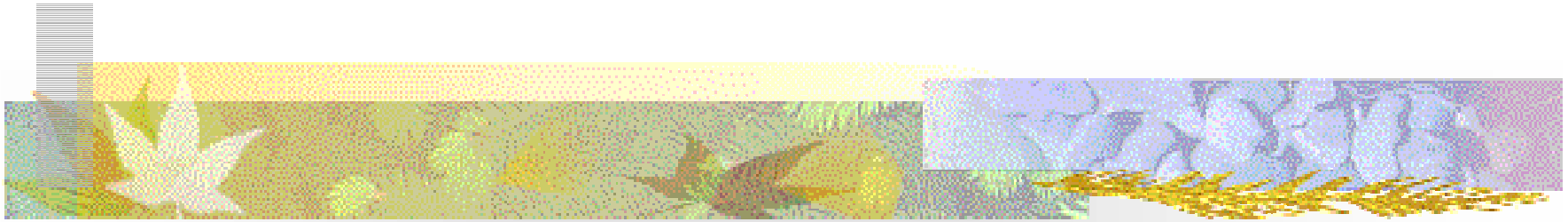
West Nile virus first transmission season in Florida, 2001-

more than 400 horse cases and 170 chicken seroconversions but only sporadic human disease



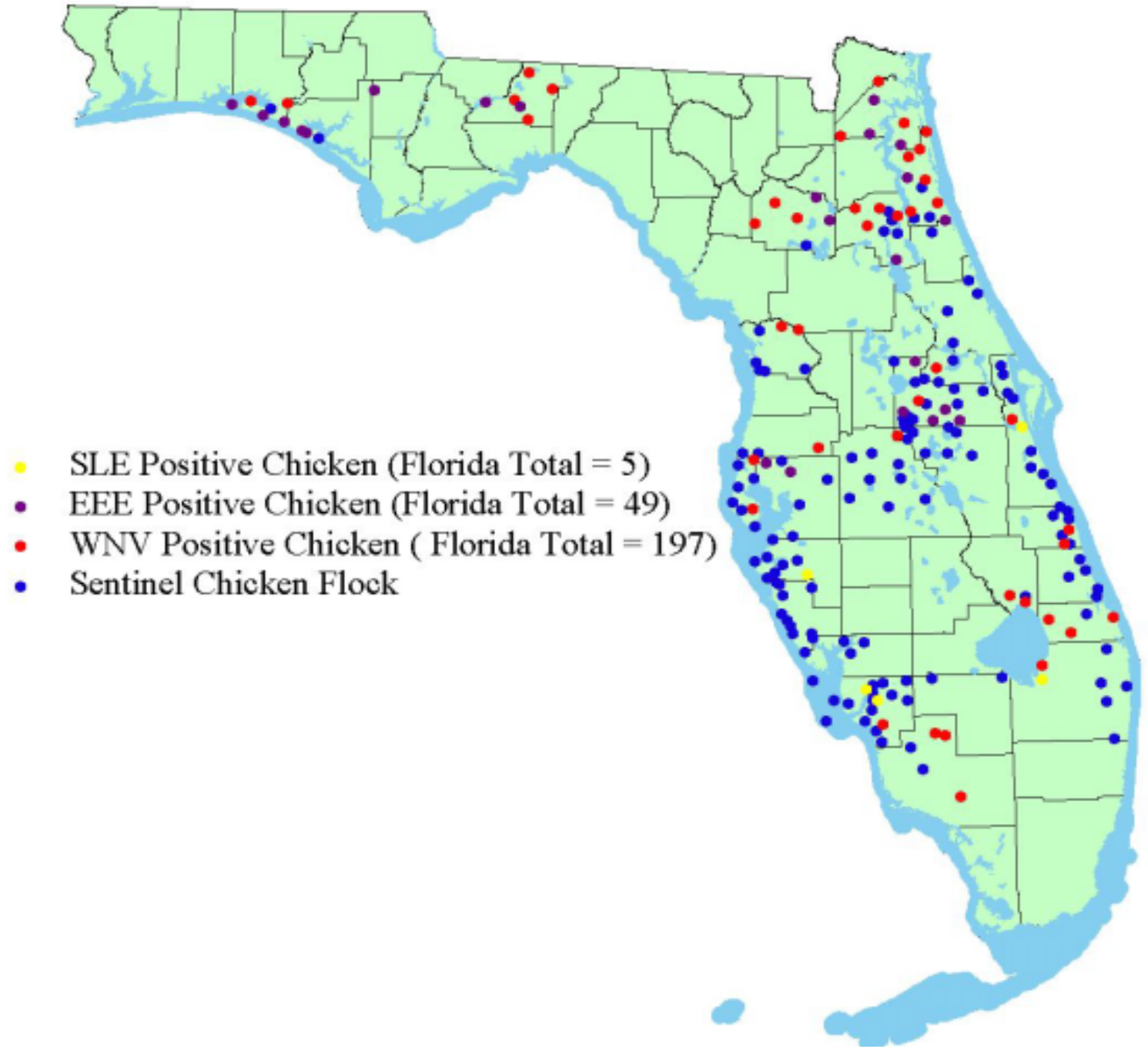
C. Blackmore, L.M. Stark, R.L. Oliveri, L.A. Conti and S.T. Wiersma

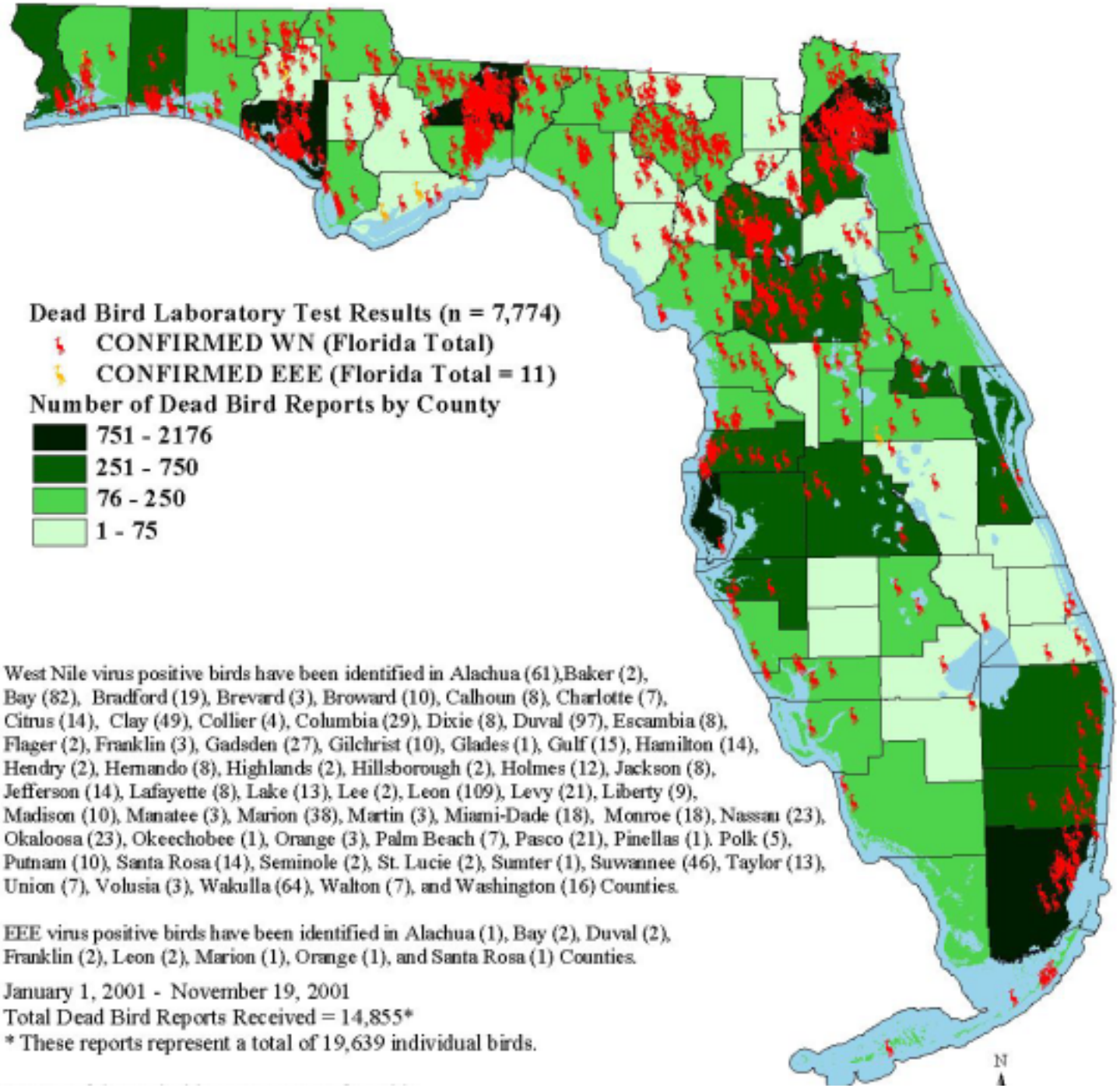
Background

- History of episodic SLE outbreaks + sporadic EEE disease:
  - SLE and EEE sentinel chicken surveillance
  - Mosquito population surveillance
  - Horse illness surveillance (EEE)
  - Human case surveillance
- Added surveillance for WN virus:
  - Dead bird reporting
  - Dead bird testing

Outbreak overview

- First confirmed WN virus infected crow- Jefferson Co., July 3, 2001
- 12 human cases from 9 counties
- 492 horse cases in 40 counties
- 8 cases preceded by WN + birds in county; 7 also by + horses or chickens
- Dead birds most sensitive WN indicator

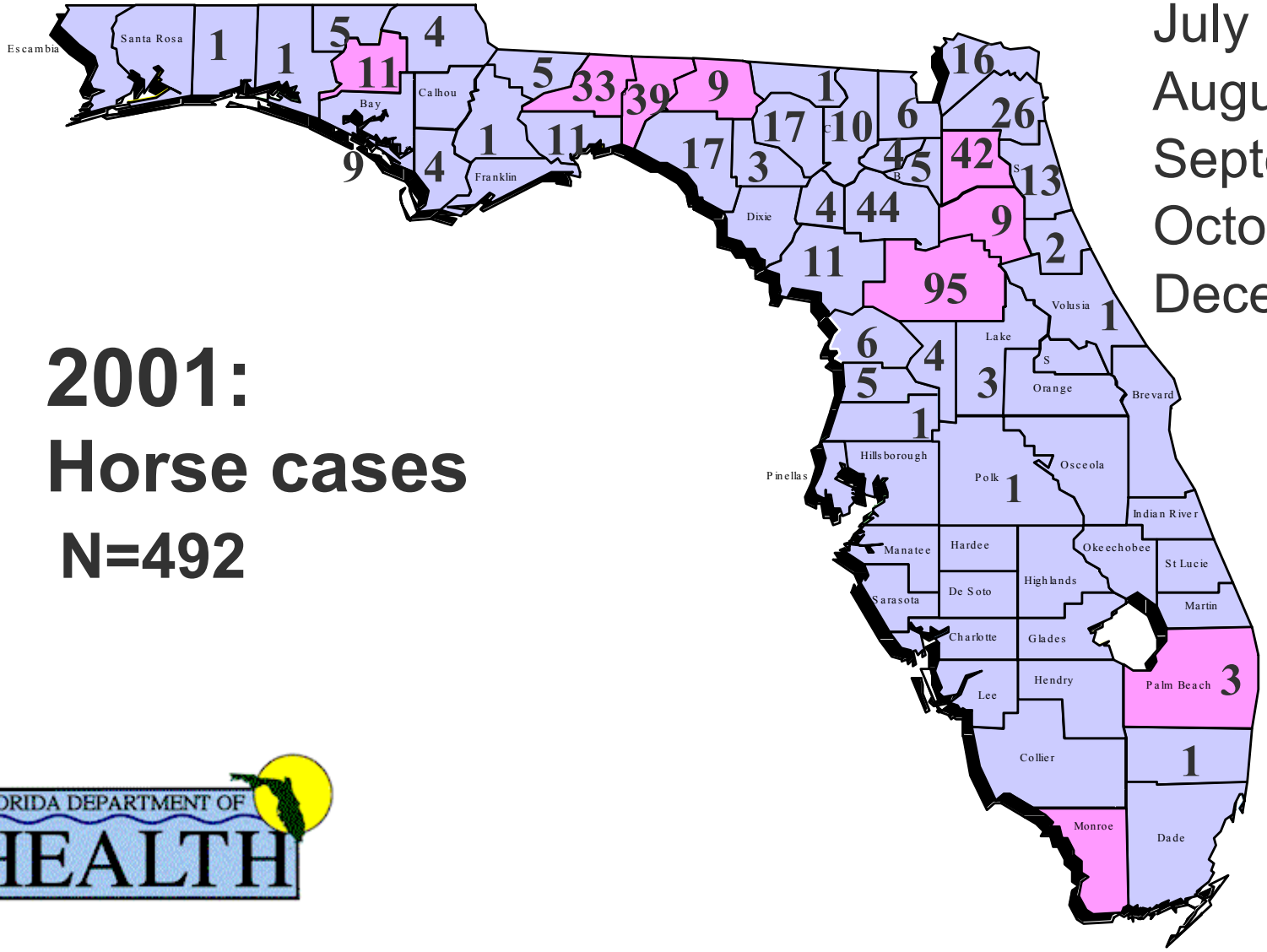

SLE Positive Chicken (Florida Total = 5)
EEE Positive Chicken (Florida Total = 49)
WNV Positive Chicken (Florida Total = 197)
Sentinel Chicken Flock


Dead Bird Laboratory Test Results (n = 7,774)
CONFIRMED WN (Florida Total)
CONFIRMED EEE (Florida Total = 11)
Number of Dead Bird Reports by County
751 - 2176
251 - 750
76 - 250
1 - 75
West Nile virus positive birds have been identified in Alachua (61),Baker (2), Bay (82), Bradford (19), Brevard (3), Broward (10), Calhoun (8), Charlotte (7), Citrus (14), Clay (49), Collier (4), Columbia (29), Dixie (8), Duval (97), Escambia (8), Flager (2), Franklin (3), Gadsden (27), Gilchrist (10), Glades (1), Gulf (15), Hamilton (14), Hendry (2), Hernando (8), Highlands (2), Hillsborough (2), Holmes (12), Jackson (8), Jefferson (14), Lafayette (8), Lake (13), Lee (2), Leon (109), Levy (21), Liberty (9), Madison (10), Manatee (3), Marion (38), Martin (3), Miami-Dade (18), Monroe (18), Nassau (23), Okaloosa (23), Okeechobee (1), Orange (3), Palm Beach (7), Pasco (21), Pinellas (1). Polk (5), Putnam (10), Santa Rosa (14), Seminole (2), St. Lucie (2), Sumter (1), Suwannee (46), Taylor (13), Union (7), Volusia (3), Wakulla (64), Walton (7), and Washington (16) Counties.
EEE virus positive birds have been identified in Alachua (1), Bay (2), Duval (2), Franklin (2), Leon (2), Marion (1), Orange (1), and Santa Rosa (1) Counties.
January 1, 2001 - November 19, 2001
Total Dead Bird Reports Received = 14,855*
* These reports represent a total of 19,639 individual birds.
N

WN virus positive by species

Species	N pos	N tested	Rate
crow	408	812	0.50
bluejay	218	751	0.29
duck	8	54	0.15
cardinal	16	164	0.10
finch	18	199	0.09
pigeon	19	216	0.09
warbler	23	262	0.09
grackle	11	135	0.08
sparrow	17	215	0.08
catbird	12	156	0.08
dove	130	1793	0.07
thrush	11	163	0.07
mockingbird	17	262	0.06
chicken	4	181	0.02
	912	5363	

N tested =7681
N pos. =1106
Rate pos= 14%



2001:
Horse cases
N=492

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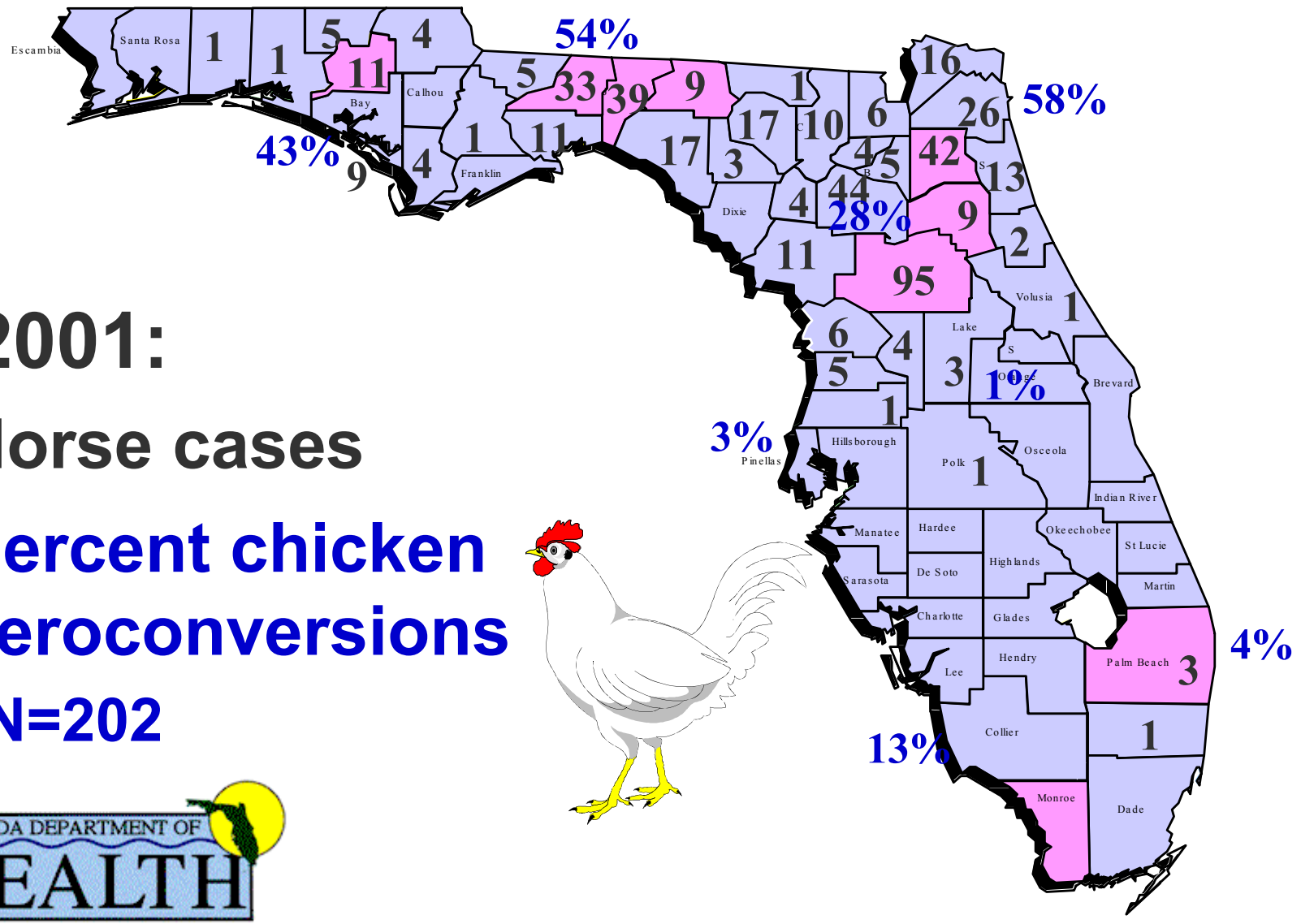
2001:

Horse cases

Percent chicken seroconversions

N=202



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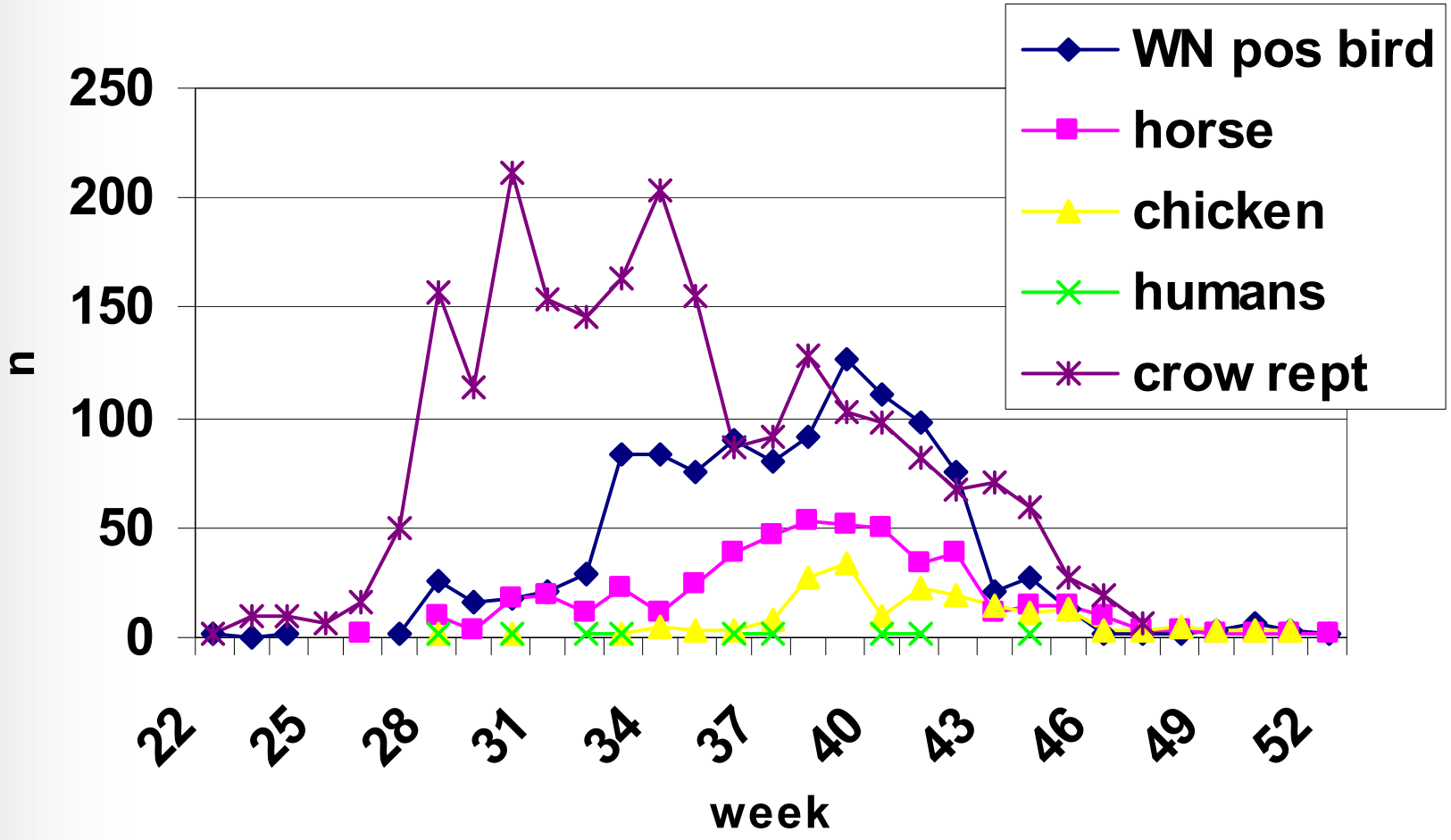
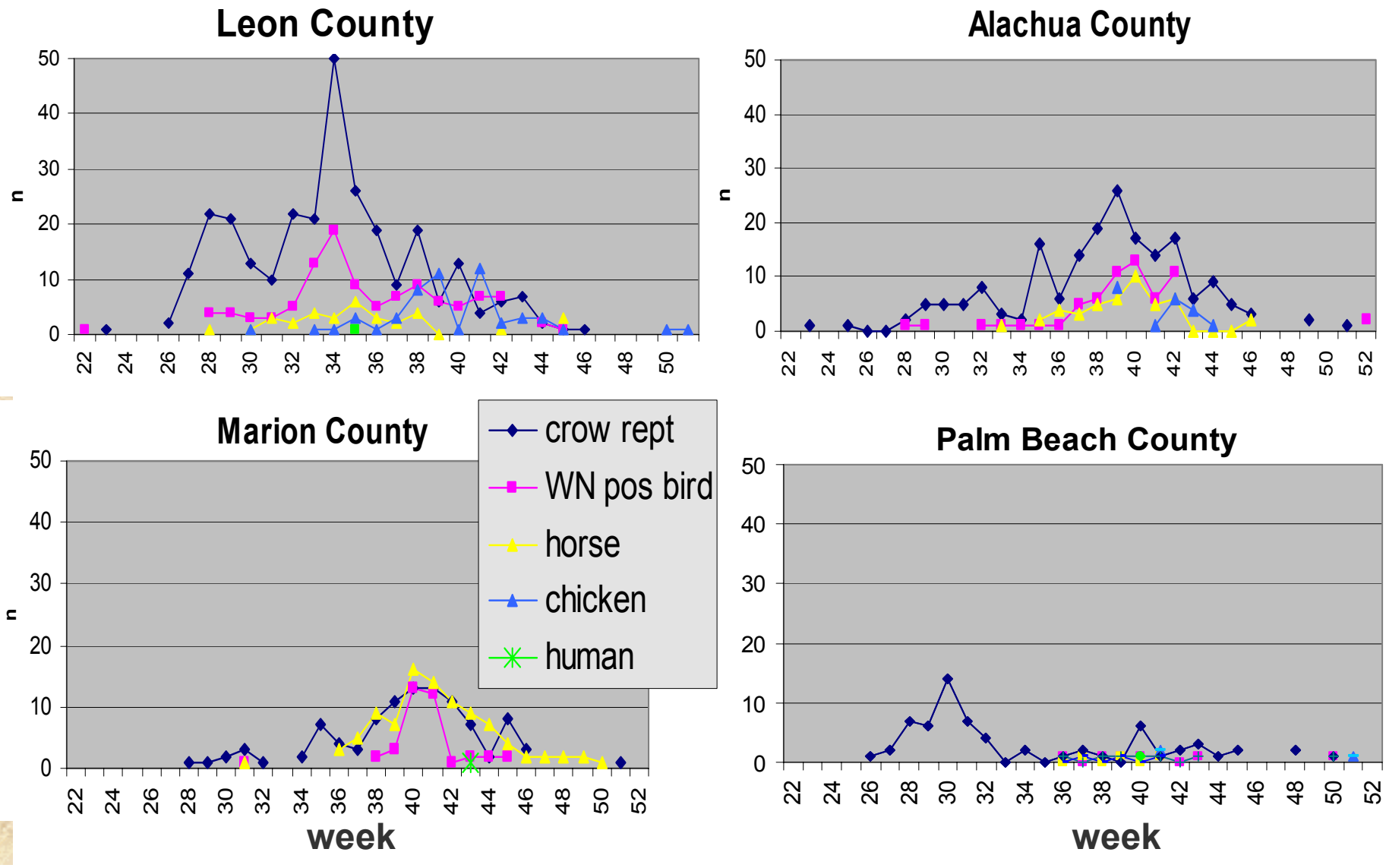
WN + tests and dead crow reports Florida, 2001

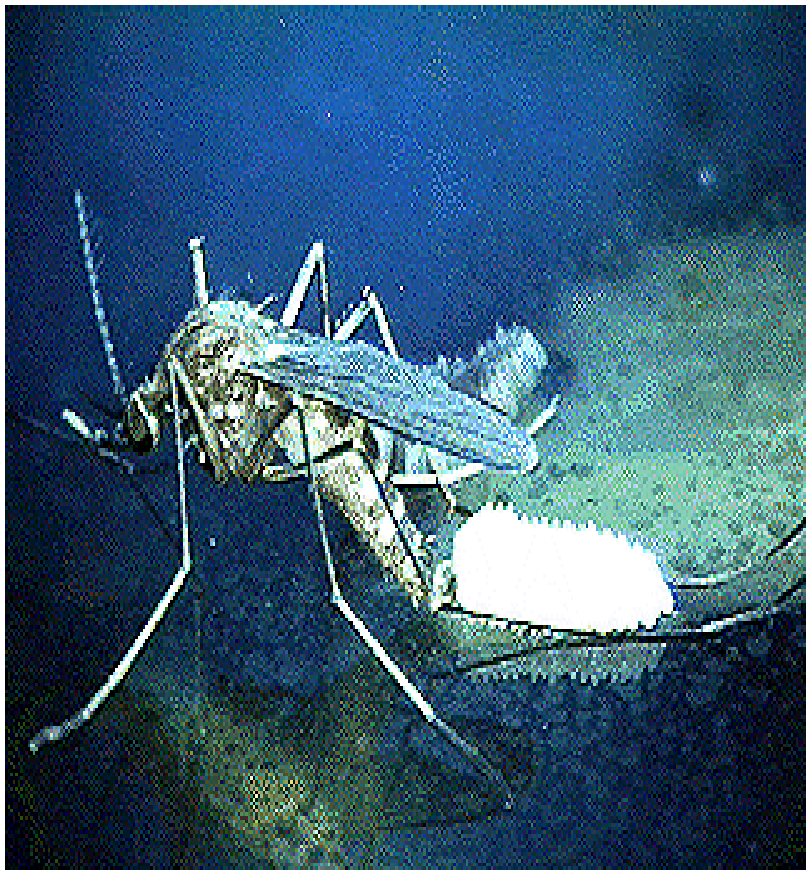


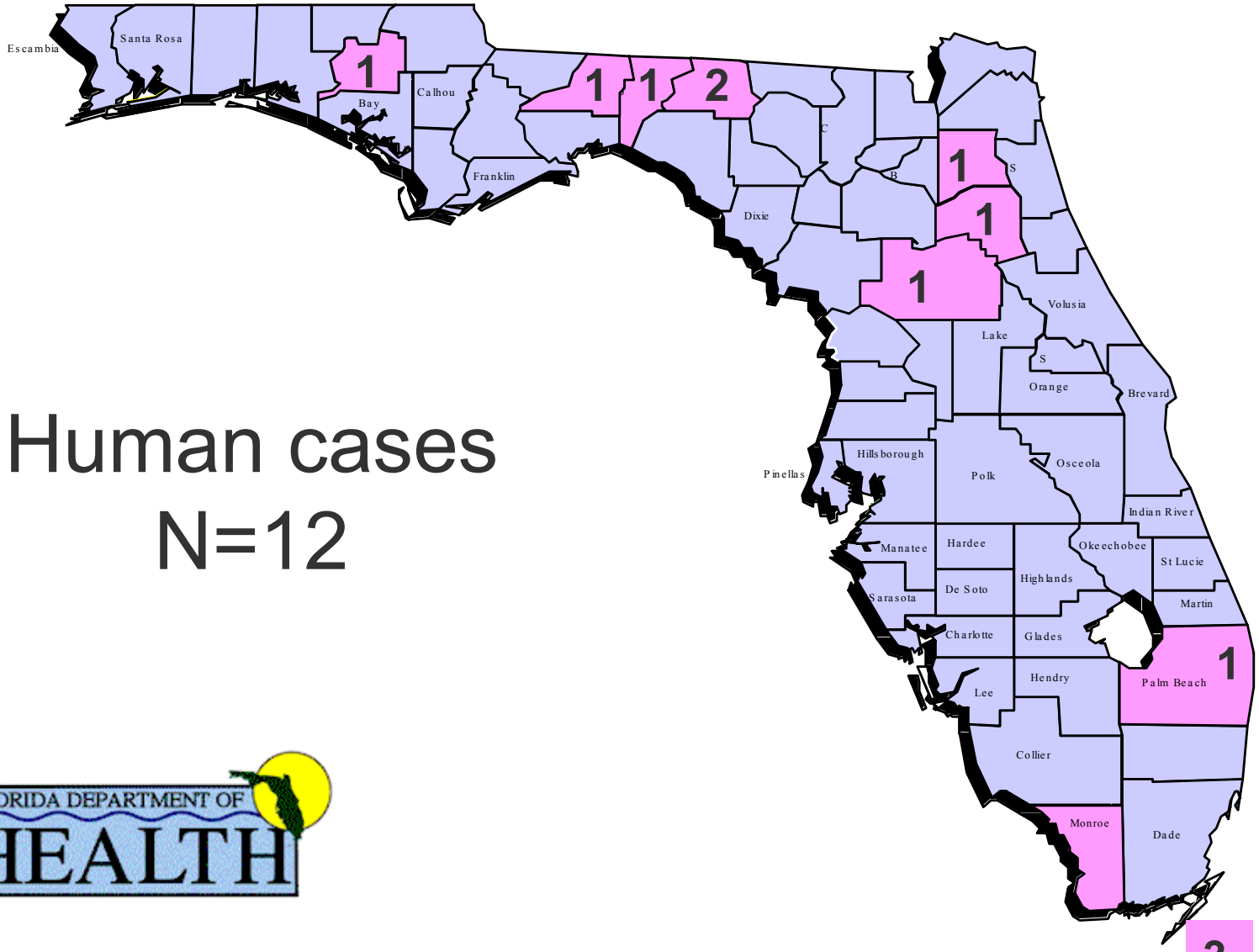
WN virus activity-
A comparison among 4 Florida counties



Mosquito Surveillance

- **39 mosquito pools w/ WN virus**
- ***Culex***
  - ***quinquefasciatus***
  - ***nigripalpus***
  - ***salinarius***
- ***Culiseta***
  - ***melanura***
- ***Ochlerotatus***
  - ***taeniorhynchus***
  - ***atlanticus***
- ***Anopheles***
  - ***crucians***
  - ***atropos***
- ***Deinocerites***
  - ***cancer***





Human cases
N=12

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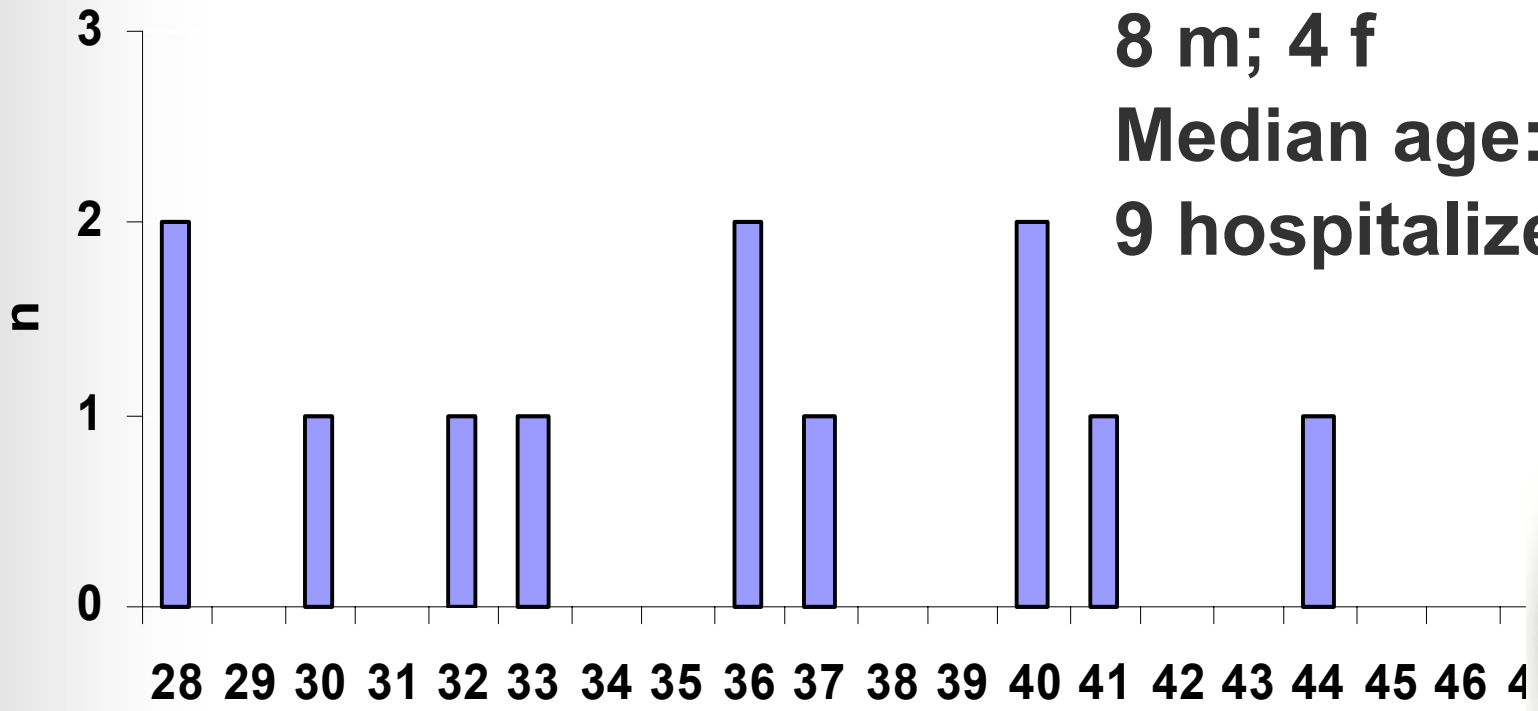
The Florida Keys

Human West Nile Encephalitis, Florida, 2001



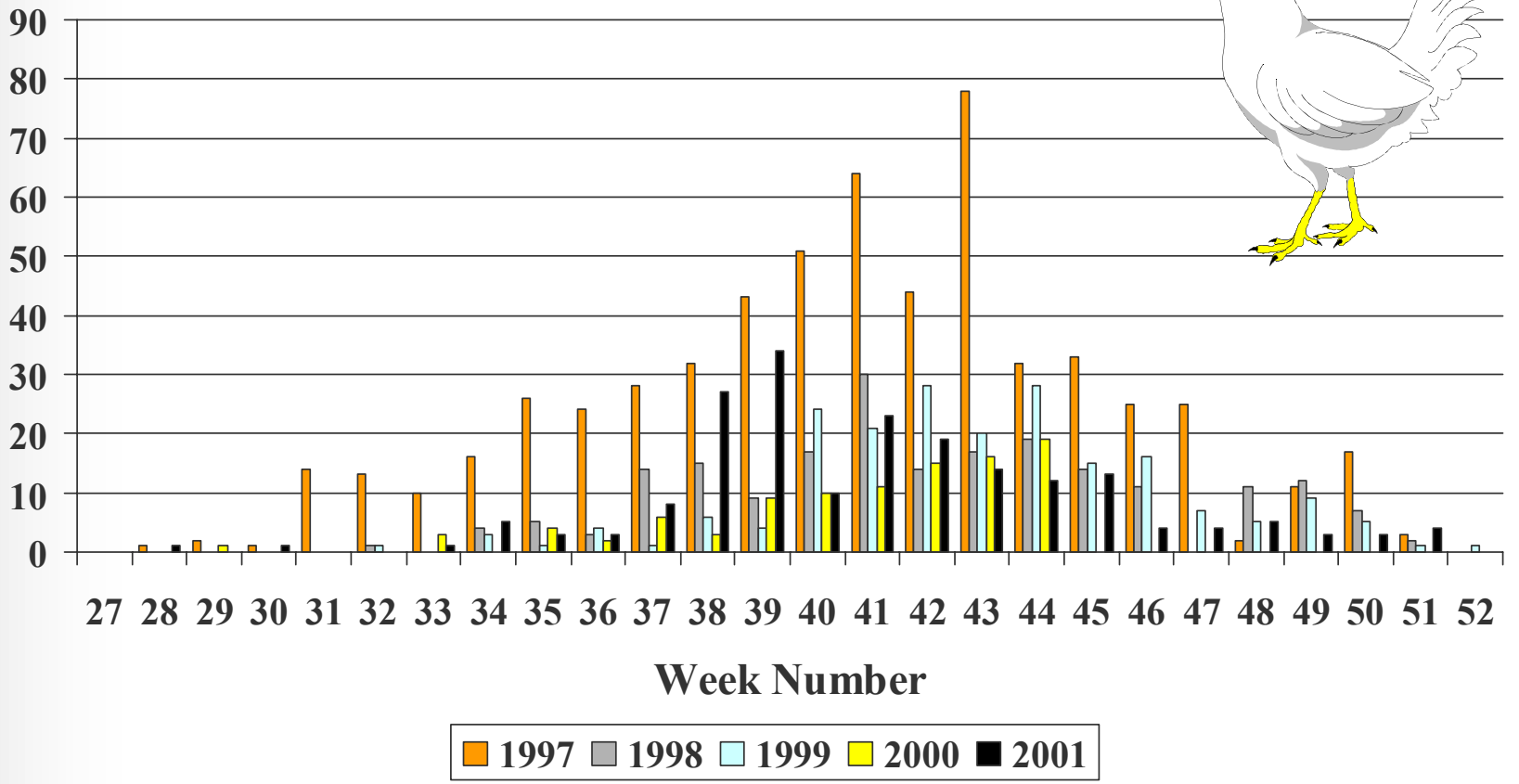
8 m; 4 f

Median age: 50.5y

9 hospitalized (64y)

Summary

- 2001 epizootic focus in rural Florida, in areas without sentinel chicken or mosquito surveillance programs
- Sporadic human cases-reason?
- Crow mortality lower than in NE- appears to correlate with WN virus activity
- *Culex* mosquitoes appear to be important vectors- bridge vectors?

Thank you for
your attention.
Questions?

Number of Sentinel Chicken Seroconversions to SLE or WN virus, July-December, 1997-2001