



CICLO

**CONFERÊNCIAS '17**

ISPA - INSTITUTO UNIVERSITÁRIO

# USING MARK-RECAPTURE METHODS TO ANALYSE A MELON-HEADED WHALES (*PEPONOCEPHALA ELECTRA*) POPULATION IN THE BAHAMAS



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Identifying demographic changes is fundamental for understanding population dynamics. Population trends, reliable estimates of population sizes and survival and recruitment are among the most important demographic parameters used to support effective management and conservation strategies.

In this context, two mark-recapture approaches were implemented to photo-identification data of melon-headed whales (*Peponocephala electra*), gathered in a US Navy testing range (AUTC), located in the Bahamas between 2009 and 2015. Close and open population models were fitted to estimate the abundance, survival, recruitment and capture probabilities. Models were fitted using Markov Chain Monte Carlo (MCMC) sampling, in a Bayesian framework.

A total of 410 distinctive individuals were sighted and photographed, with resightings ranging from one to six times. The results suggest a decline in the population size, which may be related to the low recruitment rates over time. Estimates under the open population model suggest that 558 (95% CRI = 547.00 – 561.00) individuals used the area at least once, during the course of the study. The obtained results support the idea of a seasonal open population with an occupation range that extends beyond AUTC. Nonetheless, resighting data demonstrates a regular use of the area in the spring/summer period.

This study establishes baseline estimates of abundance, survival, and recruitment rates for melon-headed whales inhabiting AUTC and highlights the importance of long-term surveys to assess demographic parameters. Knowledge on melon-headed whales is sparse and future studies are key features to develop our understanding of this species.

**6 FEVEREIRO 2017**

12H30 | SALA DE ATOS

HOST  
**EMANUEL  
GONÇALVES**

**ENTRADA LIVRE**



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