


DEPARTMENT of AGRICULTURE
 Provincial Government of the Western Cape

H5N2 Avian Influenza Outbreak

Western Cape Province of South Africa -Oudtshoorn-

Lunchtime Seminar: "One Health" Avian Influenza
19 August 2011

Overview of the outbreak

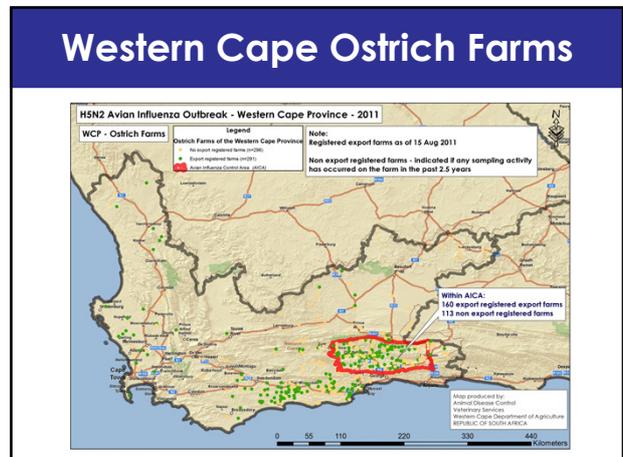
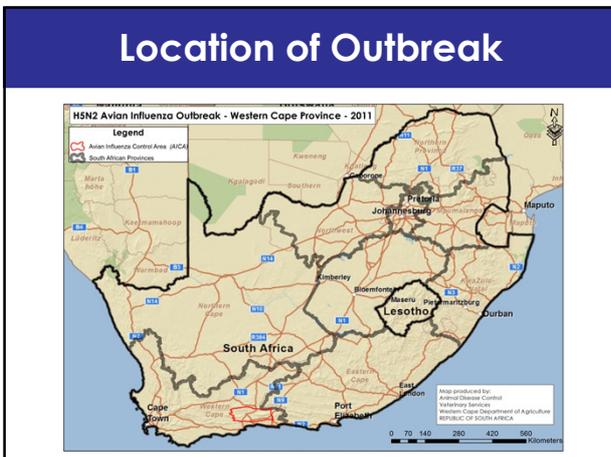
- 9 April 2011 – Sequencing results indicate possible HPAI infection on a farm just north of Oudtshoorn
- Outbreak operations centre set up in Oudtshoorn on 13 April 2011
- Multiple rounds of disease surveillance with stamping out of infected properties
- Export of ostrich products halted

Case Definition

- PCR
 - Matrix gene positive – confirmed H5 – sequence and confirm HPAI
- Serology
 - AI H5 on HI serology with no significant H6 cross reaction (LV)

Case Definition (cont.)

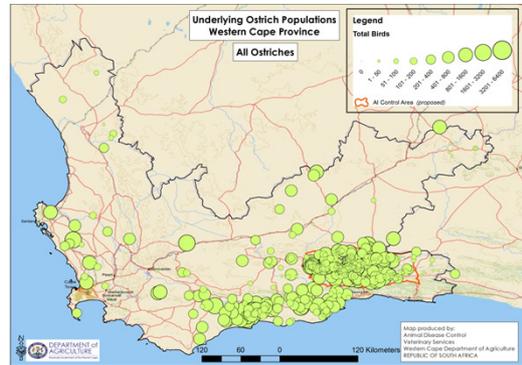
- Clinical signs
- Epidemiology
 - Clinical and/or Epidemiological Suspicion: This is when there is suspicion of an AI infection on an ostrich property/farm as a result of clinical signs and/or abnormal mortalities which indicate AI as a differential diagnosis. It also includes instances where the farm or property has epidemiological links to a previously identified AI positive/suspicious property or farm. These links include but are not limited to instances such as when a farm has ostriches on it that are located within 2.5 kilometres of a previously identified AI farms or when backward and forward tracing identifies the farm under review.



Western Cape Ostrich Farms

- 291 registered export farms in the WCP
 - 160 are within the AICA
 - 131 are outside the AICA
- 296 'active' farms in WCP (2.5 year sampling history)
 - 103 are within AICA
 - 193 are outside the AICA
- Total of 587 farms in total with 263 in AICA and 324 outside of AICA

Underlying Ostrich Population – Western Cape Province

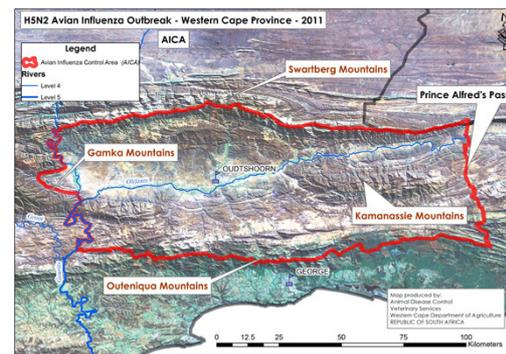


Underlying Ostrich Population – Western Cape Province

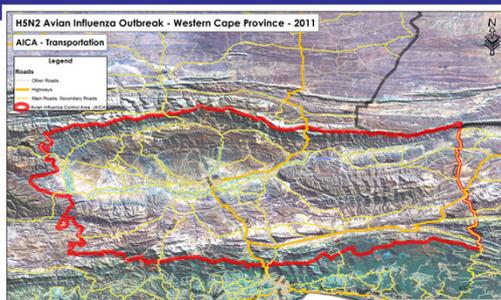
Category	Total Birds	Zero Census Properties	Properties containing category birds	Avg per property containing birds
Young Chicks (0-5 weeks)	2 857 (42%) (6 733)	173 (355)	50 (89)	57 (76)
Older Chicks (7wk-5mo)	37 166 (47%) (78 705)	90 (179)	133 (265)	280 (297)
Slaughter	61 850 (52%) (119 789)	82 (139)	141 (305)	439 (393)
Breeder	25 421 (70%) (36 100)	49 (129)	174 (315)	146 (114)
Total	127 294 (53% (241 327))	94 (136)	223 (308)	571 (783)

Estimated from final census taken on all farms that were active in 2011 and or 2010.

AICA

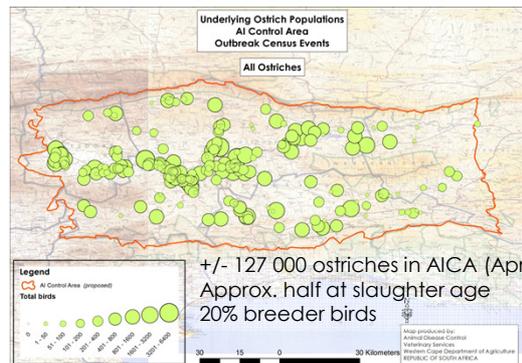


AICA roads



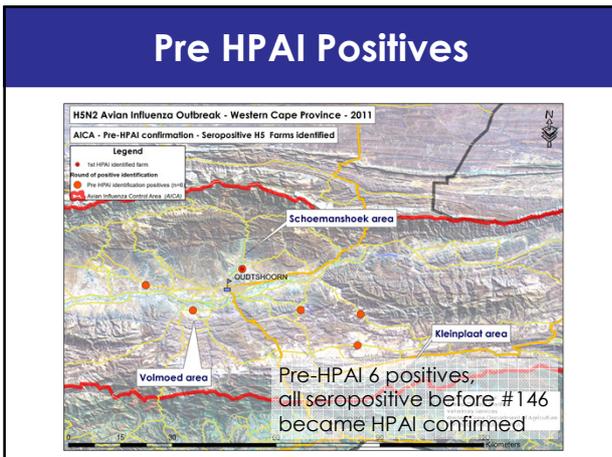
- 11 crossing on roads between AICA and rest of the Province
- N9 major road from the East passing through the southern AICA
- R62 from West running through to the North to De Rust
- R339 (Prince Alfreds Pass on Eastern Boundary)

AICA underlying population

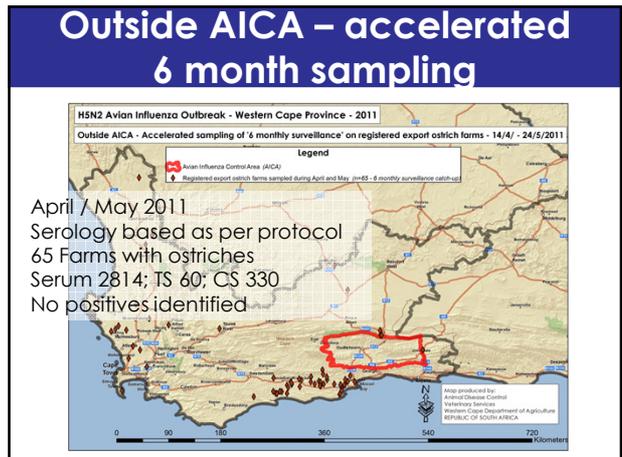


+/- 127 000 ostriches in AICA (April)
Approx. half at slaughter age
20% breeder birds

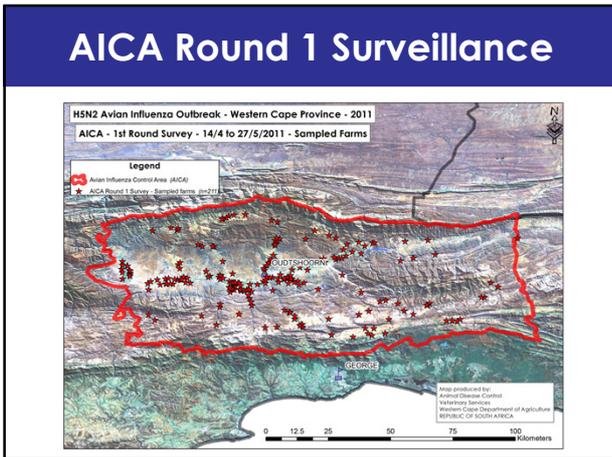
Pre HPAI Positives



Outside AICA – accelerated 6 month sampling



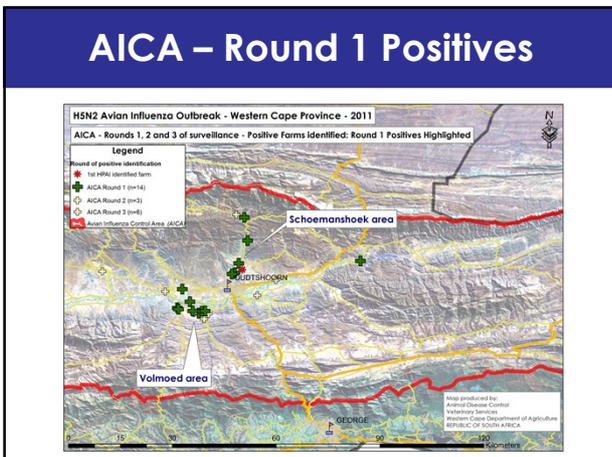
AICA Round 1 Surveillance



AICA Round 1 Surveillance

- 211 Farms
- S 10454; CS 8978; TS 560
- Census done concurrently to ensure that all properties with ostriches on them were identified
- Mainly cloacal swabs taken – decision changed prior to 2nd round after EU delegation assisted in outbreak.
- Progression:
 - Farm 146 – 10 km buffer
 - 2 km buffer around pre-HPAI farms
 - All other farms in control area

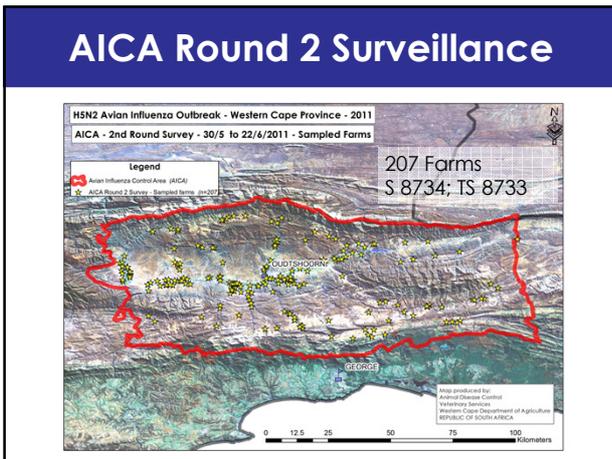
AICA – Round 1 Positives



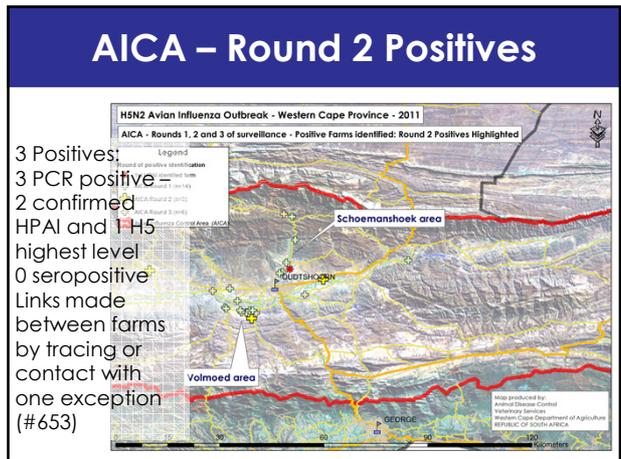
AICA – Round 1 Positives

- Round 1 AICA – 14 Positives
- 9 PCR Positive – 8 confirmed HPAI and 1 H5 highest level
- 8 Seropositive
- 3 Seropositive and PCR positive
- Links made between farms by tracing or contact with a few exceptions

AICA Round 2 Surveillance



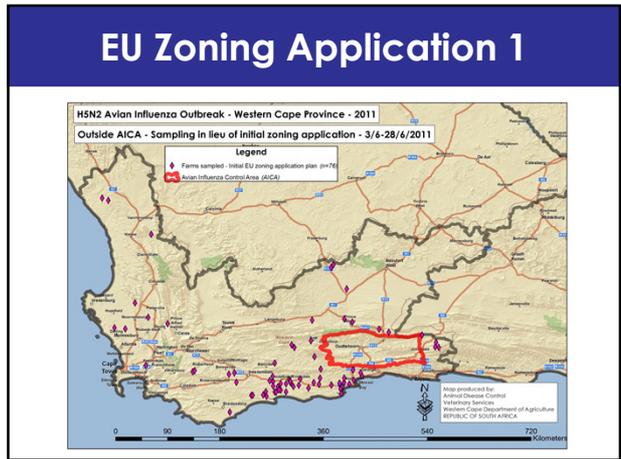
AICA – Round 2 Positives



AICA – Round 2 Positives

- Round 2 AICA – 3 Positives
- 3 PCR Positive – 2 confirmed HPAI and 1 H5 highest level
- 0 Seropositive
- Links made between farms by tracing or contact with a one exception (#653)

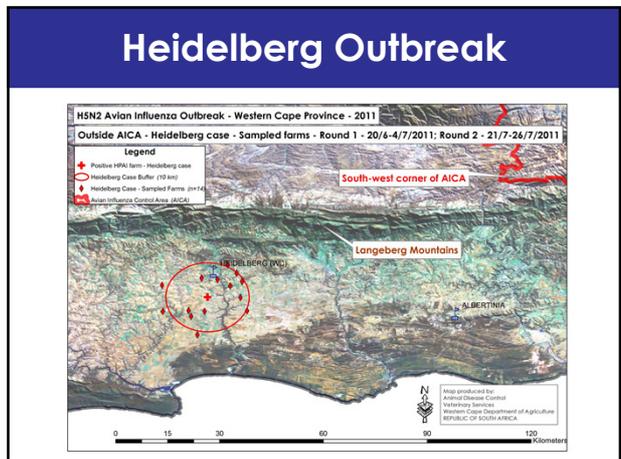
EU Zoning Application 1



EU Zoning Application 1

- 3 June to the 28 June 2011
- Statistical sampling frame – 95%conf, 242 potential properties, 10% between farm prevalence
- Active: - 14 Farms identified in 2010 – Seropositive outbreak
- 76 Farms Sampled
- 2841 Serum; 2781 Tracheal Swabs; 60 Cloacal Swabs
- 1 positive farm identified – Heidelberg outbreak (#307) - HPAI

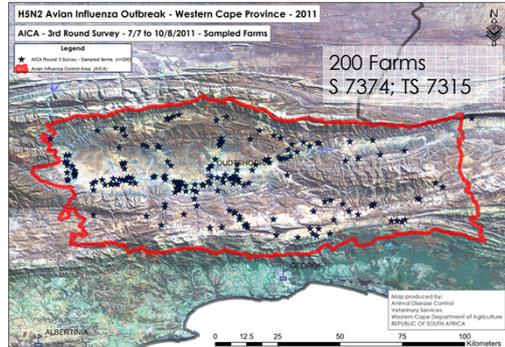
Heidelberg Outbreak



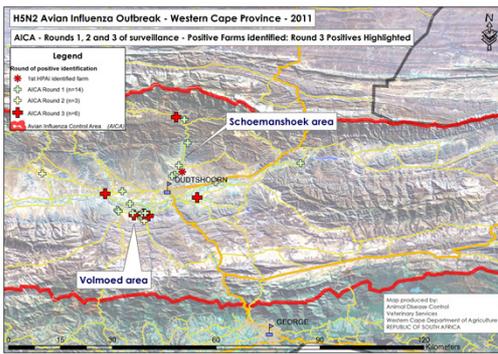
Heidelberg Outbreak

- Identified during EU zoning round 1
- 25 farms identified within 10 kilometres of affected farm
- 14 farms had ostriches on them, 4 had been sampled during EU zoning 1 and the 10 remainder were then sampled in round 1 Heidelberg
- S 390; TS 390
- Round 2 Heidelberg consisted of all 14 farms
- All results were negative and quarantine was lifted for slaughter to the local market
- S480; TS480

AICA Round 3 Surveillance



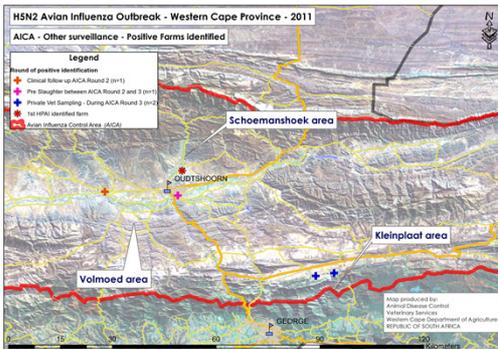
AICA – Round 3 Positives



AICA – Round 3 Positives

- Round 3 AICA –6 Positives
- 2 PCR Positive – 1 confirmed HPAI and 1 Matrix highest level
- 4 Seropositive
- 0 with both PCR and serology concurrently
- Links made between farms by tracing or contact

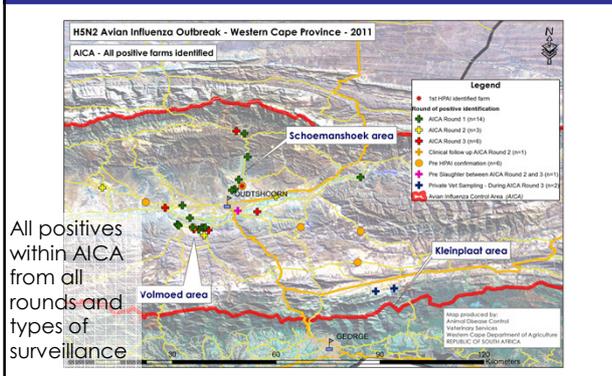
AICA – Positive Farms – Other sampling events



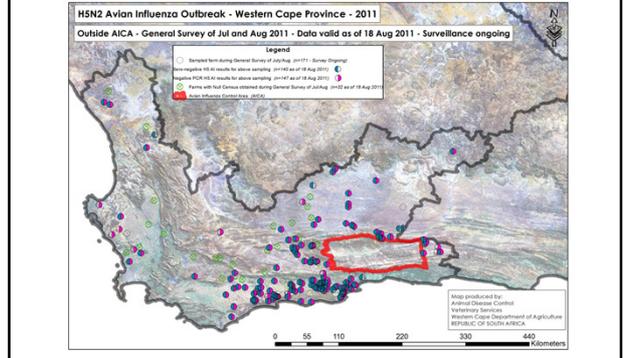
AICA – Positive Farms – Other sampling events

- Samples taken by Private Vets, Pre slaughter blood-work and after clinical follow up also lead to positive farms
- This occurred at the same time as Round 2 AICA was finishing and Round 3 was in progress

AICA – All positives



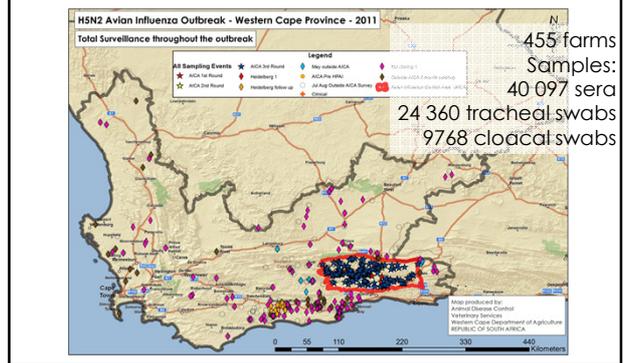
Outside AICA – General Census/Survey Jul/Aug 2011



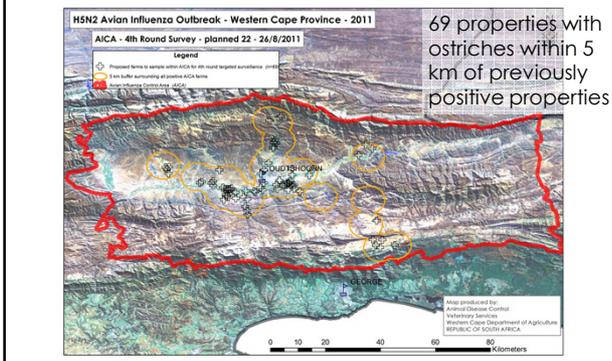
Outside AICA – General Census/Survey Jul/Aug 2011

- After Heidelberg farm was diagnosed HPAI a decision to sample all ostrich holding which potentially had birds on was taken
- A potential 324 properties were selected based on activity within the last 2.5 years
- As of the 15 Aug a total of 171 properties were sampled with a further 32 having null census
- No H5 positive properties identified
- 2 H6 positive properties identified
- S 6244; TS 6216

All Sampling



Planned 4th Round Survey - AICA



Conclusions

- Ongoing surveillance
- Weather conditions
- Decreased population in high risk zones (slaughtered out – about 20% of birds slaughtered in AICA)