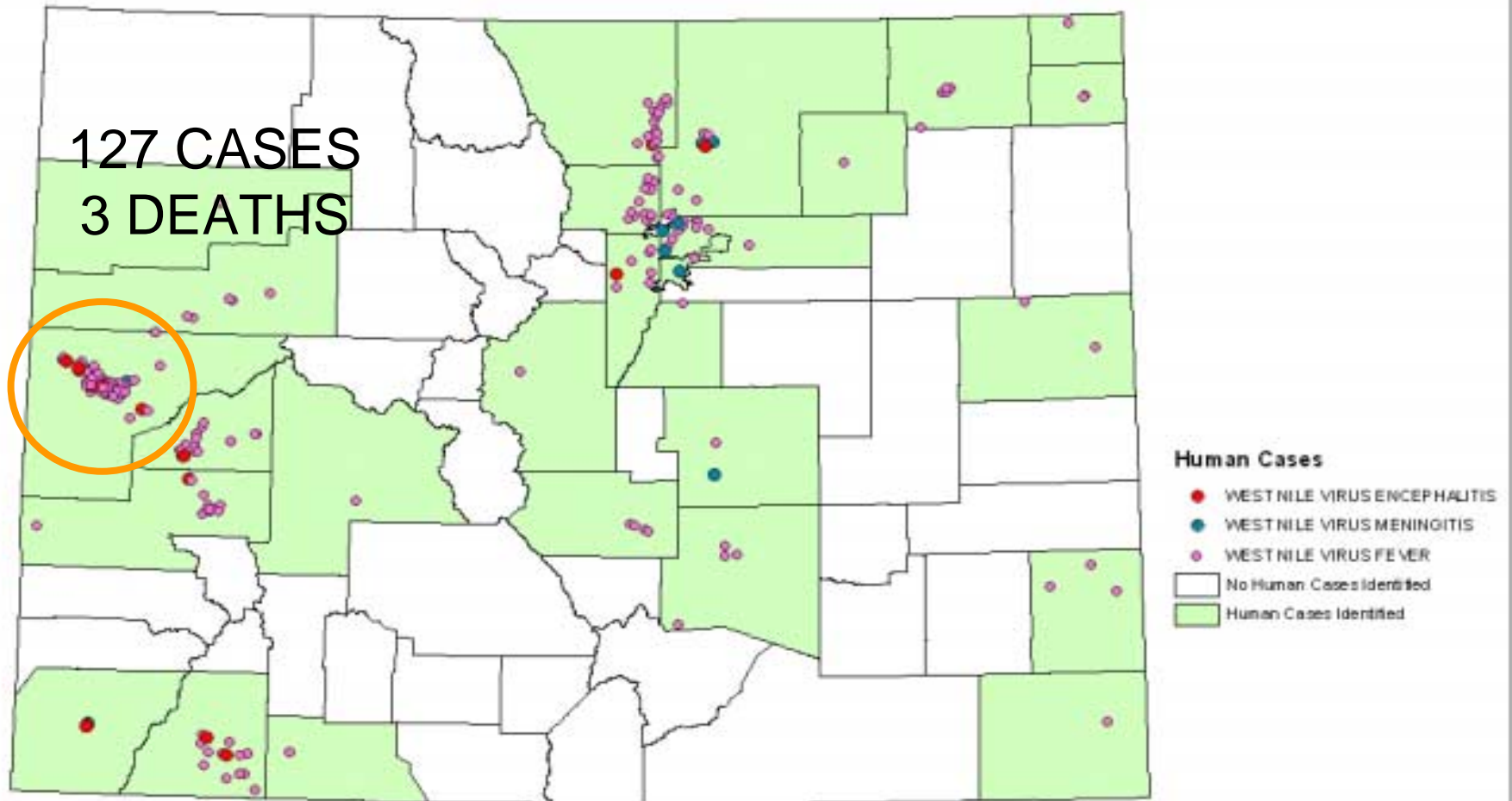
Colorado West Nile Virus  
Human Cases  
Updated January 29, 2004



N = 2,947

# 2004

## Colorado West Nile Virus Human Cases Updated December 8, 2004



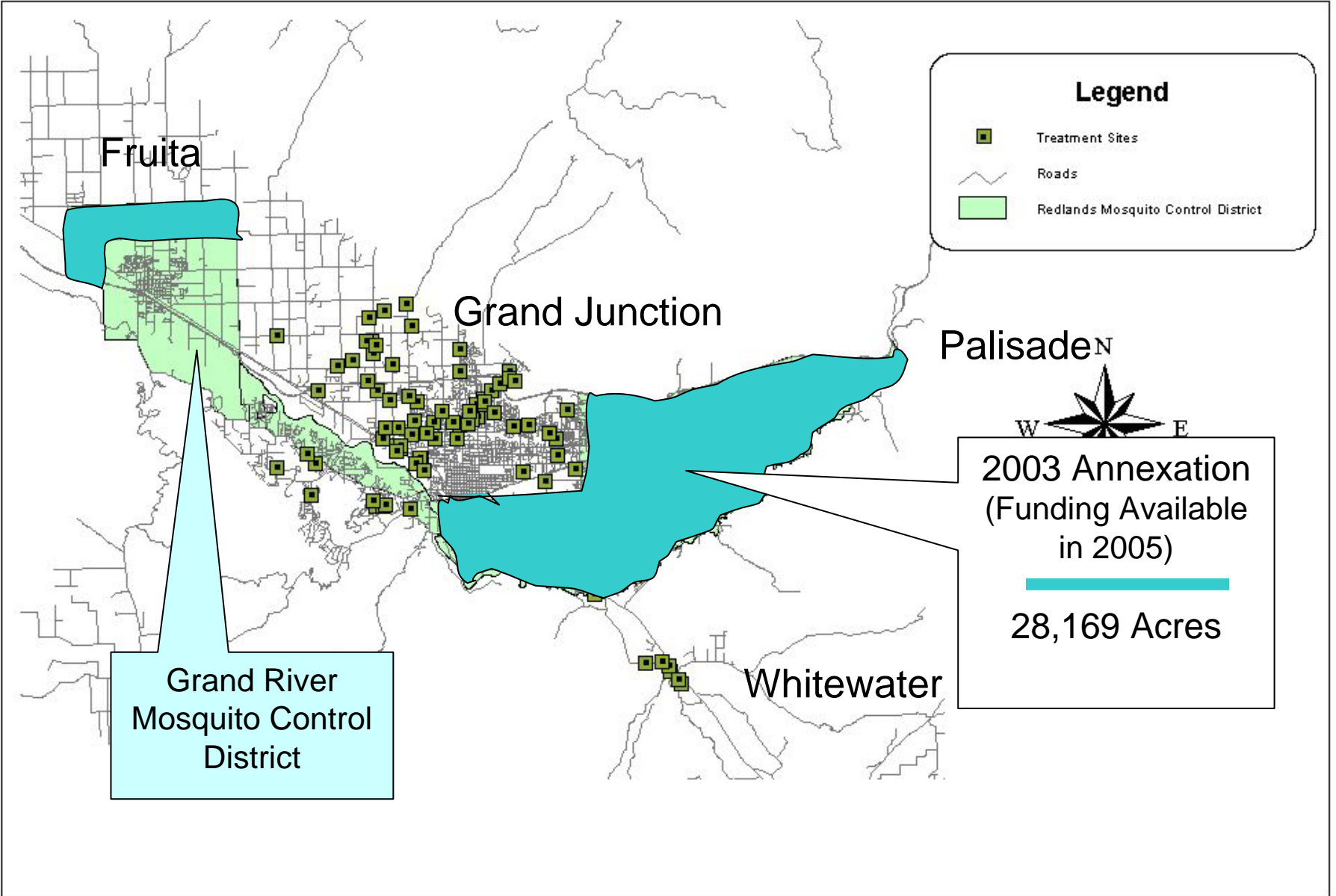
N = 292



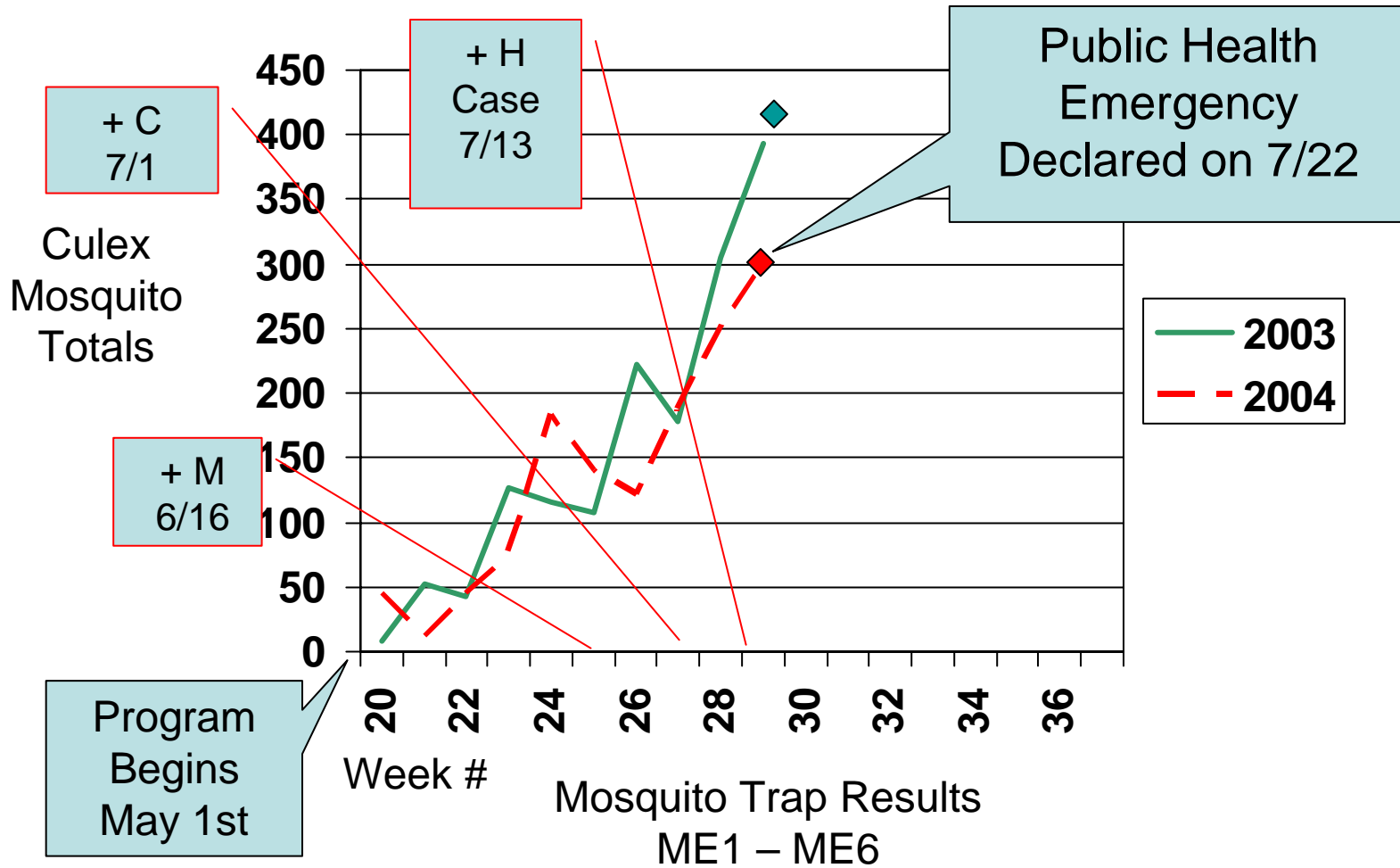
# 2004 WNV Plan

- WNV Surveillance
- Public Education/“Fight The Bite”
- Biological Mosquito Control
  - Backyard Larviciding Campaign
  - Storm Sewer Catch Basin Treatments
  - MC Mosquito Control Team Hot Zone – Bti
  - Grand River MCD - \$65K Bti/Methoprene

# 2004 Mosquito Larviciding Locations



# 2004 MCHD WNV Surveillance Data Situation on July 22nd





**PLAN “B”**



Dynamic Aviation, Bridgewater, VA  
King Air 90 Twin PT6A-20 Turbine Aircraft  
Night Vision Gear/Agnav DGPS  
Naled/Dibrom @ .75 oz/acre  
Approx. 35,000 Acres/night



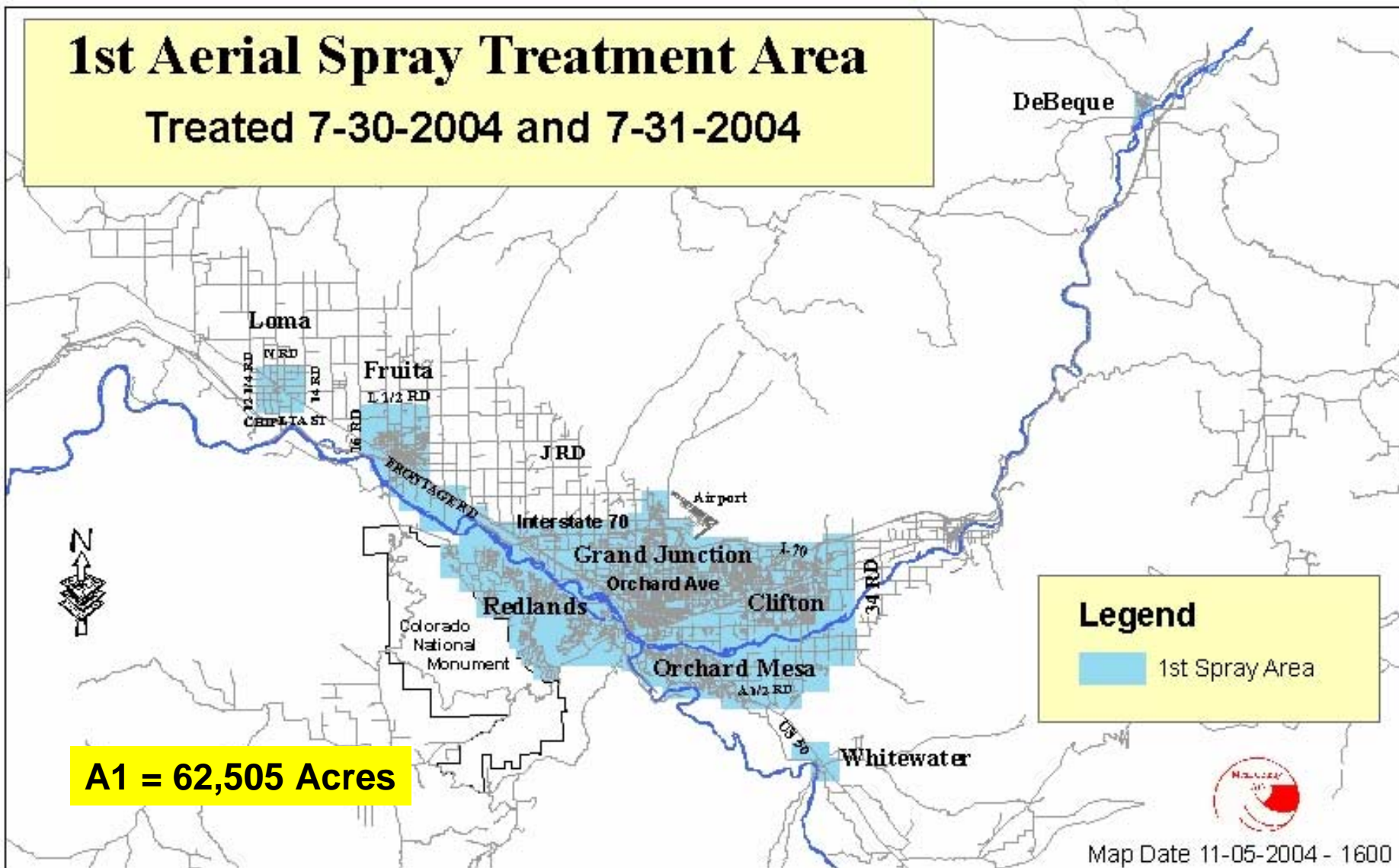







# 1st Aerial Spray Treatment Area

Treated 7-30-2004 and 7-31-2004



## Legend

 1st Spray Area

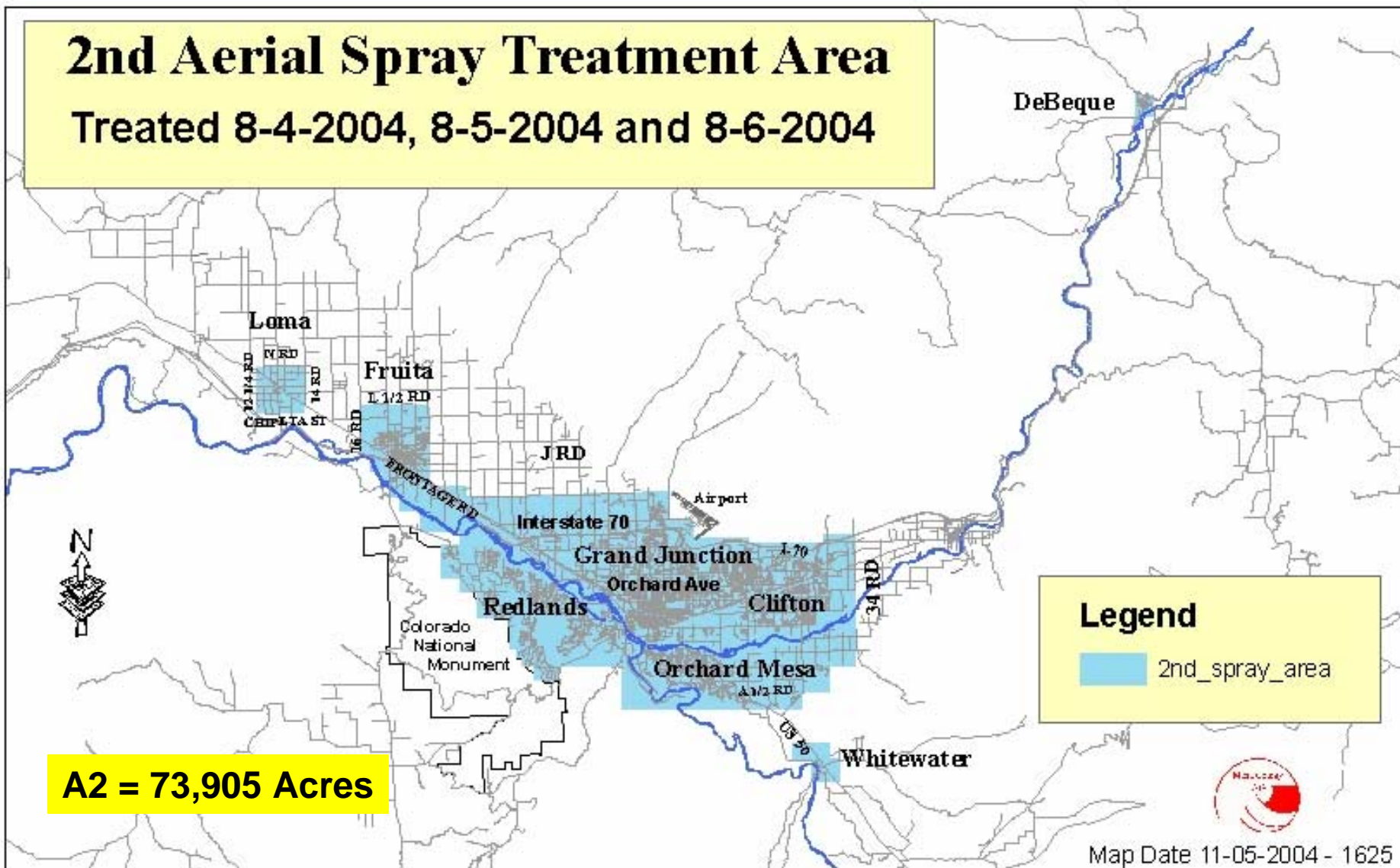
**A1 = 62,505 Acres**



Map Date 11-05-2004 - 1600


# 2nd Aerial Spray Treatment Area

Treated 8-4-2004, 8-5-2004 and 8-6-2004



**A2 = 73,905 Acres**

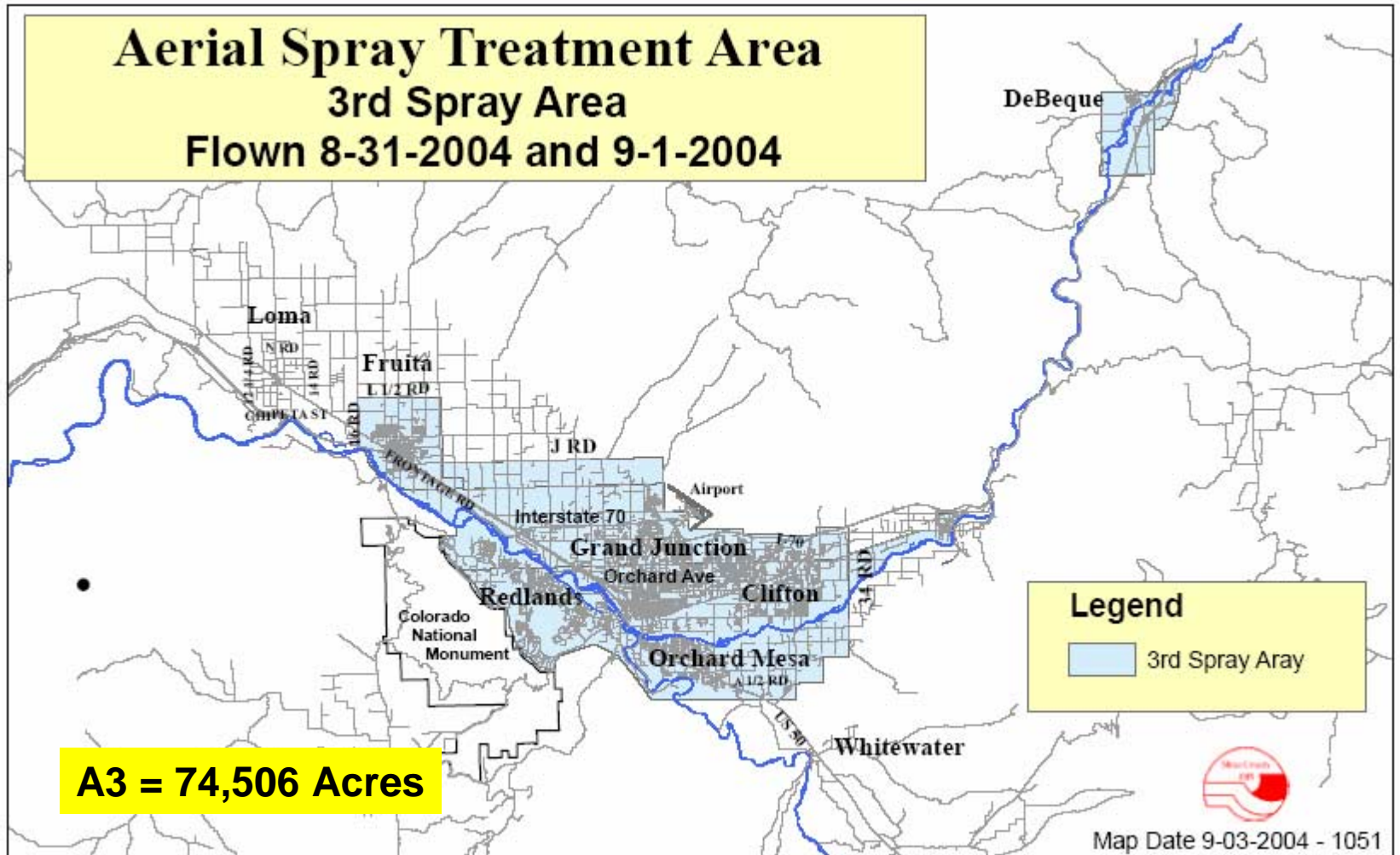
## Legend

 2nd\_spray\_area



Map Date 11-05-2004 - 1625

**Aerial Spray Treatment Area**  
**3rd Spray Area**  
**Flown 8-31-2004 and 9-1-2004**



**A3 = 74,506 Acres**



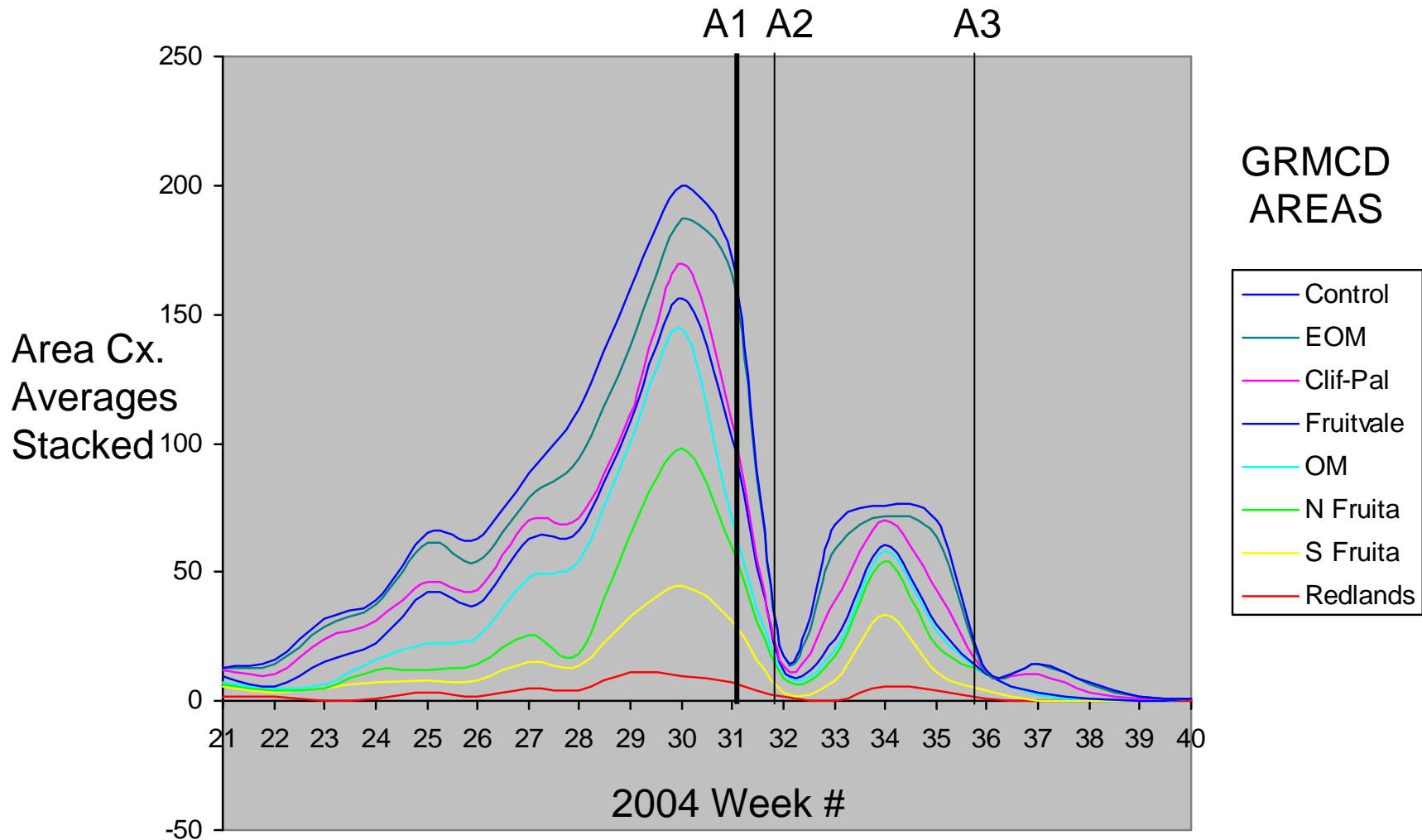
Map Date 9-03-2004 - 1051

# Spray Effectiveness Indicators

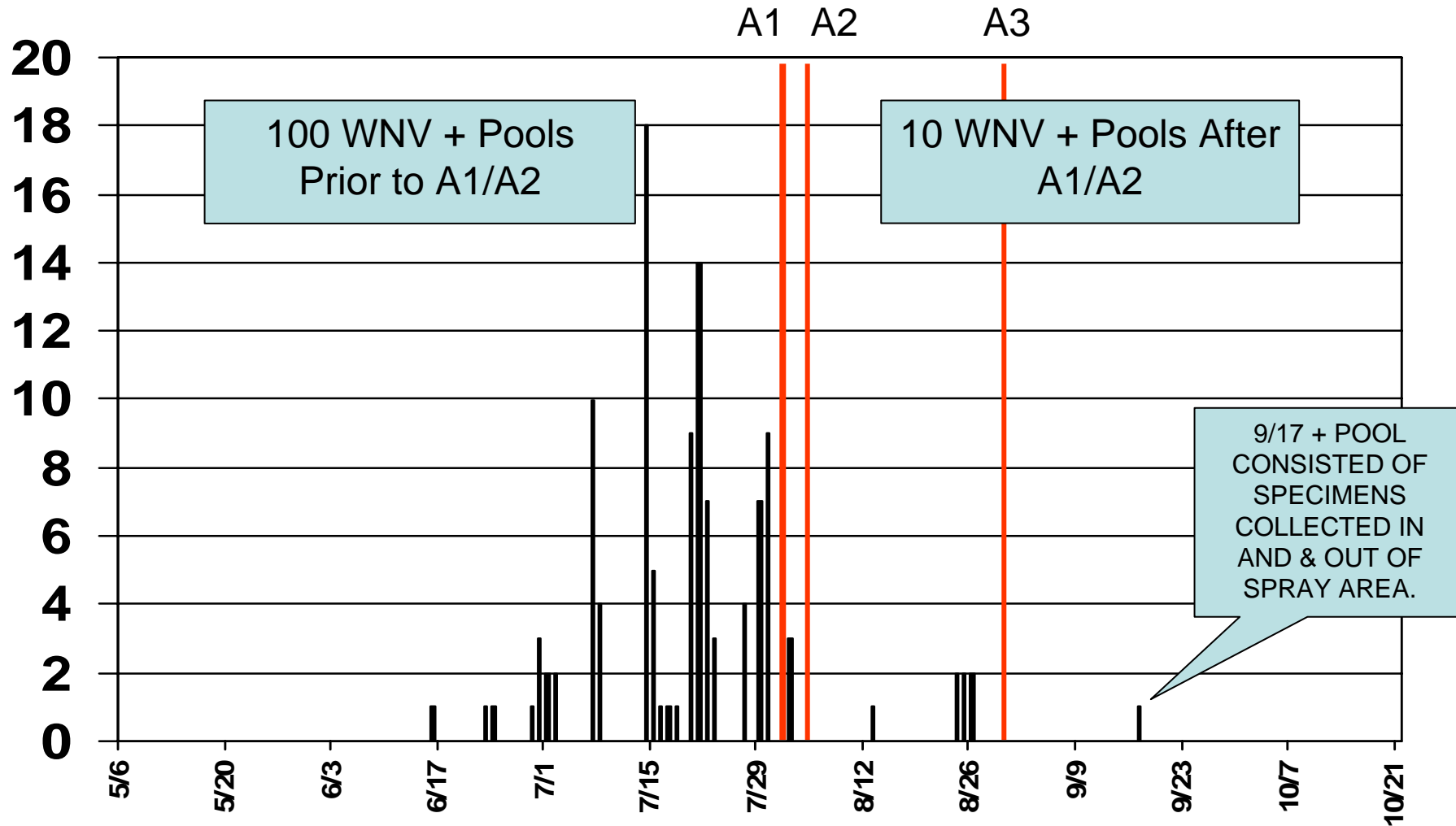
- Massive reduction in mosquito populations
- Significant Culex mosquito vector kill
- 95% + bio-assay cage kill after 24 hours
- Decline in WNV + Culex pools
- “ “ Culex WNV MIR
- “ “ Human WNV case reports
- “ “ WNV NID cases
- “ “ WNV + blood donations

# GRMCD AREA CULEX TRAP AVERAGES

8 Geographic Areas/57 CDC Light Traps

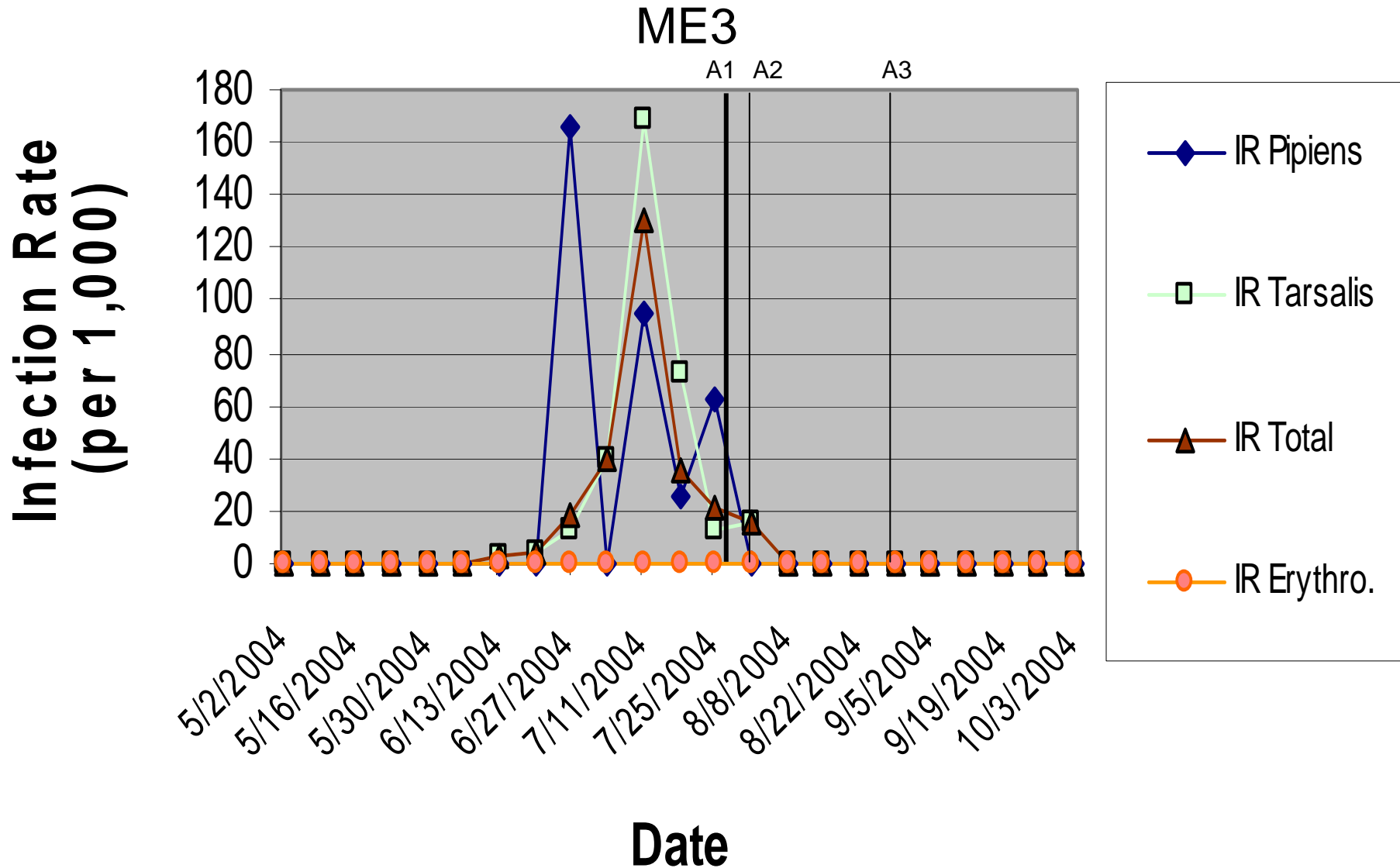


# 113 WNV+ CULEX POOLS



Total pools submitted = 500

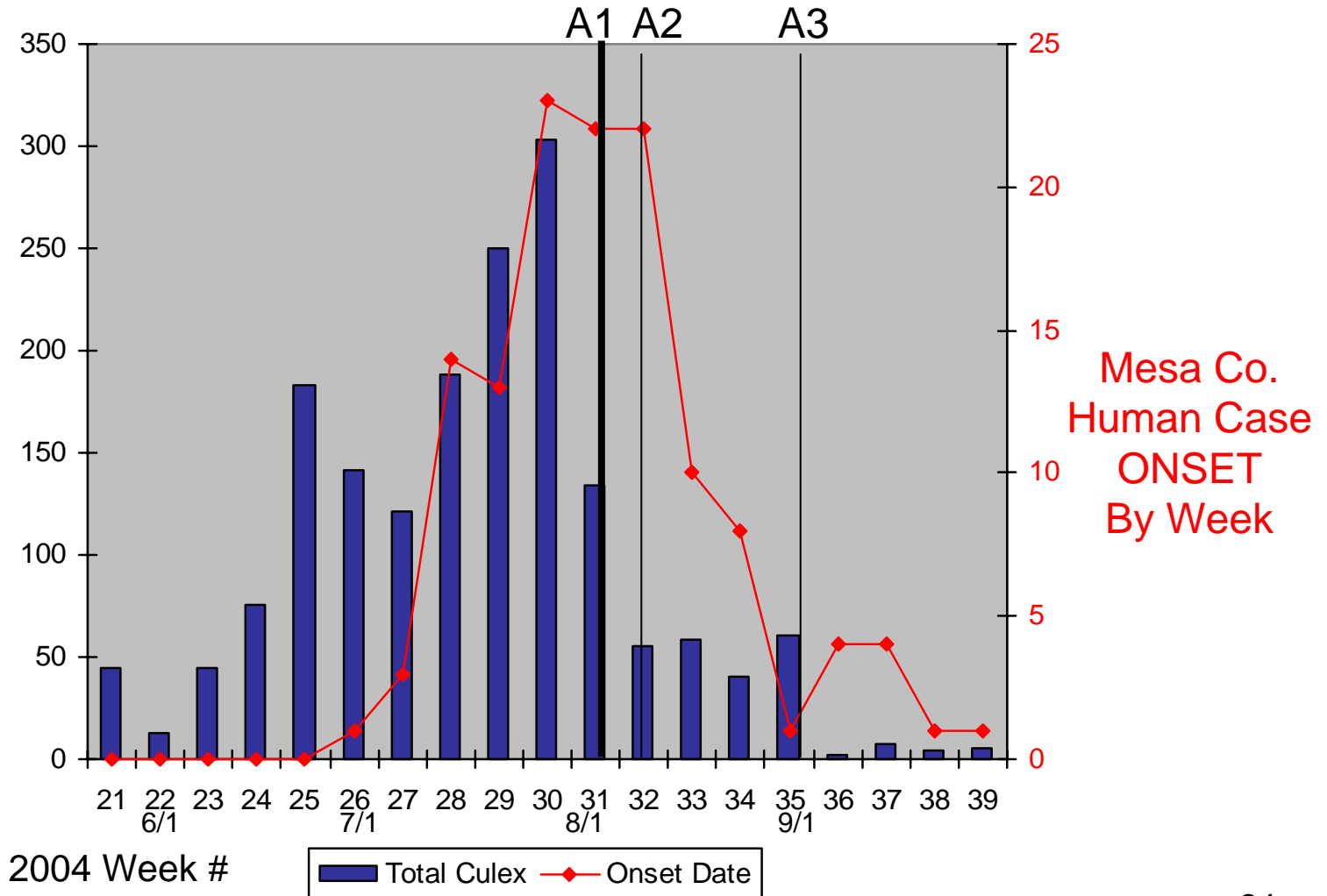
# Infection Rate for Mesa County Sentinel Site



# 2004 WNV Surveillance & Human Cases

W/ Human Case Onset Date/Week

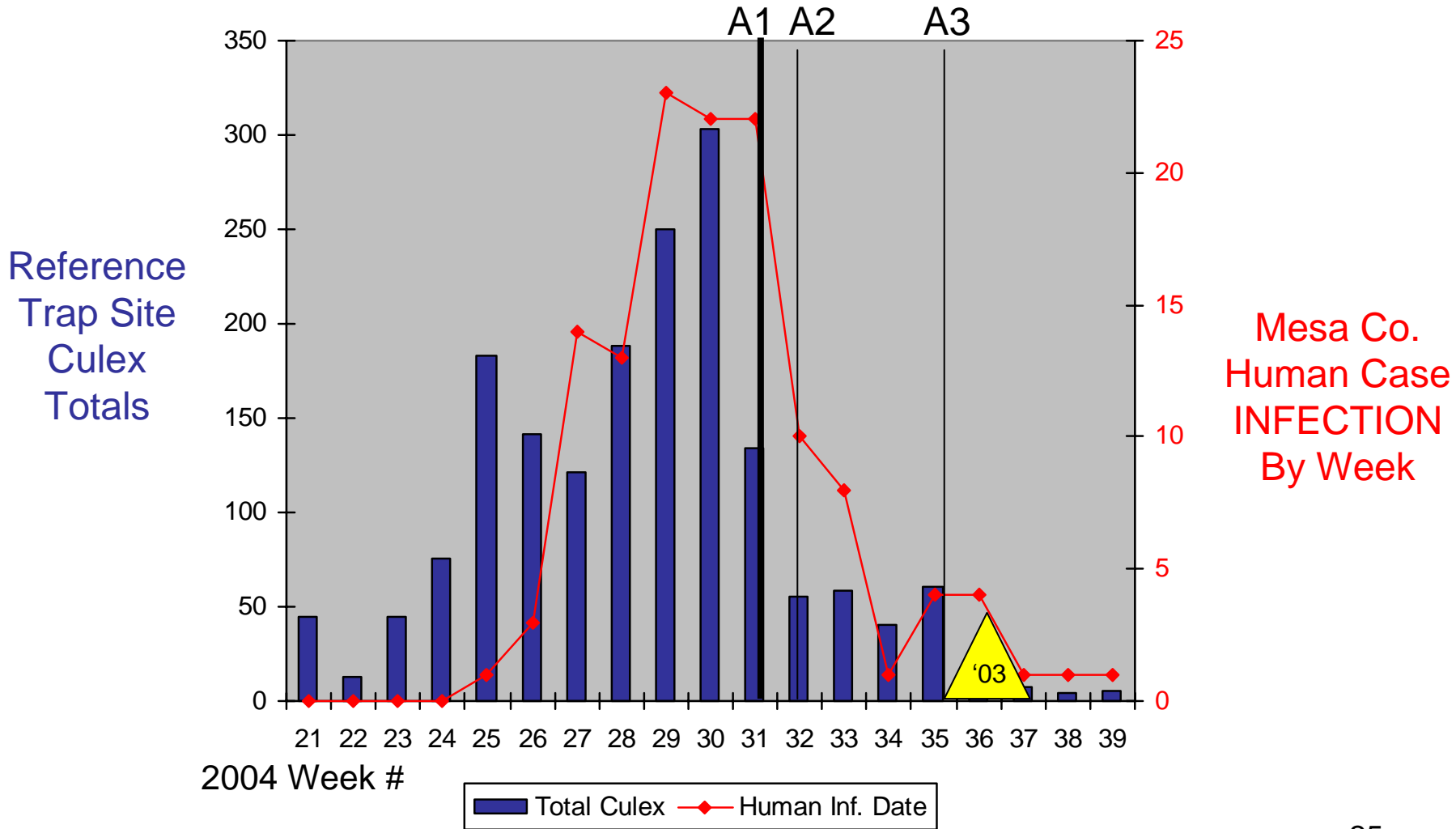
ME1 – ME6  
Reference  
Trap Sites  
Culex  
Totals



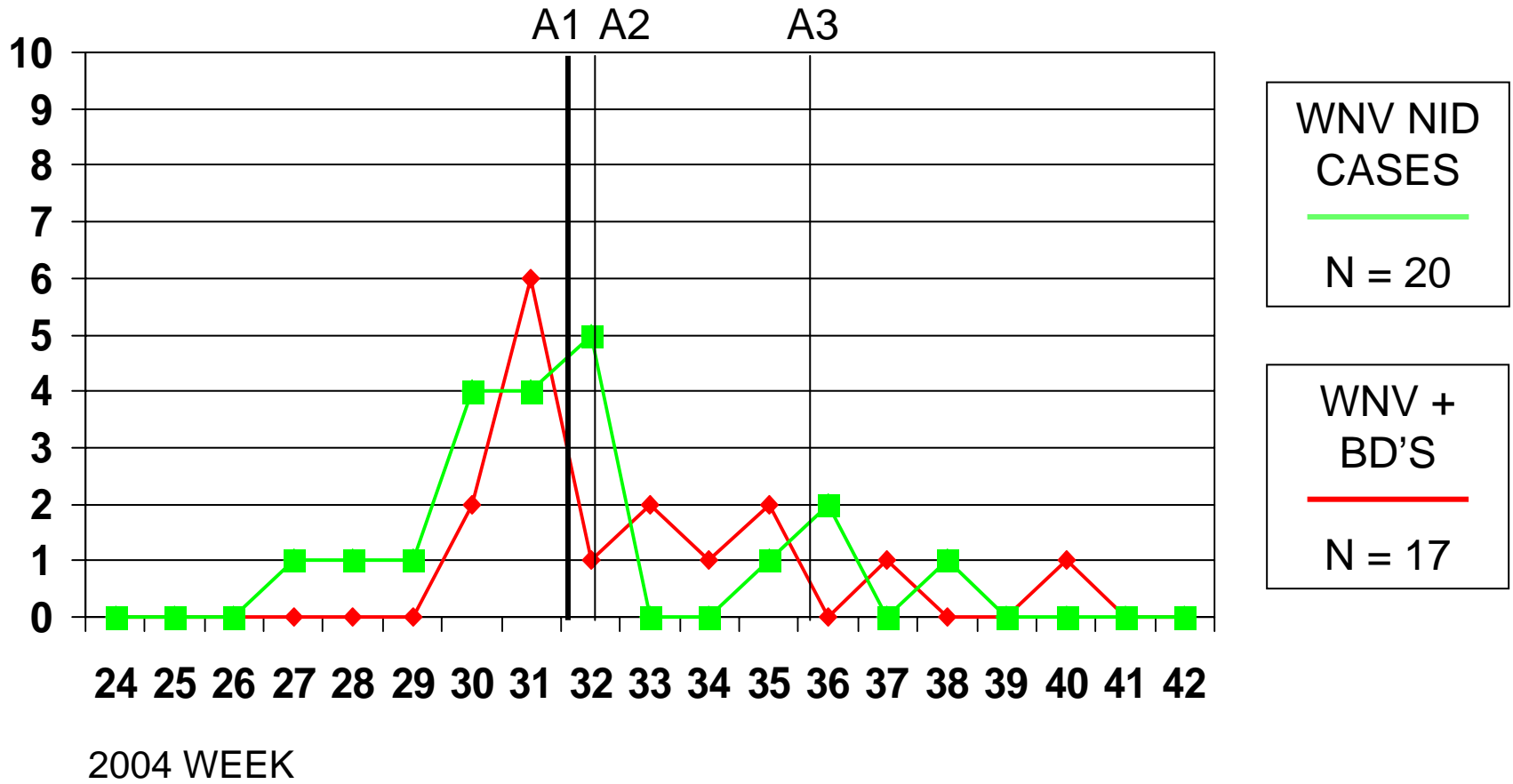


# 2004 WNV Surveillance & Human Cases

Assumption: WNV Incubation Period = 1 Week



# WNV+ BLOOD DONATIONS & NEUROINVASIVE DISEASE CASES



# 2004 WNV Summary

- 127 Human Cases/3 Deaths
- 113 WNV + Culex Pools/500 Tested (22.6%)
- Three Aerial Dibrom Applications
- Total Treated Area = 210,916 Acres
- Aerial Adulticiding Cost = \$330,940
- Direct Program Cost = \$509,780
- CDC ELC/WNV Funds = \$116,000

A silhouette of an airplane is centered in the upper half of the frame, flying against a clear, light blue sky. Below the airplane, the sky transitions into a vibrant sunset with orange and yellow hues. The bottom of the image is dominated by the dark silhouettes of trees and foliage.

THE END