

South River Carolina Wren

Reproductive Study

Preliminary Results

2009 -2010

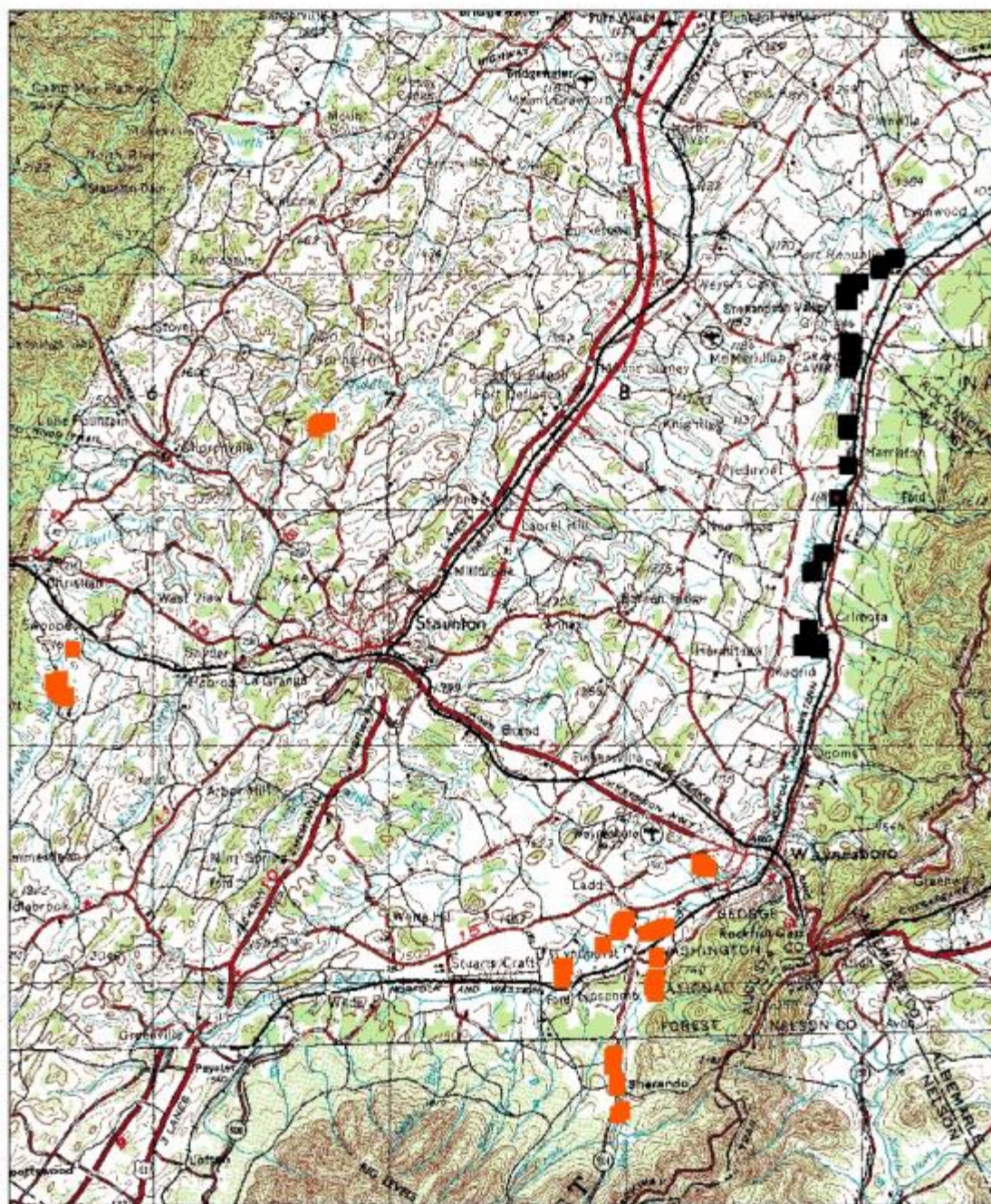


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2010 Field Work Overview



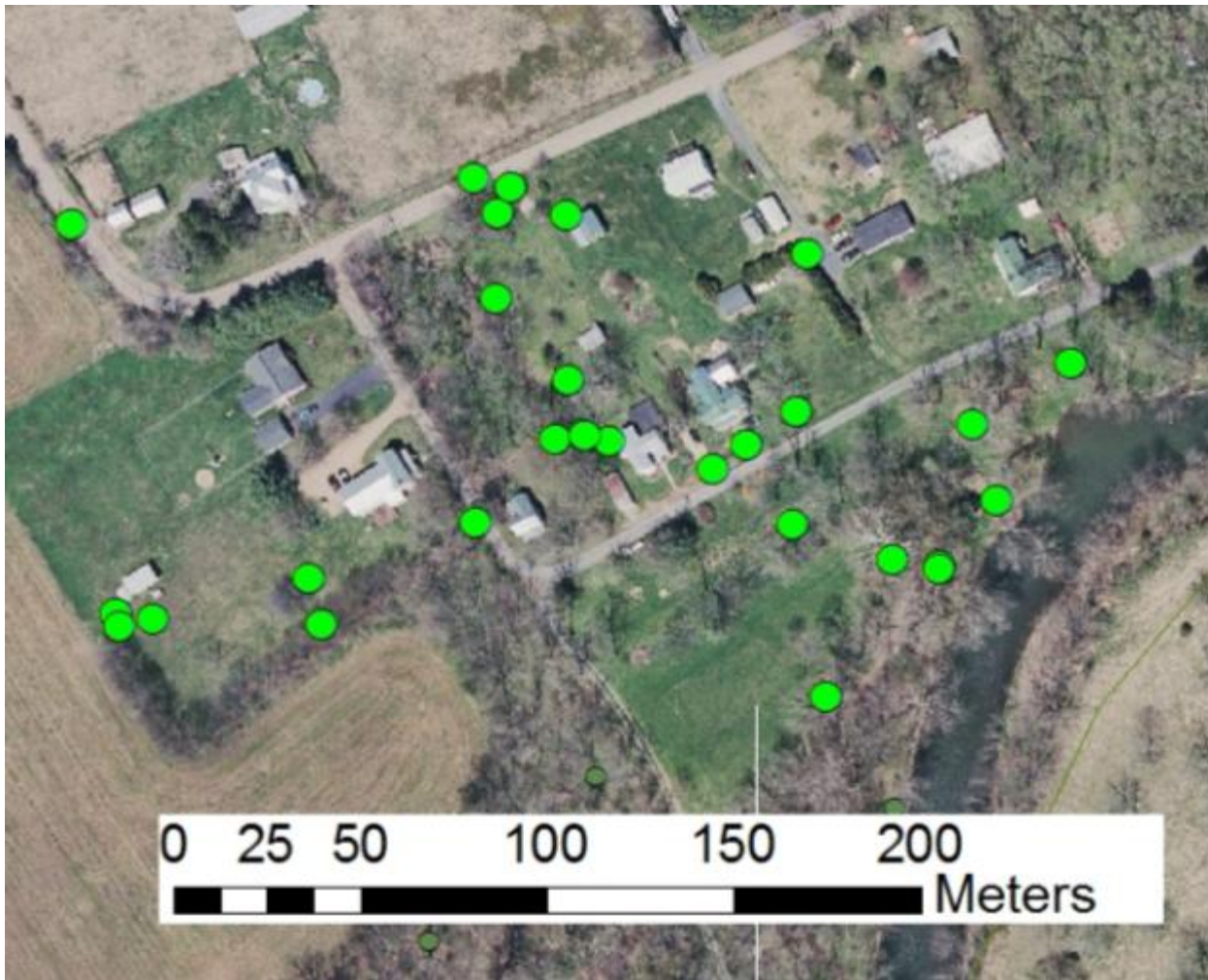
- Surveyed at 22 sites
- Located 59 active wren territories
- Used radio-transmitters to delineate wren territories
- Located and monitored 45 nests
- Captured nesting adult CARW
- Employed nest cameras to determine causes of nest failure



16,000 8,000 0 16,000 Meters



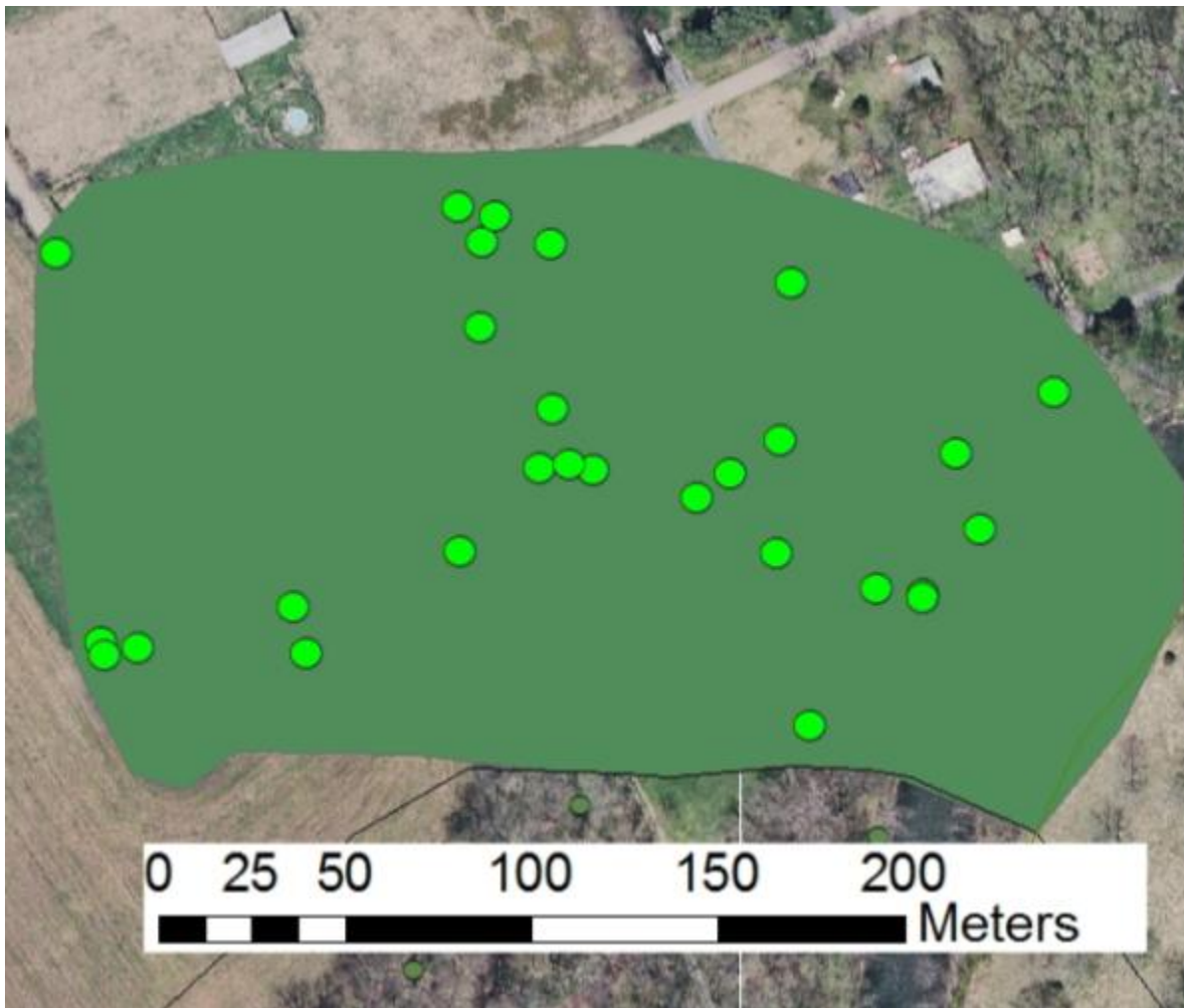
Mapped wren territories using radio-transmitters



- Males were often much quieter during nesting phase
- Took GPS points of bird locations



Mapped wren territories using radio-transmitters

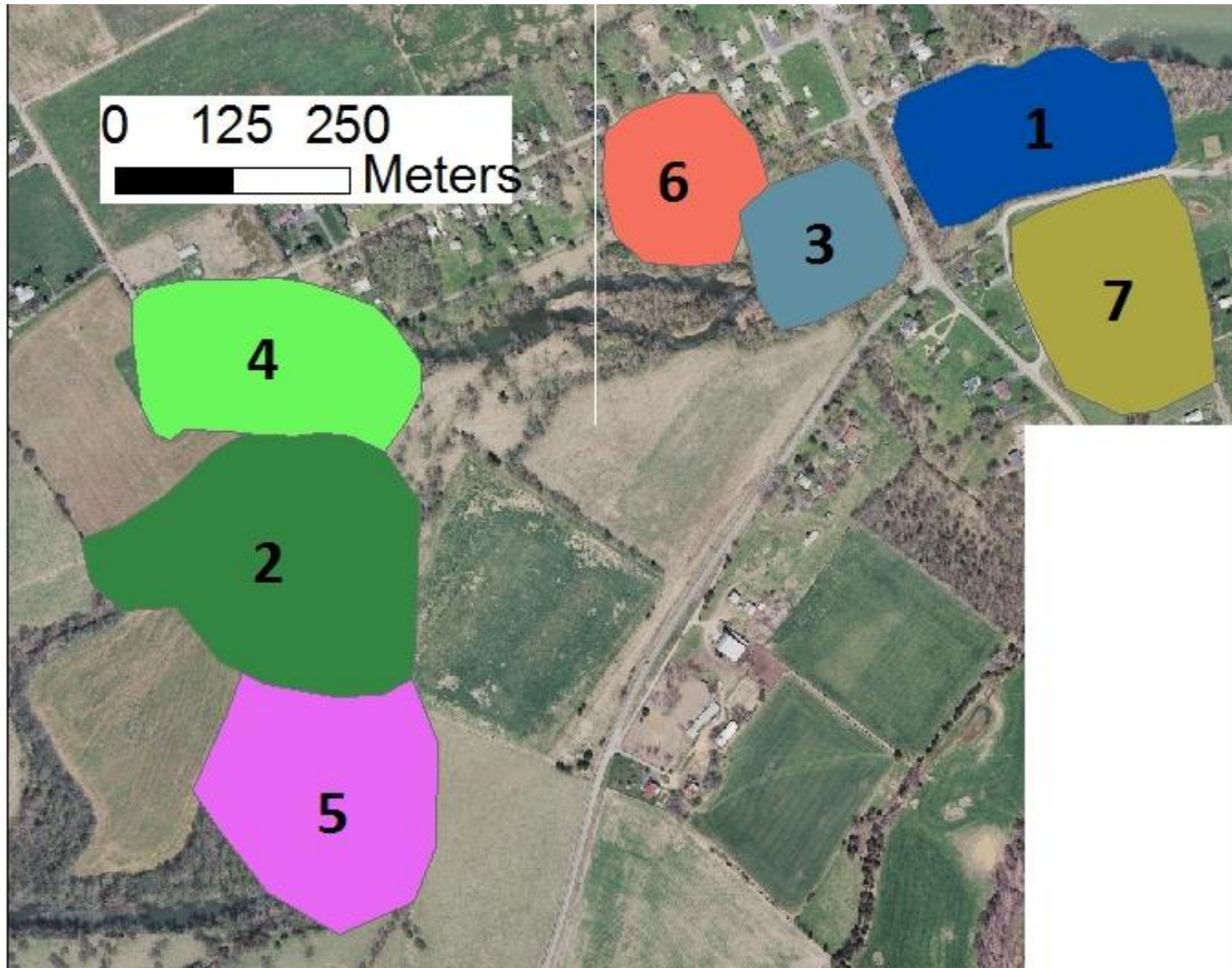


- GPS points / observations allowed us to delineate territories at each site

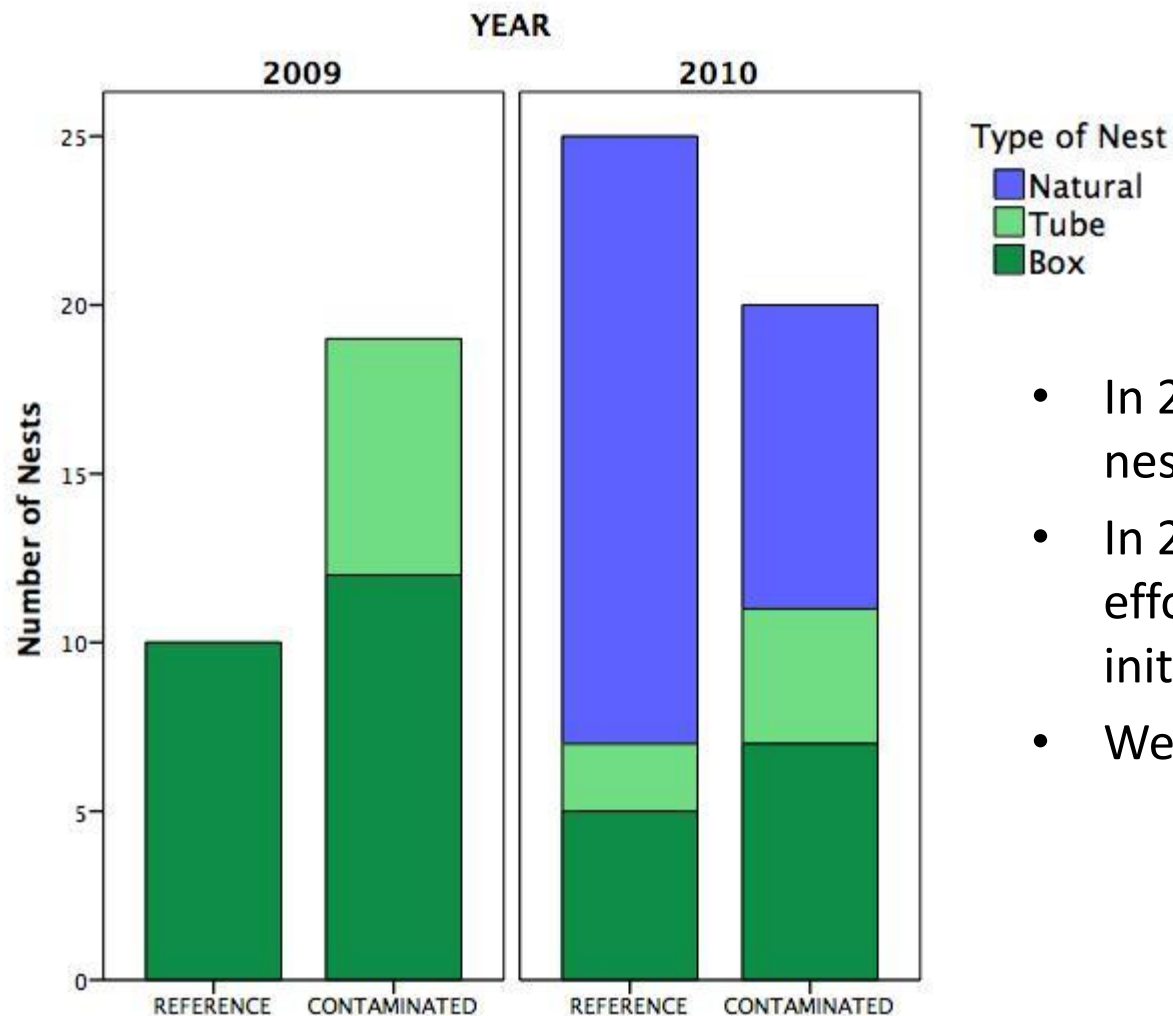
- Able to visualize how big the territories were and where they spent most of their time

- Field crew spent 1-3 hours in each territory several times a week, watching wren behavior for signs of nesting

Sites had between 1 and 7 territories

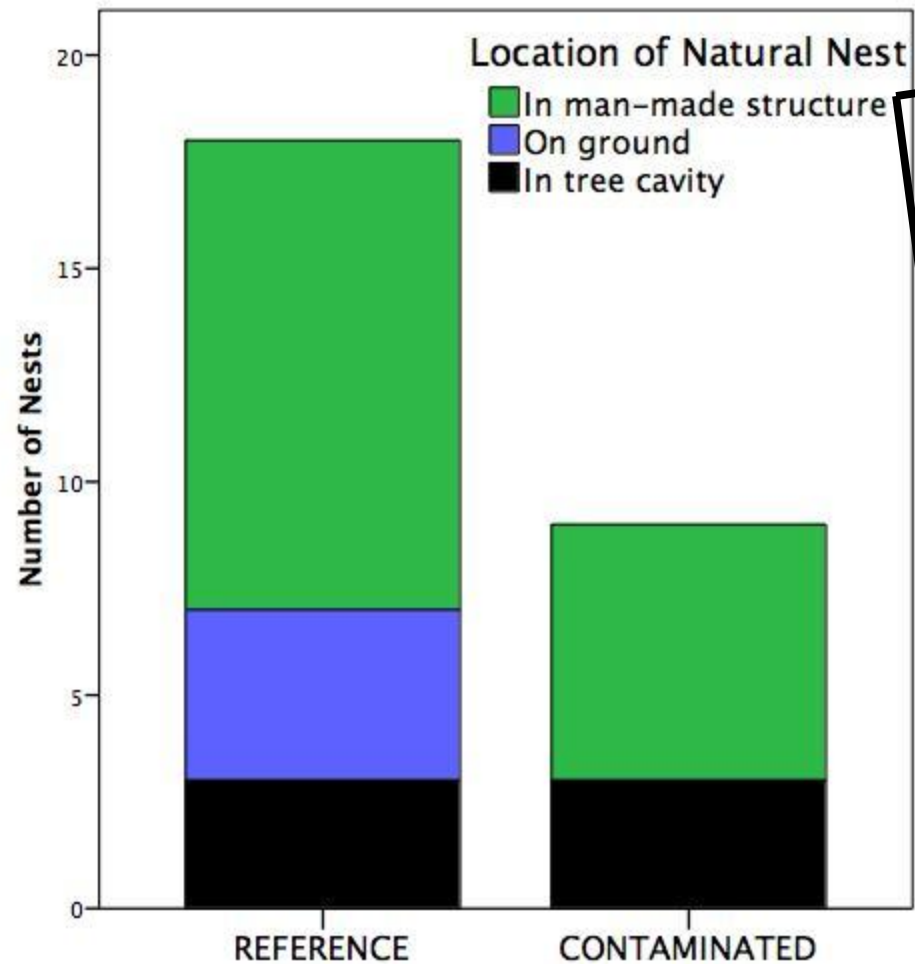


Sample Size



- In 2009, USFWS monitored 29 nests in nest boxes and tubes
- In 2010, despite increased effort, only 18 nests were initiated in our boxes
- We located 27 natural nests

Locations of Natural Nests



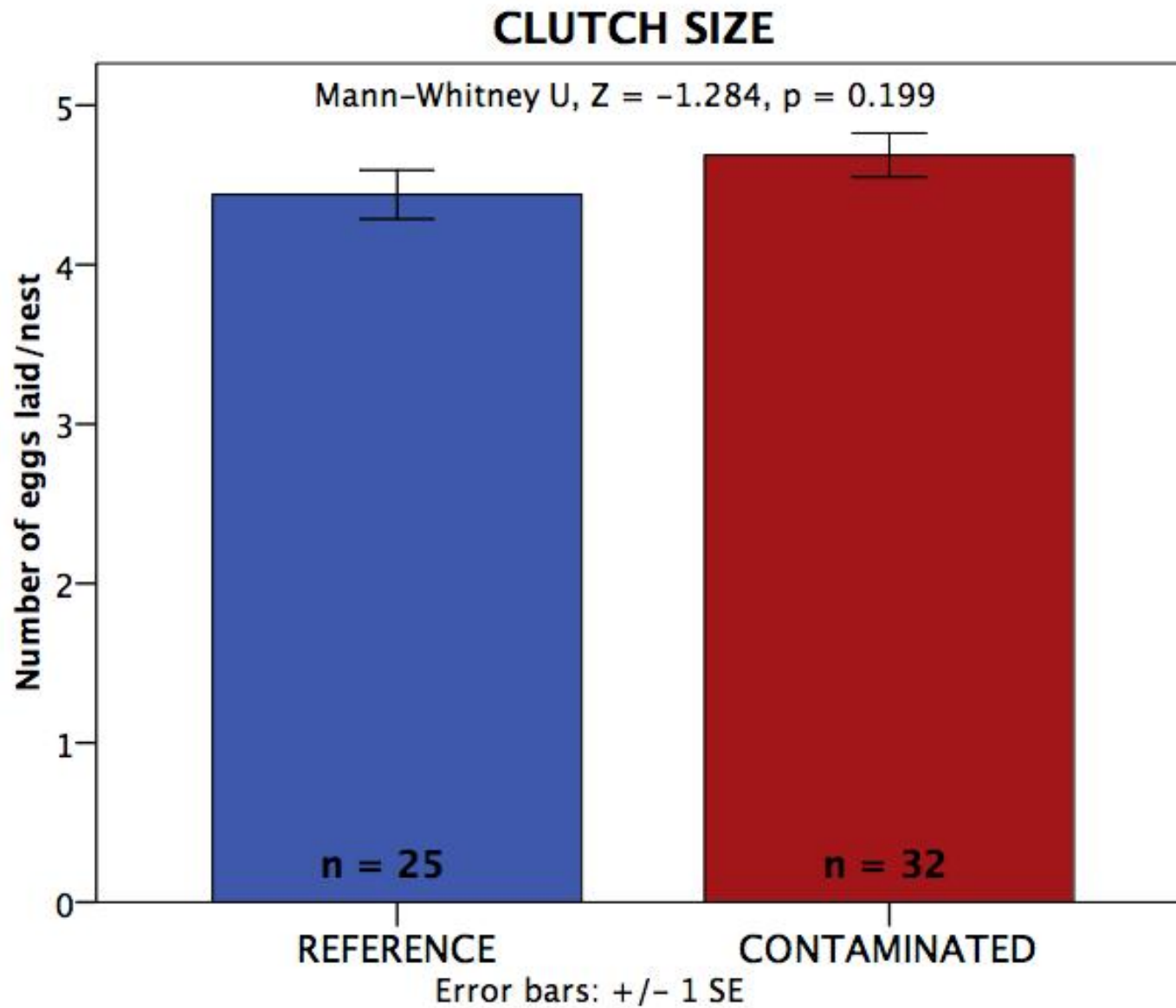
More natural nests . . .



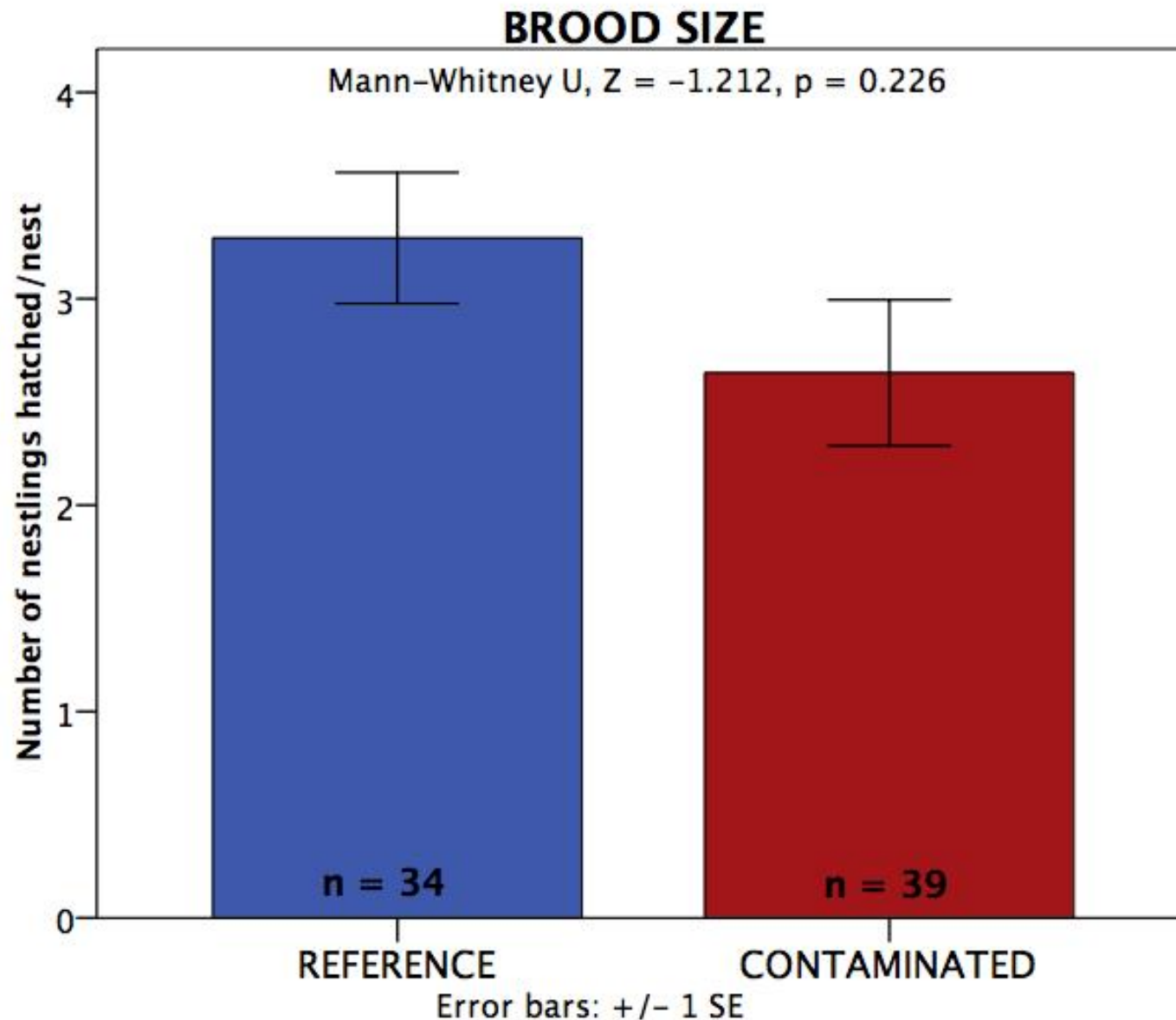
Analysis Overview

- Today : Preliminary productivity estimates
 - Clutch size
 - Brood size
 - Number of fledglings
 - % of Nests that failed
- Still to come : Nest survival model
 - Able to account for seasonal variation and year

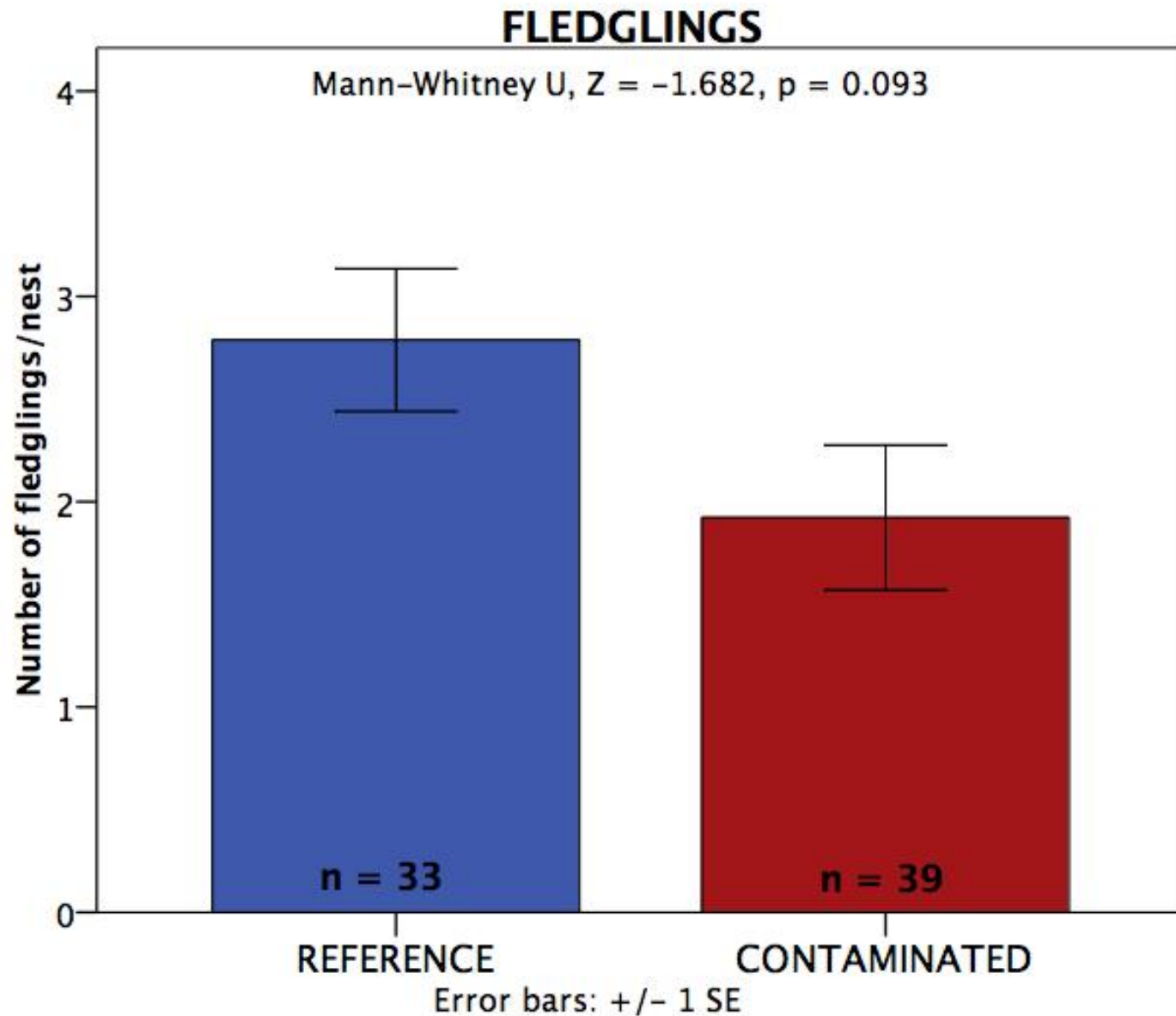
Preliminary Results – 2009 and 2010 combined



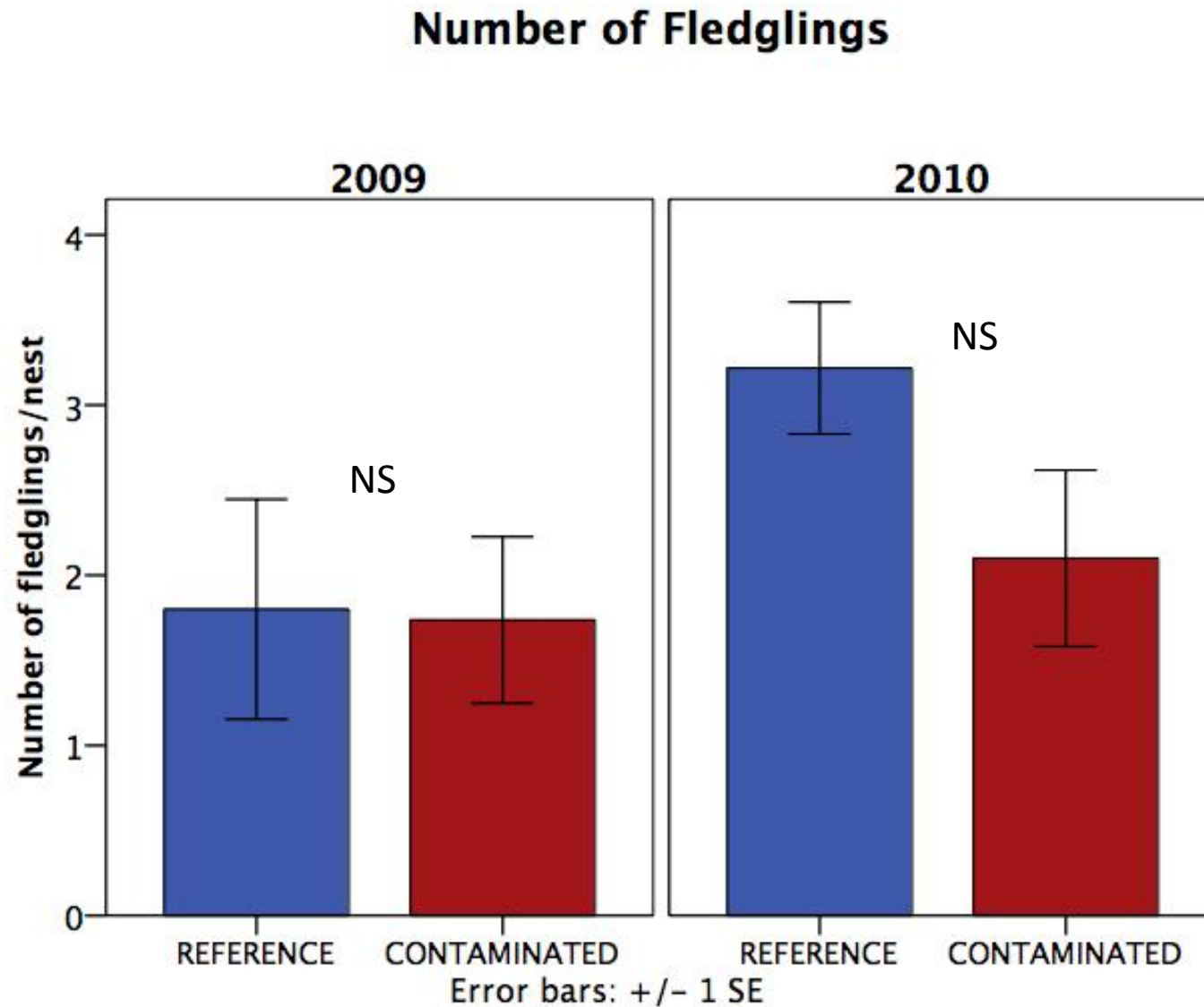
Preliminary Results – 2009 and 2010 combined



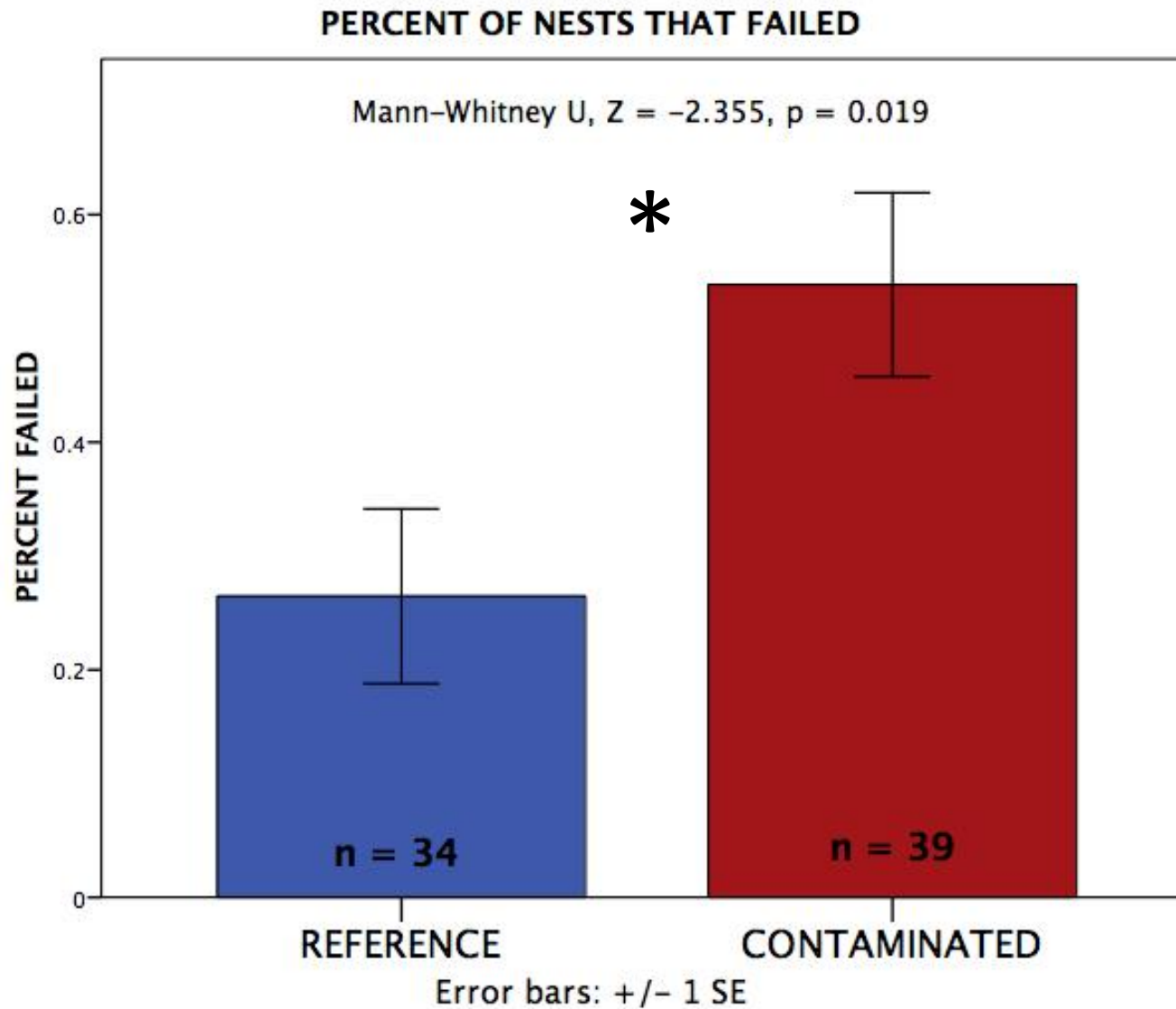
Preliminary Results – 2009 and 2010 combined



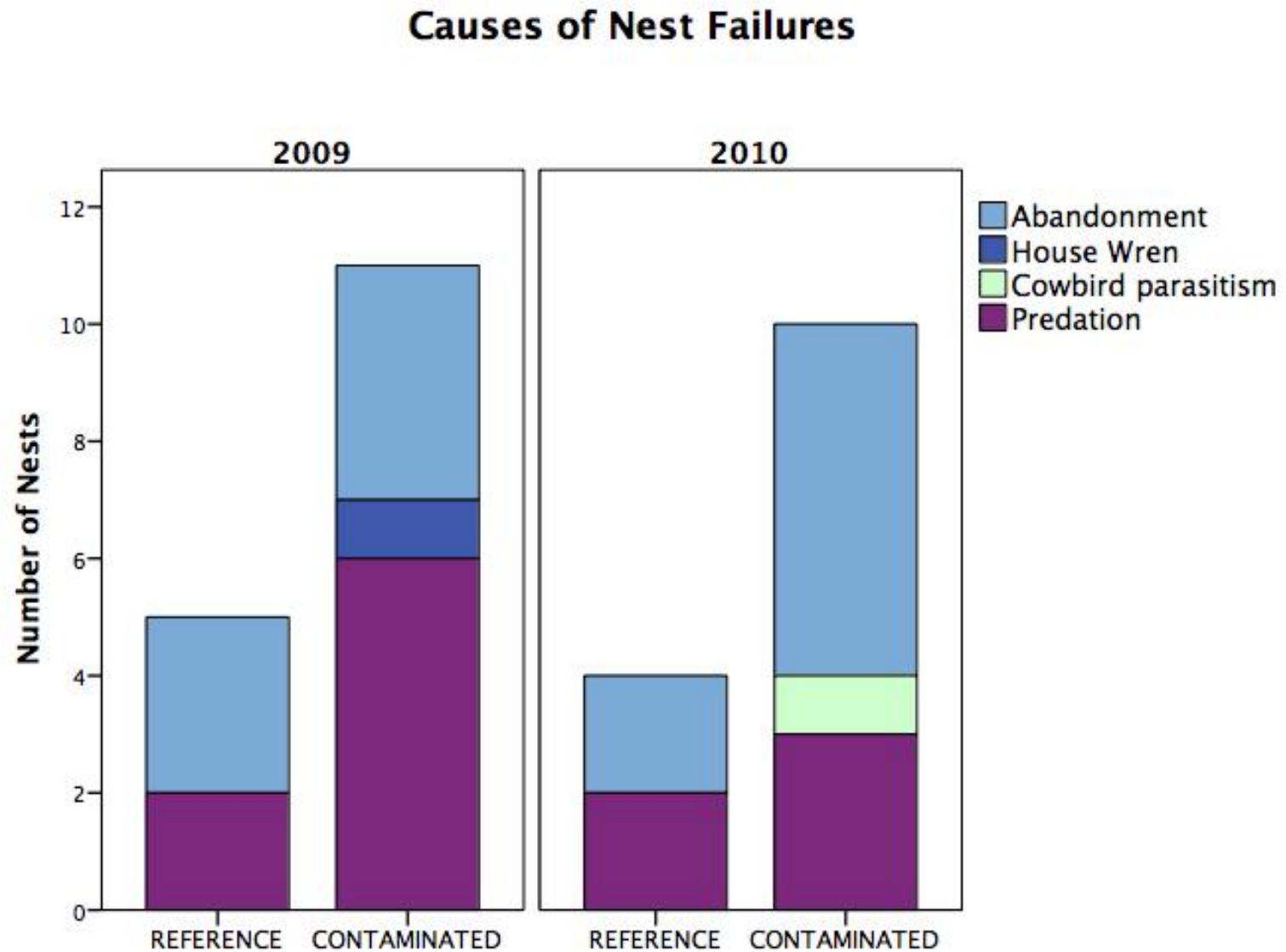
Yearly variation in number of fledglings produced



Preliminary Results – 2009 and 2010 combined



Why did the nests fail?



Nest failure due to predation

Direct evidence of predation



Bear video

Nest failure due to predation

Indirect evidence – mammals in area around the time eggs/nestlings went missing



Opposum video

Possible causes of abandonment

- Adult mortality
- Egg infertility
- Disturbance

Nest in wall of shed



Nest in newspaper mailbox by road



Future analysis

- Hg results for adult CARW feather and blood
- Hg results for unhatched CARW eggs
- Further analysis of reproductive parameters
 - Account for differences between early and late season clutches
- Nest survival analysis – Matt Etterson, EPA
 - Compare years and treatment
 - Accounts for seasonal changes in nest survival