

# Seabird Colony Decline, Nesting Performance, Human Harvest, and Invasive Predators in the Southern Grenadine Islands



By: Wayne Smart

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# BACKGROUND





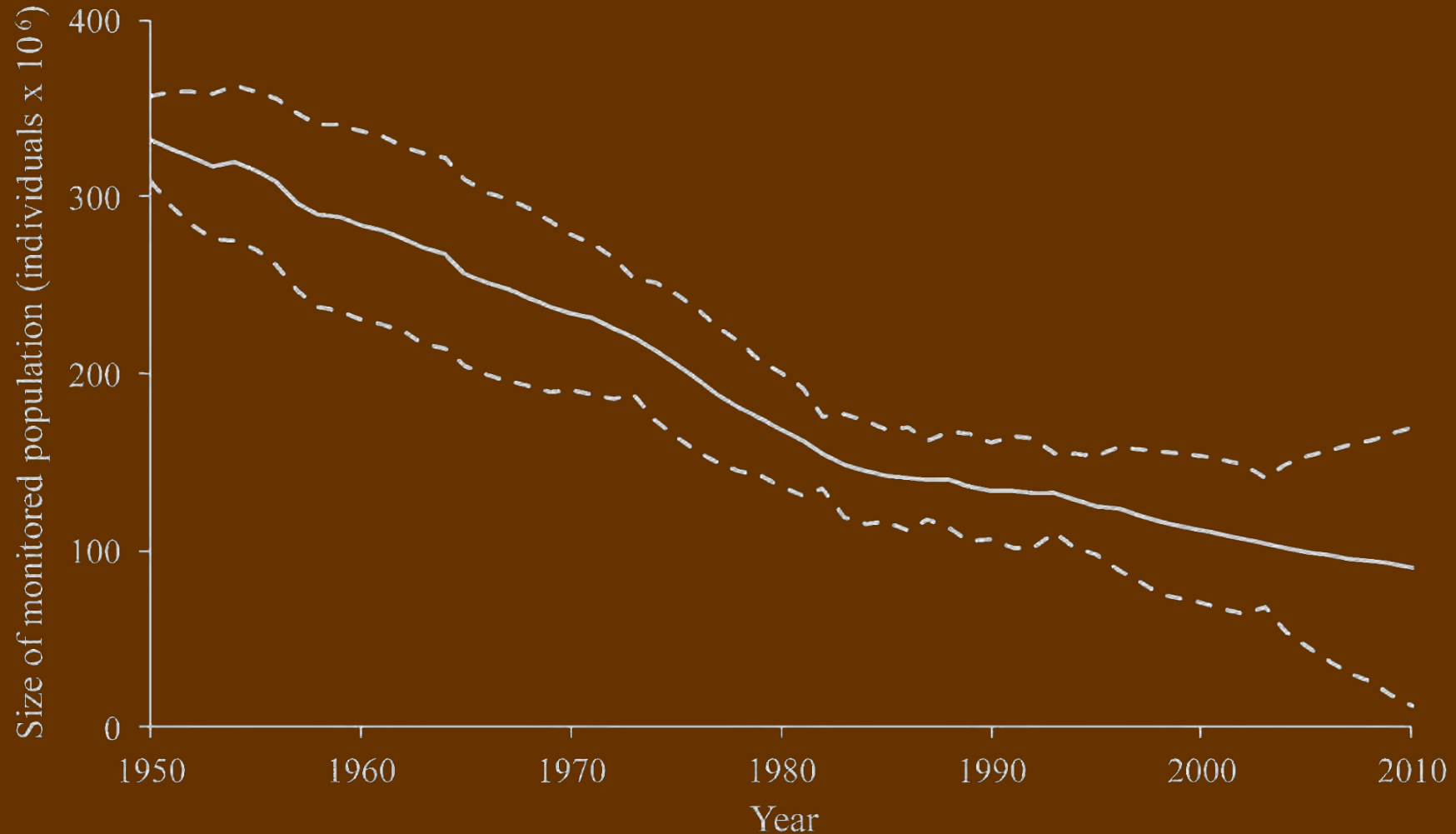
## Long-lived

- Low reproductive output
- Slow development of young with high parental care
- High habitat and trophic specificity



Source: Wayne Smart

# Overall 70% decrease in from 1950 to 2010



Population trend 1950 to 2010 of world's monitored seabirds Paleczny et al. 2015  
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# Overall 70% decrease in from 1950 to 2010

- Fisheries

- Bycatch mortality
- Prey reduction

- Environmental contamination

- Oil spills
- heavy metals
- Plastic pollution

- Climate change

- Demographic factors
- Foraging success





# Overall 70% decrease in from 1950 to 2010

- Introduced non-native species
  - Rats/ Mice
  - Goats
  - Feral Cats
- Human disturbance
  - Harvests
  - Misguided vegetative burning



# OBJECTIVES

1. Nesting performance of 5 species of seabirds.
2. Presence of invasive predators (particularly rats) in breeding territories.
3. Trends in seabird (adult, chicks and eggs) harvest through interviews with fishermen who use the study islands.

# METHODS + RESULTS



Source: Wayne Smart



# Grenadines

Interviews:  
Sauteurs, Grenada.

Fieldwork: 5  
uninhabited islands  
within the  
maritime tri-island  
of the state  
territory of  
Grenada.



Study islands: Adapted from University of Texas libraries

## Five Species Studied

- Breeding: colonial monogamous nesters.
- Status: least concern (IUCN 2015).
- Long lived: 10 to 20+ years in wild.

- Bridled Tern (*Onychoprion anathetus mesonauta*)
- Brown Booby (*Sula sula sula*)
- Brown Noddy (*Anous stolidus*)
- Laughing Gull (*Leucophaeus atricilla*)
- Red-Billed Tropicbird (*Phaethon aethereus mesonauta*)





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[Source: Suzanne Britton](#)

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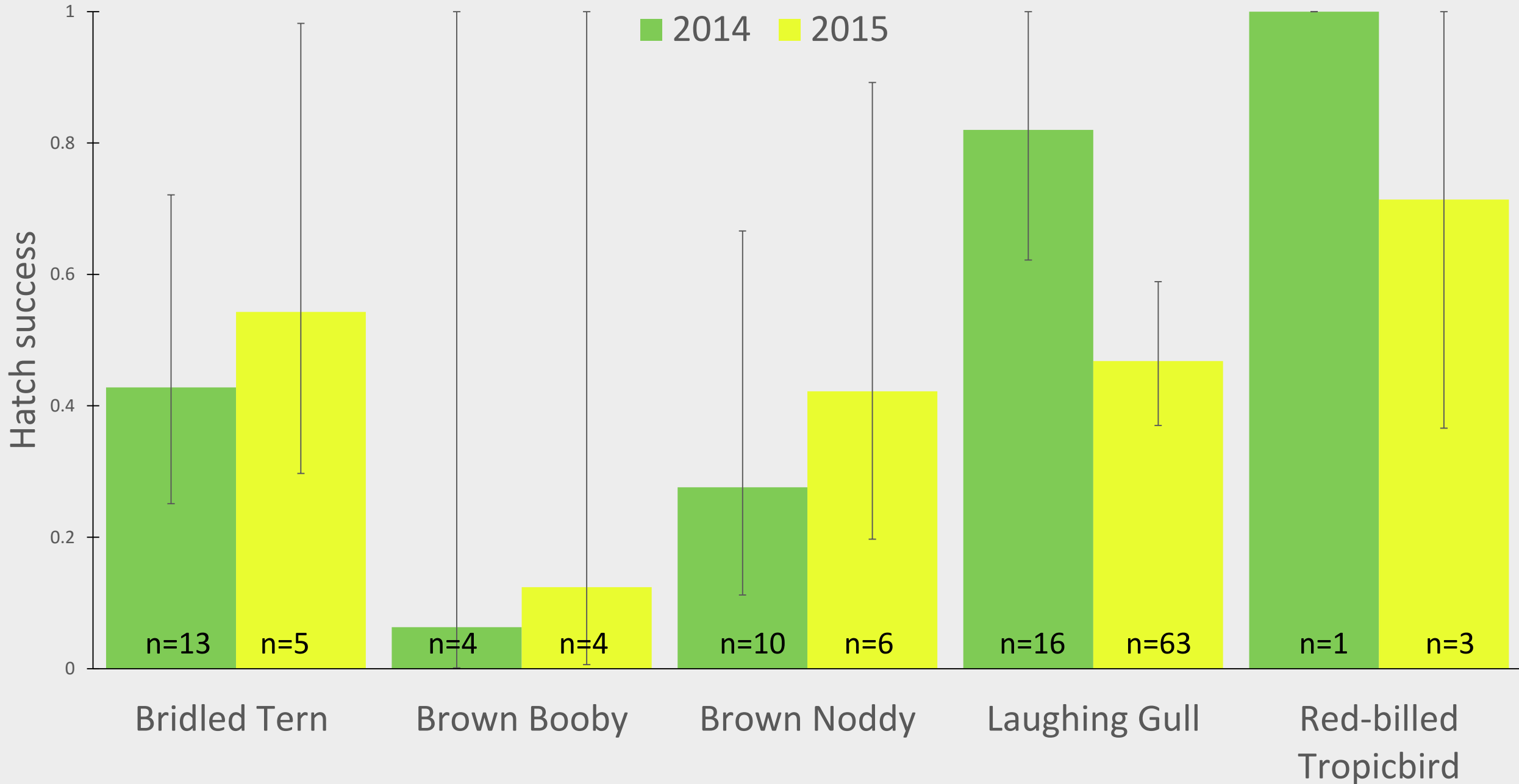
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# Nesting performance of 5 species



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1. Visual Searches for evidence (e.g. rodent scat, and tracks).
2. Ink-padded PVC tunnels.
3. Chew Blocks.
4. Camera Trapping
5. Interviews of locals that frequently visit the islands.



Only corrugated plastic with chew and bite marks of unknown organism.



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Interviewees = 21

Components: 64 questions

1. Interaction with seabird adults, chicks, and eggs.
2. Knowledge of seabird distribution.
3. Possible encounters with invasive predators within the breeding territories.

## Summary

Nest attempts and hatching success estimated was higher in 2015 (range = 0.18 – 0.71; N = 81 nests), than in 2014 (0.06-0.81; N = 44).

Rats have not been detected on the monitored islands.

Lack of awareness of rules about seabird harvesting.



Source: Wayne Smart

# Acknowledgements

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- Ramon Williams
- Matthew Basile
- John Holas

## Co authors

- Natalia Collier
- Virginie Rolland, PhD.

## Funding Sources



Source: Wayne Smart

Thank you



Introduced predator seen in 2016.

