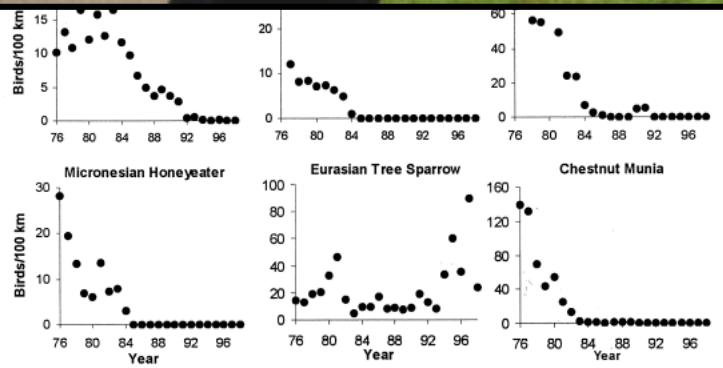
Habitat use, movement and survival of Micronesian starlings during the post-fledging period: implications for management and future reintroductions

Henry Pollock, Tom Seibert, Julie Savidge

Photo credit: M. Kastner

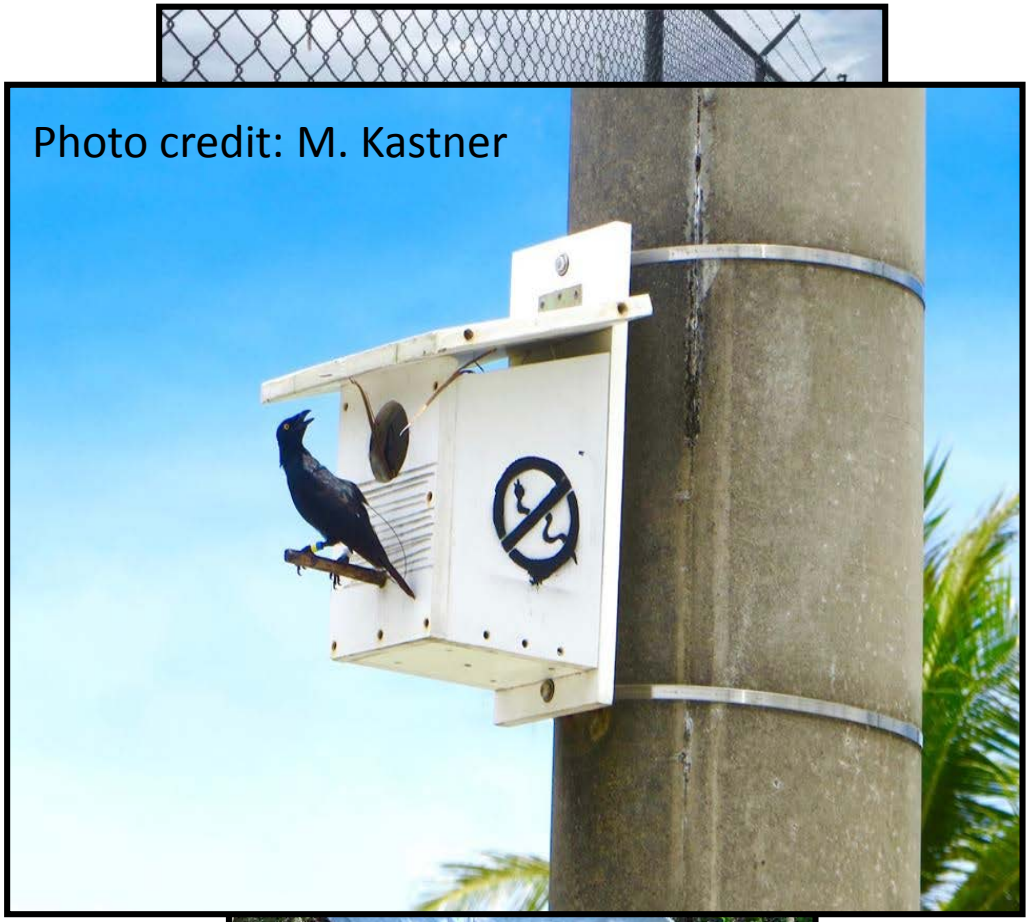
The plight of Guam's avifauna



Wiles et al. 2003

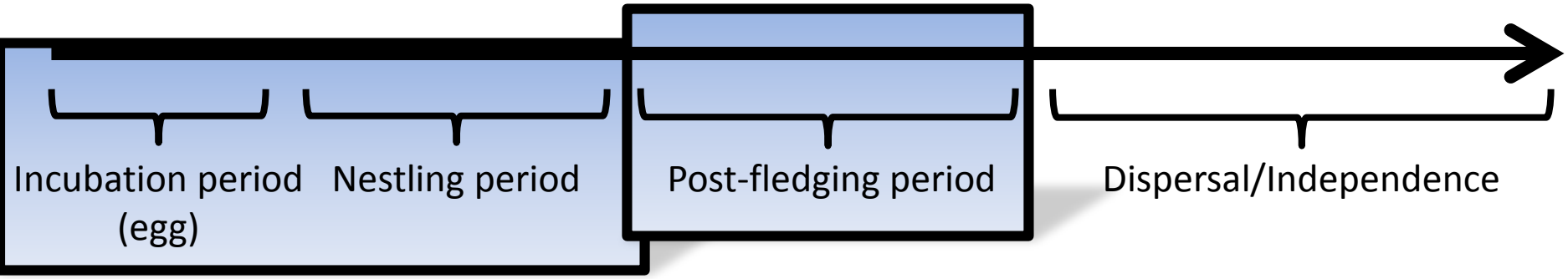
Micronesian starling (*Aplonis opaca*) – Sali

- Restricted primarily to Andersen Air Force Base
- Population was down to ~50 individuals at one point; now increasing due to snake suppression + predator-proof nest boxes



Post-fledging period

Avian developmental timeline



- Poorly understood but critically important life-history phase
- Mortality can be very high during the post-fledging period and limit population growth

Project goal

- Characterize habitat use, movement and survival of Sali during the post-fledging period

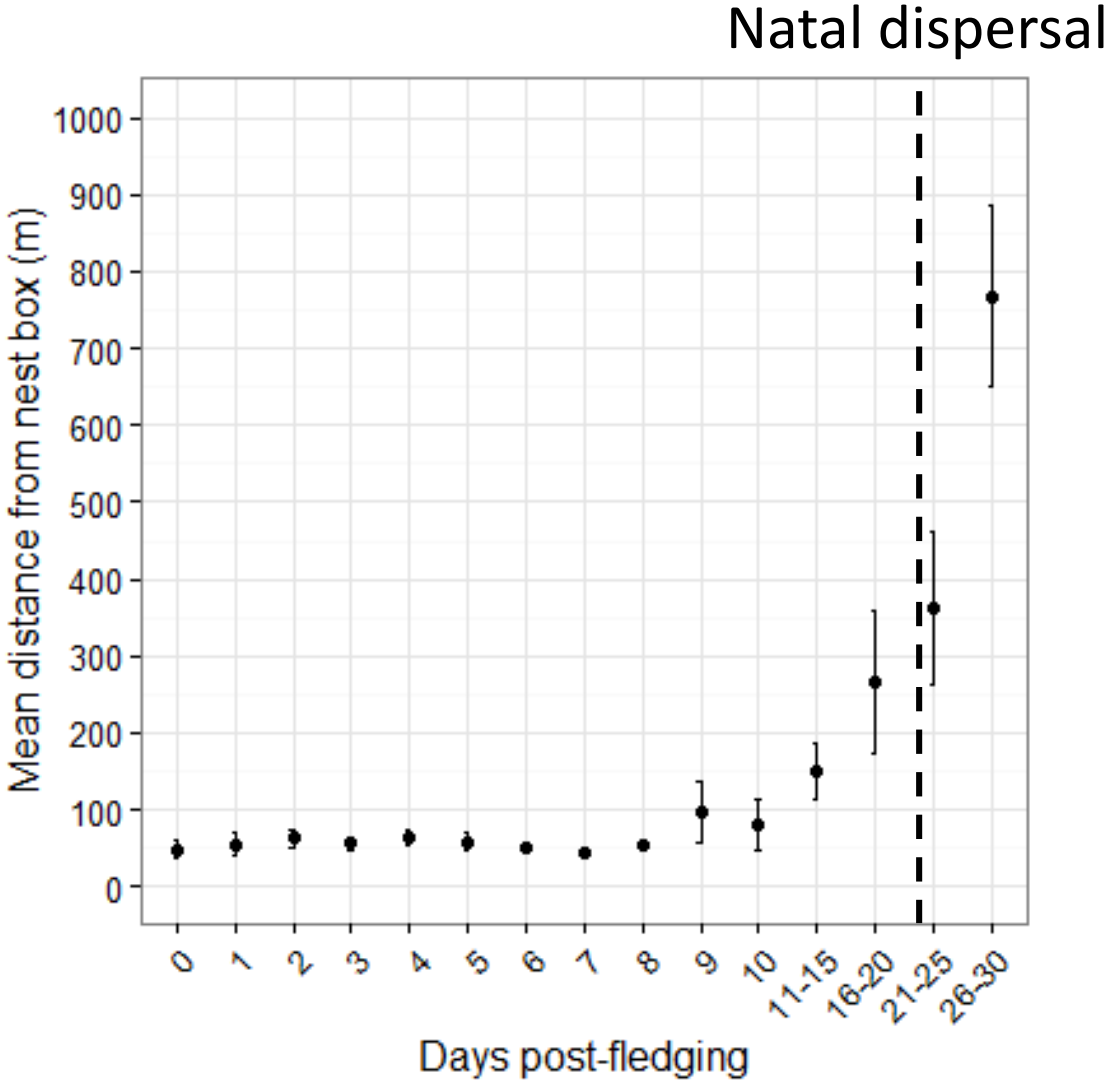
- Overarching questions:
  - What happens to fledgling Sali once they leave the nest?
  - How effective are snake control efforts on AAFB?

Methods

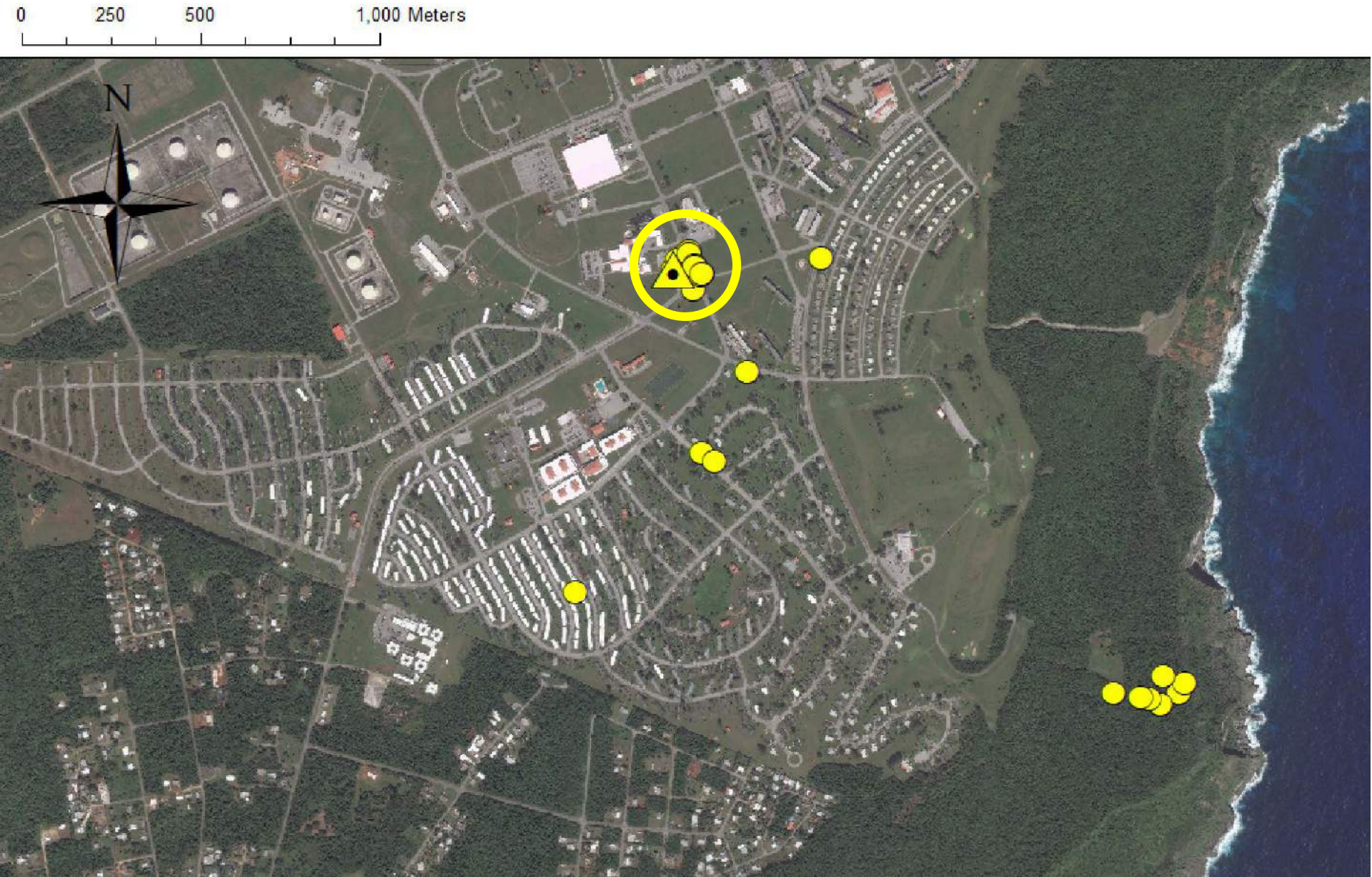
Radio-telemetry

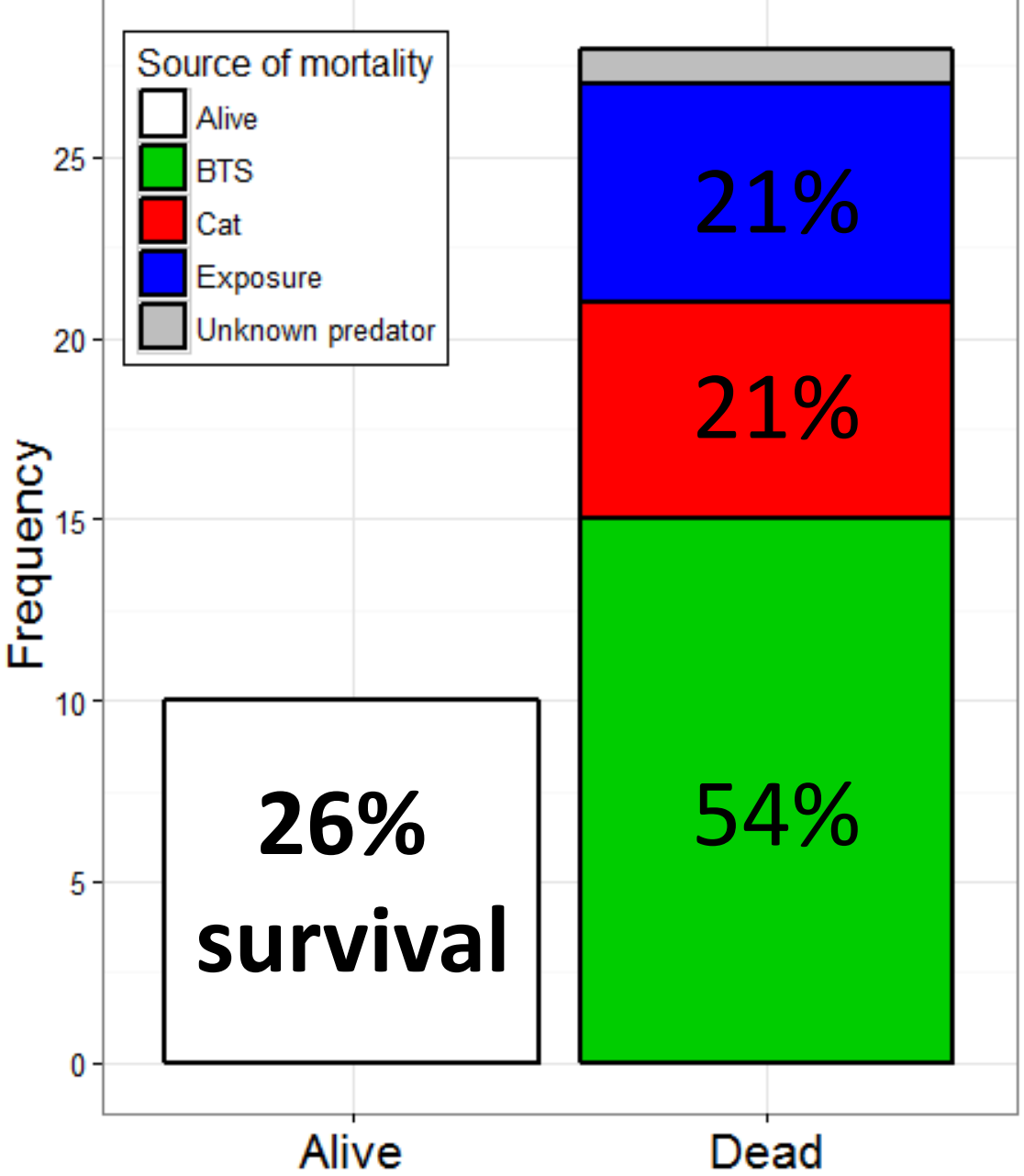
Daily survival checks

Movement – Sali stay close to their nests during the post-fledging period



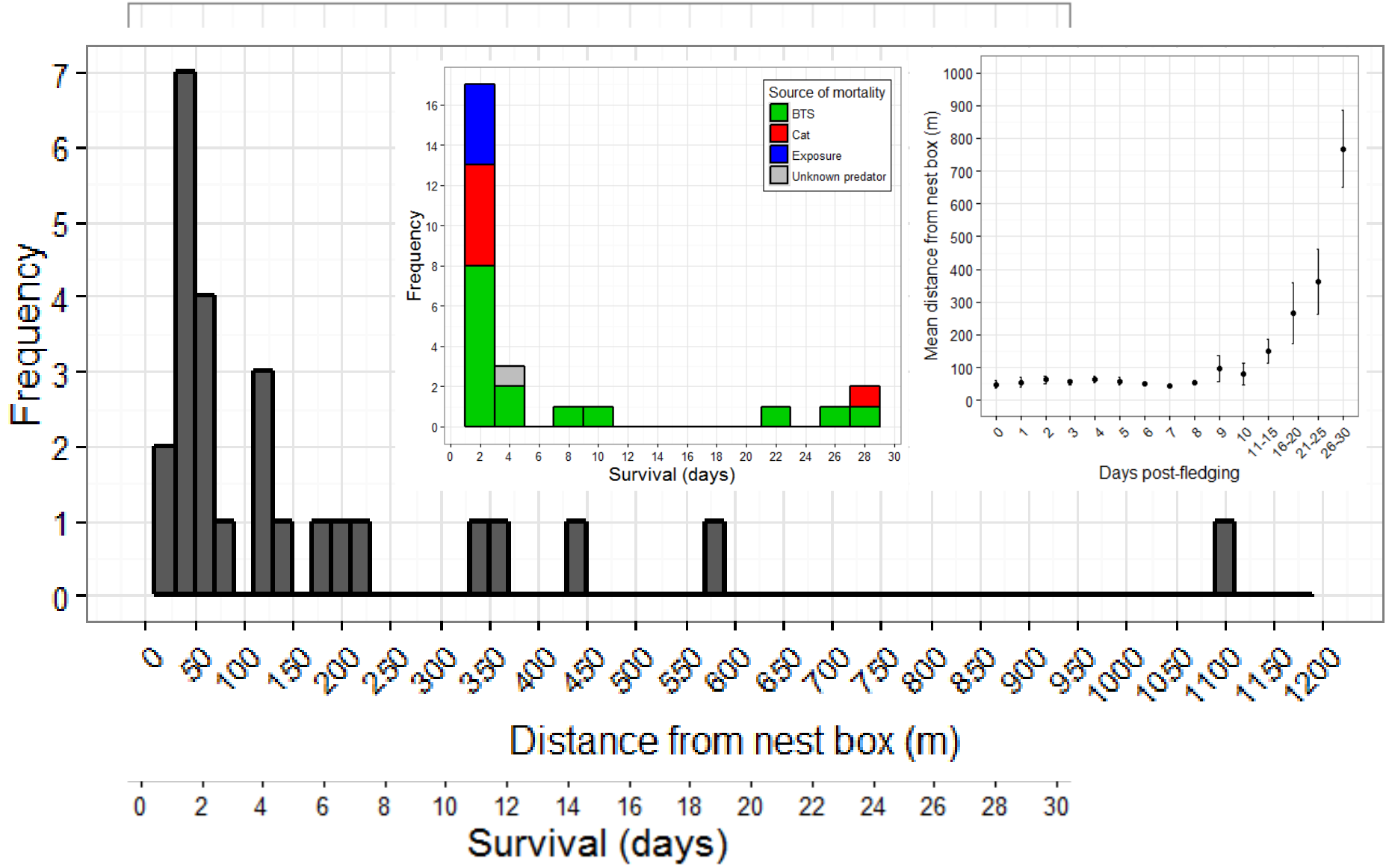
Habitat use of a fledgling Sali



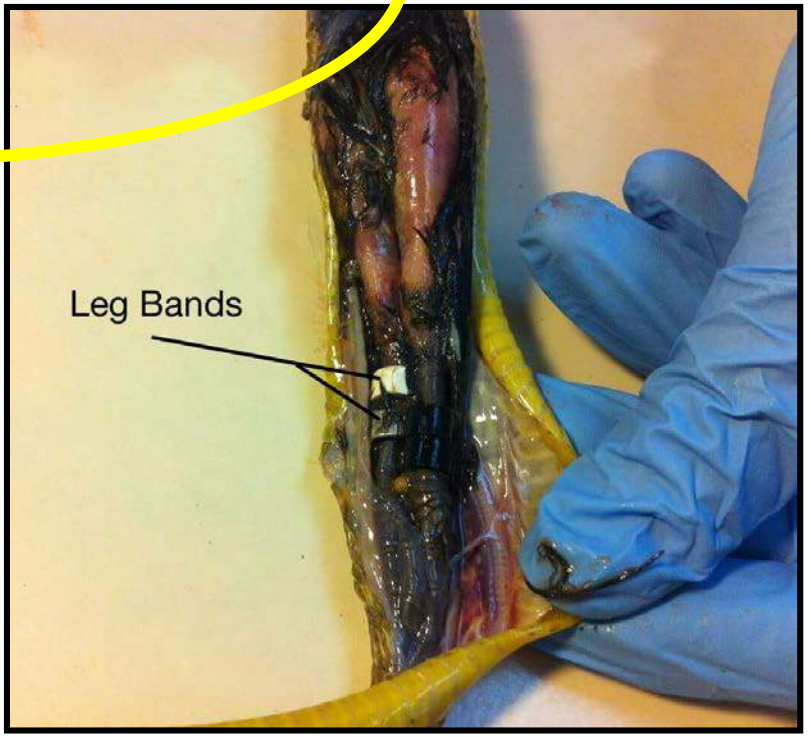

Source of mortality
Alive
BTS
Cat
Exposure
Unknown predator
Frequency
25
20
15
10
5
0
21%
21%
54%
26%
survival
Alive
Dead

n = 10 *n* = 28

Survival - Sources of mortality across the post-fledging period

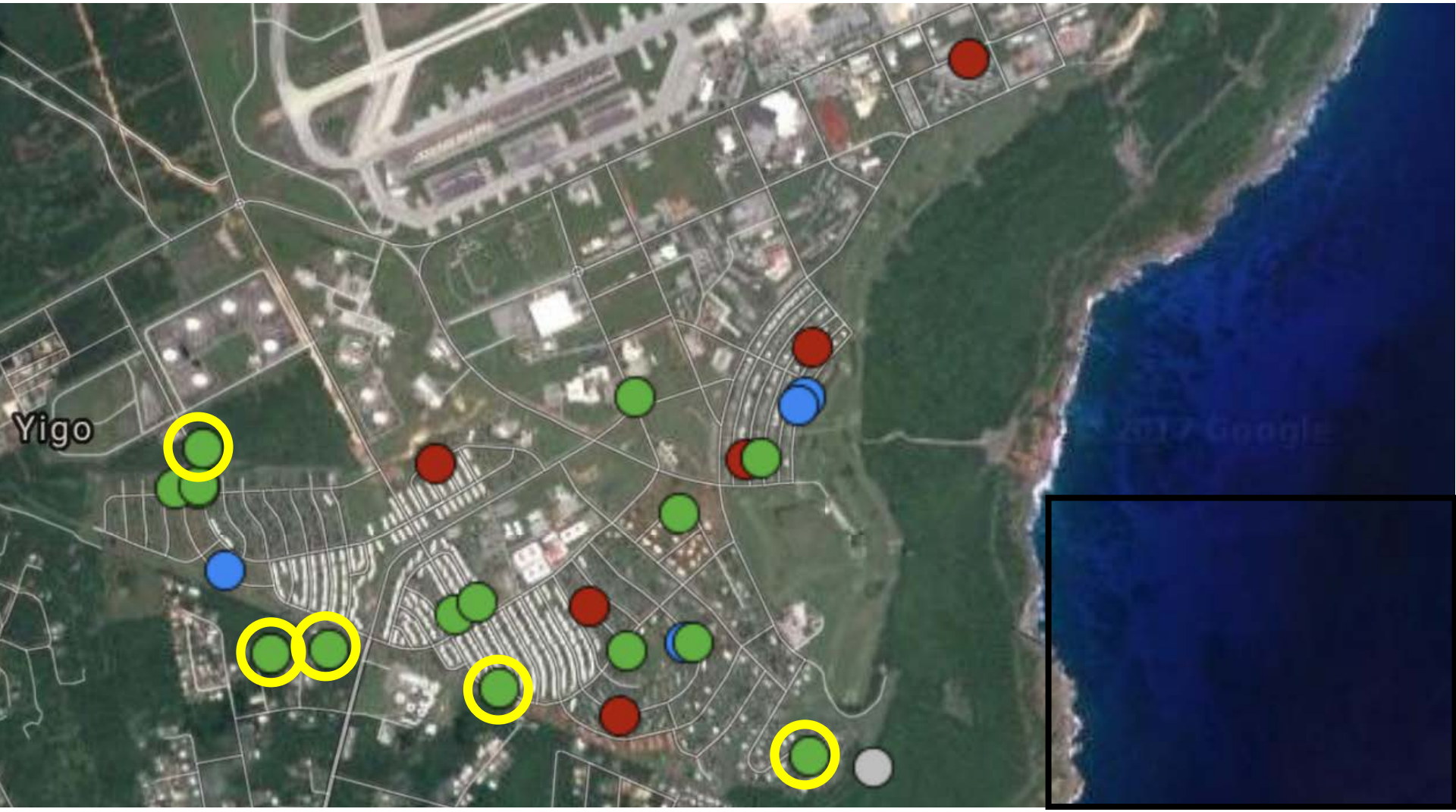


Brown treesnakes are the primary source of mortality for fledgling Sali

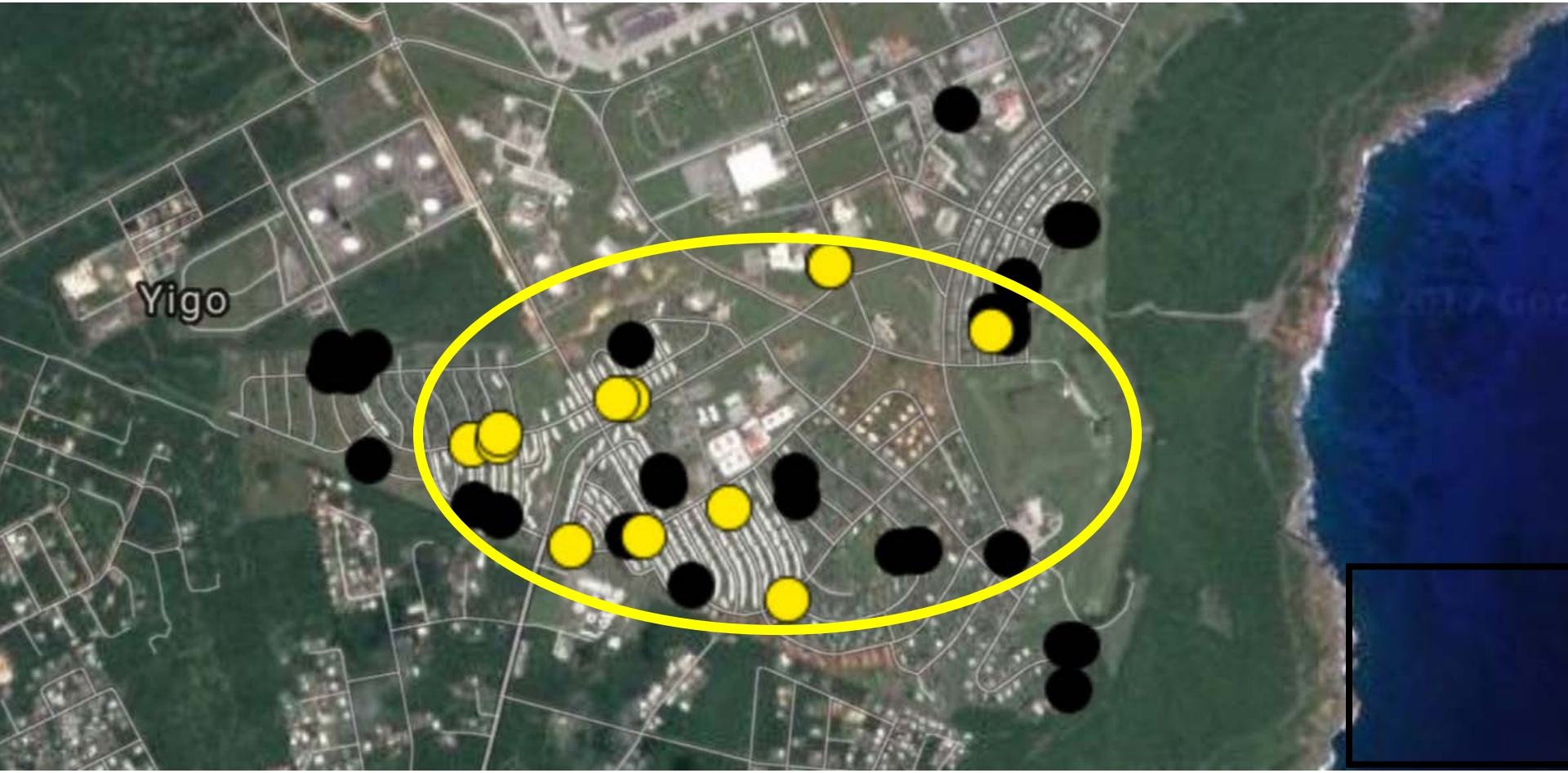


Feral cats are serial predators

Fledgling mortality is common and forests are a population sink

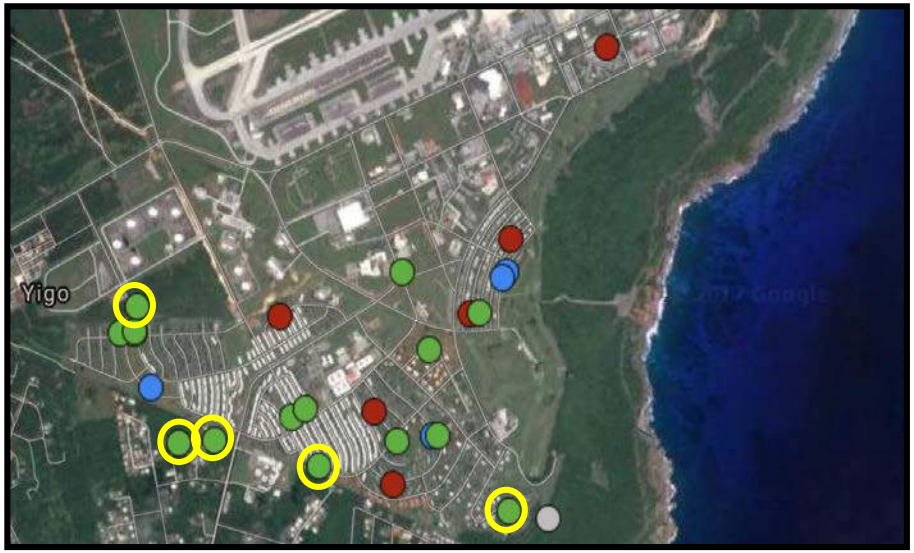


Urban habitat is necessary but not sufficient for Sali fledgling survival



Conclusions

- Post-fledging mortality is exceptionally high (~74%)
  - One of the highest mortality rates recorded in the literature
  - Despite BTS control efforts, BTS are still the primary source of mortality
  - Cats are important predators and cat control is needed on AAFB
- Forests are a population sink



Management implications

- Urban habitat (BTS suppression) is crucial for Sali survival
  - Necessary but not sufficient
- More intense BTS control efforts are needed if possible to make future reintroductions viable
- If birds can be protected during the critical post-fledging period, they have a much greater chance of survival!

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Questions?