West Nile virus first transmission season in Florida, 2001-
more than 400 horse cases and 170 chicken seroconversions but only sporadic human disease

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), Flagler (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.
**WN virus positive by species**

<table>
<thead>
<tr>
<th>Species</th>
<th>N pos</th>
<th>N tested</th>
<th>Rate</th>
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<tbody>
<tr>
<td>crow</td>
<td>408</td>
<td>812</td>
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<td>bluejay</td>
<td>218</td>
<td>751</td>
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<td>duck</td>
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<td>54</td>
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<td>cardinal</td>
<td>16</td>
<td>164</td>
<td>0.10</td>
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<td>finch</td>
<td>18</td>
<td>199</td>
<td>0.09</td>
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<td>pigeon</td>
<td>19</td>
<td>216</td>
<td>0.09</td>
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<td>warbler</td>
<td>23</td>
<td>262</td>
<td>0.09</td>
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<tr>
<td>grackle</td>
<td>11</td>
<td>135</td>
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<td>215</td>
<td>0.08</td>
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<tr>
<td>catbird</td>
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<td>156</td>
<td>0.08</td>
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<td>1793</td>
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<td>163</td>
<td>0.07</td>
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<tr>
<td>mockingbird</td>
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<td>262</td>
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<td>chicken</td>
<td>4</td>
<td>181</td>
<td>0.02</td>
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<td><strong>N tested</strong></td>
<td>912</td>
<td>5363</td>
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<tr>
<td><strong>N pos.</strong></td>
<td>7681</td>
<td>1106</td>
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<tr>
<td><strong>Rate pos=</strong></td>
<td>14%</td>
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</tbody>
</table>
2001: Horse cases
N=492
2001:
Horse cases
Percent chicken seroconversions
N=202
**WN + tests and dead crow reports**

**Florida, 2001**

![Graph showing WN + tests and dead crow reports in Florida, 2001. The graph includes lines for WN positive birds, horses, chickens, humans, and crows and reptiles.]
WN virus activity-
A comparison among 4 Florida counties

Leon County

Alachua County

Marion County

Palm Beach County

- crow rept
- WN pos bird
- horse
- chicken
- human

week

week
Mosquito Surveillance

- 39 mosquito pools with WN virus
- *Culex*
  - *quinquefasciatus*
  - *nigripalpus*
  - *salinarius*
- *Culiseta*
  - *melanura*
- *Ochlerotatus*
  - *taeniorhynchus*
  - *atlanticus*
- *Anopheles*
  - *crucians*
  - *atropos*
- *Deinocerites*
  - *cancer*
Human cases
N=12
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