



Figure 1

## What time is it? It's time for lunch!

# Assessing the impact of time of day on green sea turtle foraging



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## Introduction

Many environmental factors, such as water temperature or photoperiod, can drive the presence of organisms. In this study we identify the spatial and temporal appearance of green sea turtles (*Chelonia mydas*). Photographic identification has been used in long term studies of large and long-lived species, and is a non-invasive alternative to tagging (Long, Azmi 2017).

## Project Objective

- Determine if foraging behavior of green sea turtles differed between morning/early afternoon and evening
- Assess if there is a difference in the number of sightings at Camachee Cove Yacht Harbor (CC) and Conch House Marina (CH; Figure 1) when time and water temperature are taken into account

## Methods

- Each marina was walked twice a week
- Number of individuals present and foraging behavior was documented along with time of day
  - 09:00-13:00 and 13:00-17:00
- Images captured using **Canon EOS 4000D** at Camachee Cove Marina & **Canon EOS Rebel T7** at Conch House Marina
- Water temperature was retrieved from the San Sebastian data sonde

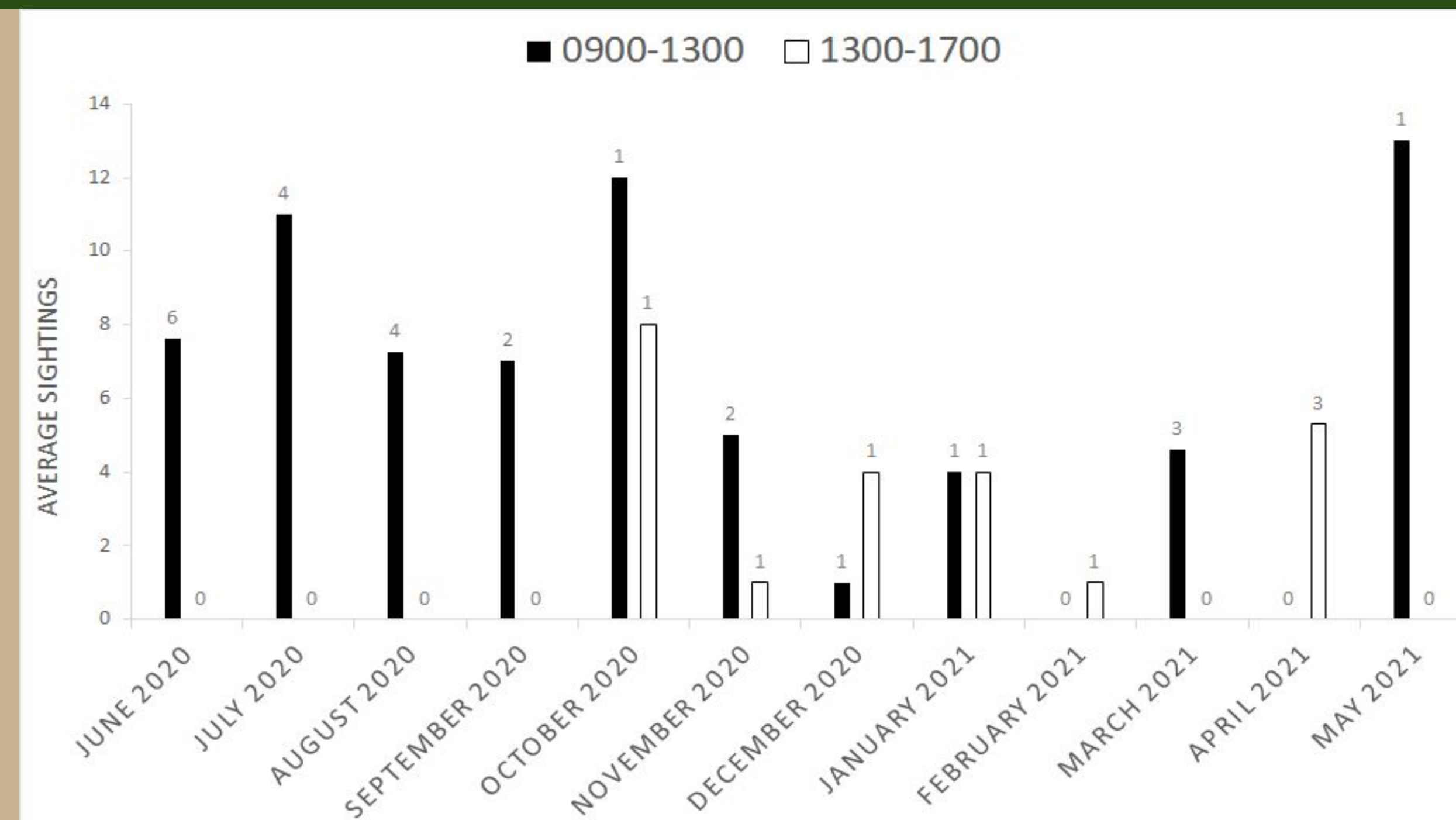
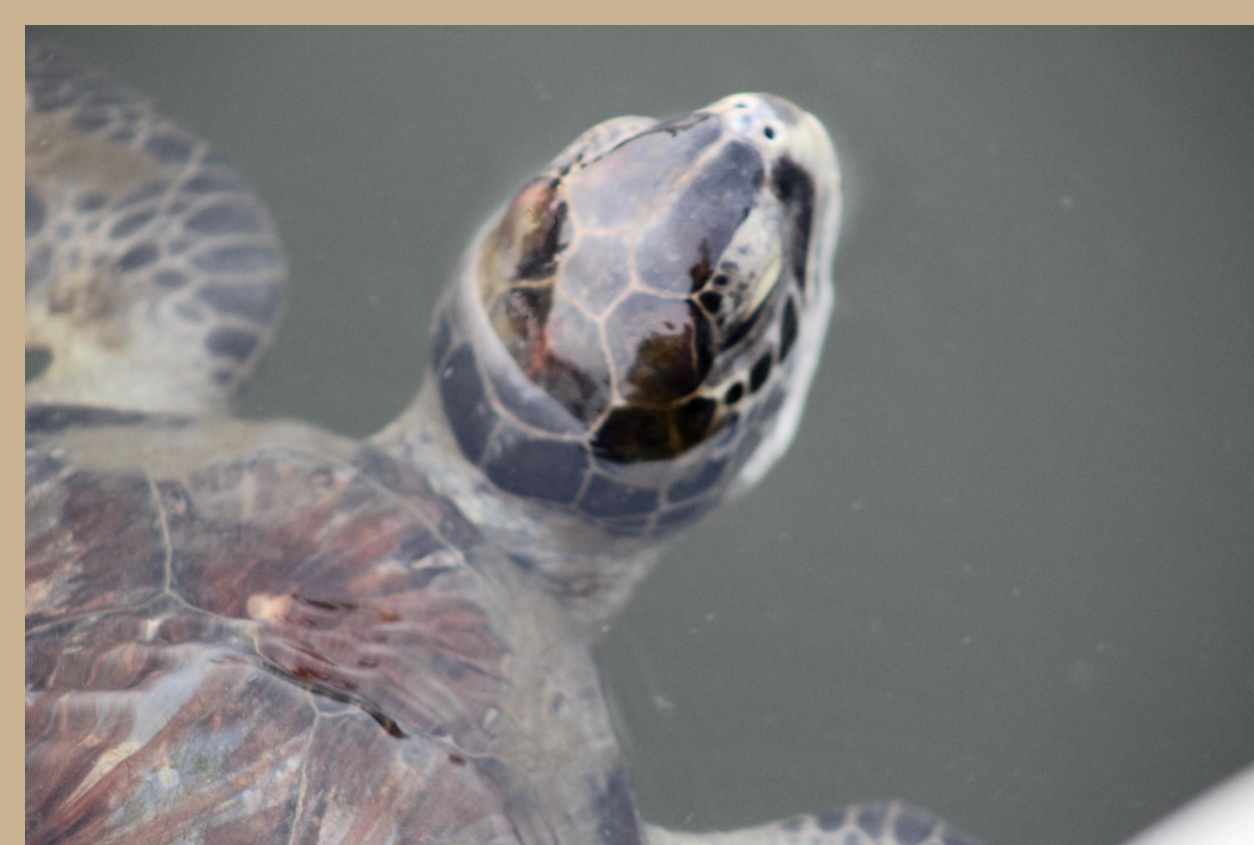


Fig. 2. Presence of turtles at CH and CC per time of day. Number above bar refers to sample size

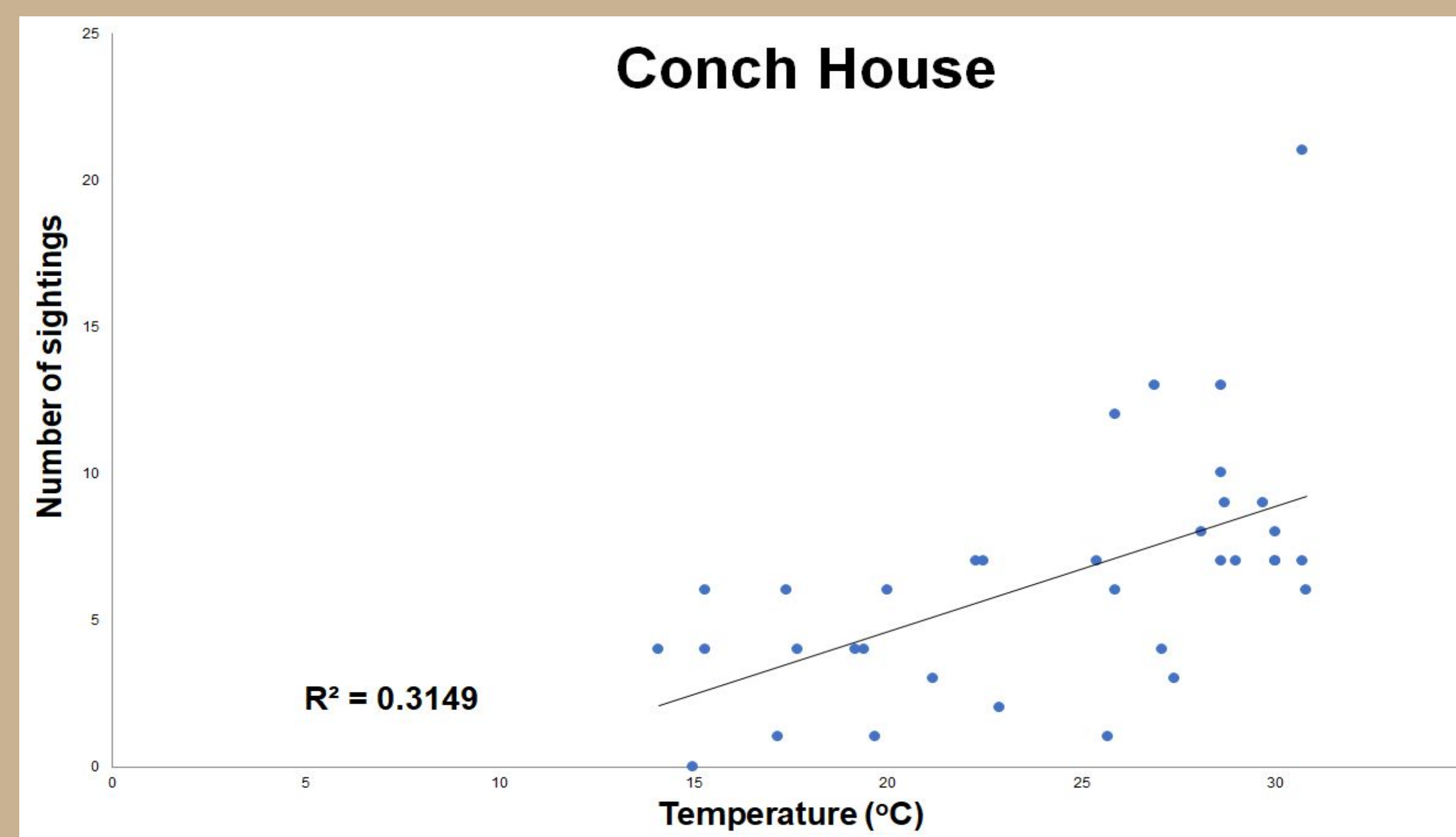


Fig. 3: Abundance of turtles at CH by temperature

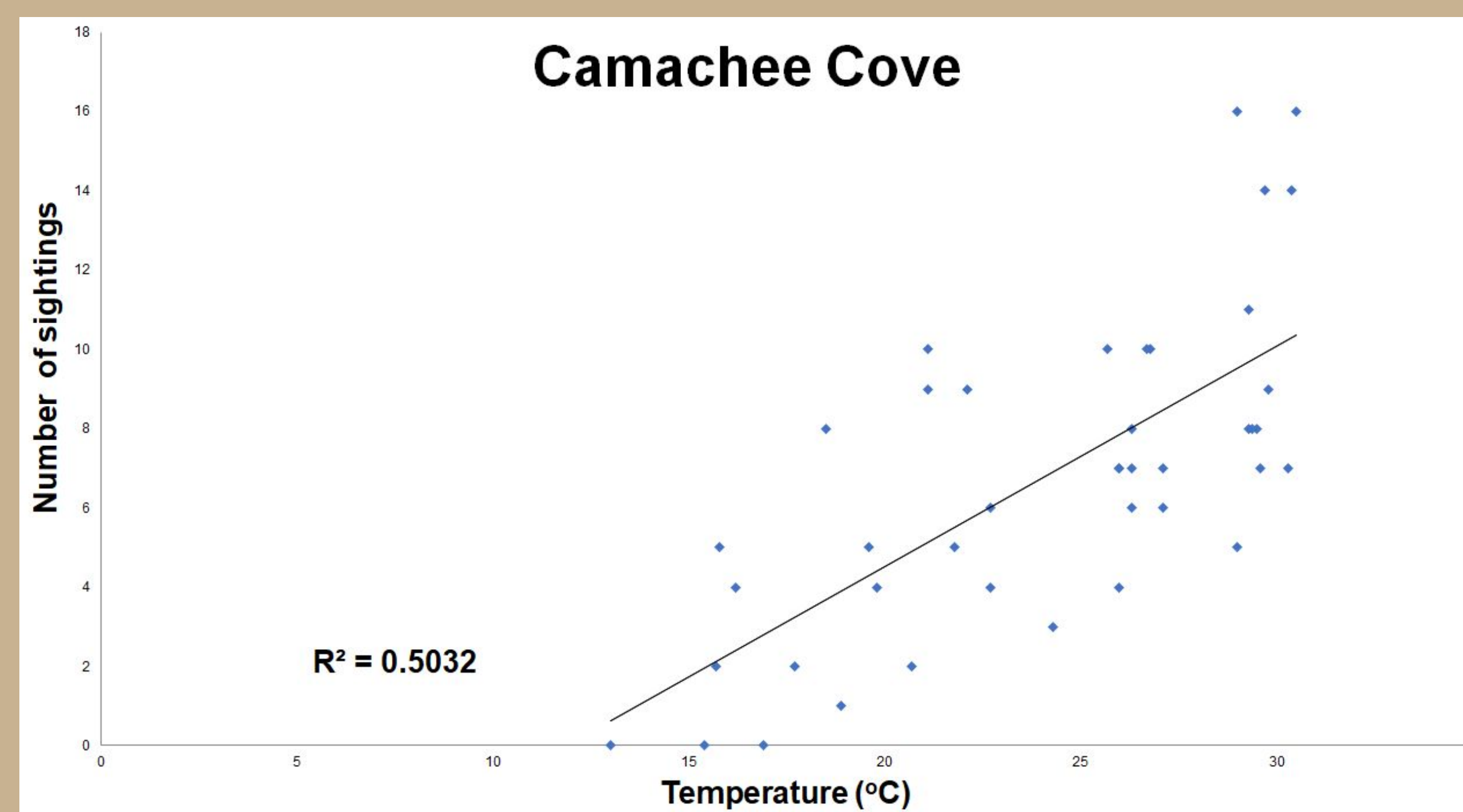
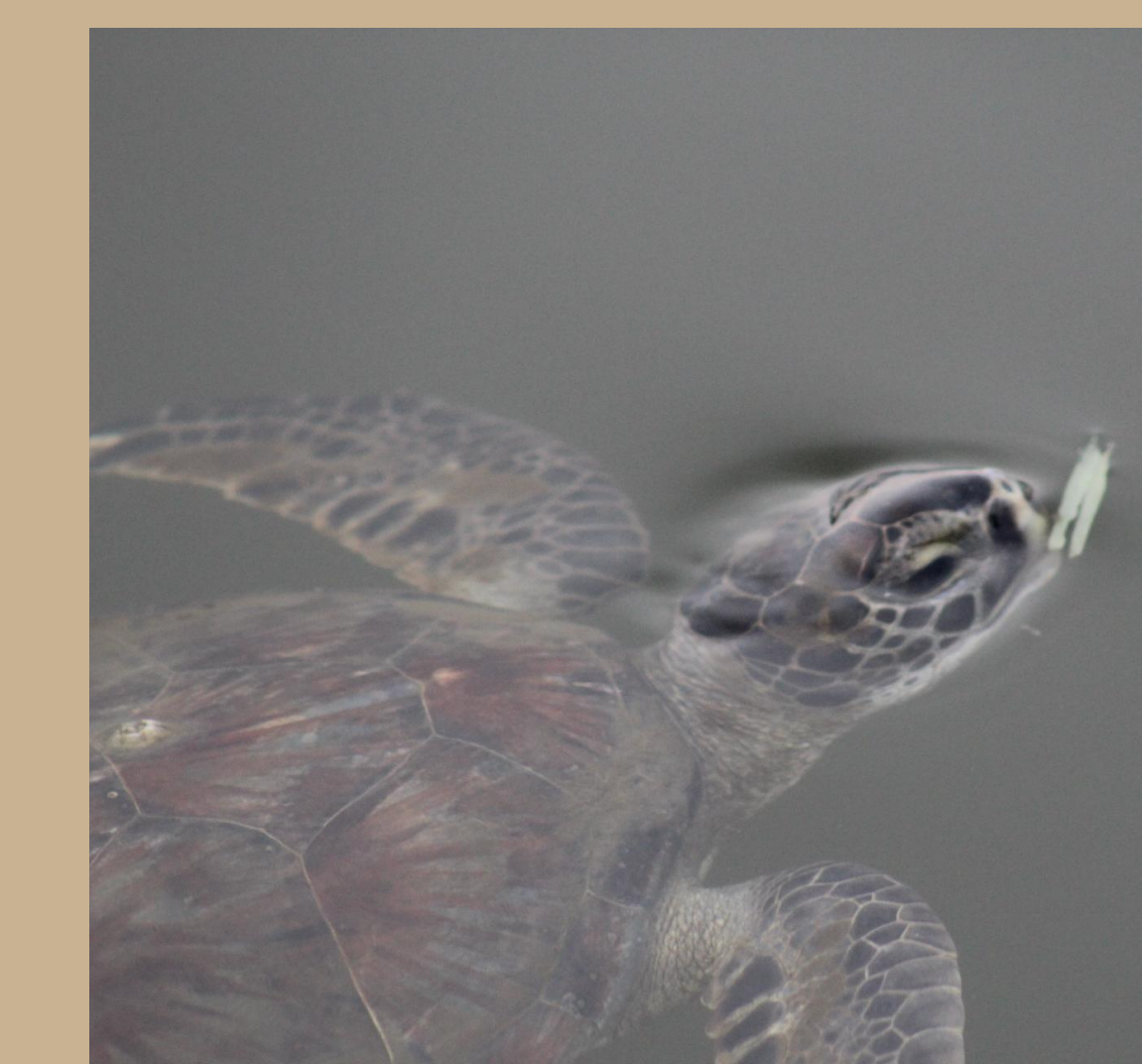


Fig. 4. Abundance of turtles at CC by temperature

## Conclusions

- Time of day does not seem to have any relationship to presence of turtles at both marinas, however, sample size was low
- Water temperature has a stronger influence of predicting turtle presence at Camachee Cove
- Access to the marinas by turtles is more restricted at Camachee Cove, possibly leading to higher sightings



## Future Exploration

Our methodology has now changed to allow adequate sample size to test if presence is dependent upon the time of day. We are also working to determine if turtle presence and foraging behavior differs on water temperature of the two marinas.

### Literature Cited

Long, S. L., & Azmi, N. A. (2017). Using photographic identification to monitor sea turtle populations at Perhentian Islands Marine Park in Malaysia. *Herpetological Conservation and Biology*, 12(2), 350-366.