IMPORTANCE OF SYSTEMATIC LONG TERM BEACH MONITORING FOR MARINE MAMMAL STUDIES

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Abstract

Marine animal stranding can provide important data for biology and biodiversity of species. Mainly because of the difficulty to access marine mammals' habitat, the collected data is extremely important for most of the researches. This study compares 30 years (1983-2012) of opportunistic stranding data in Santa Catarina Island, Brazil collected by Laboratório de Mamíferos Aquáticos (LAMAQ) Universidade Federal de Santa Catarina with 19 months (Aug 2015 - Feb 2017) of systematic daily monitoring and a toll free call center in the same area performed by Associação R3 Animal (R3), that participates in a larger beach monitoring project entitled Santos Basin Beach Monitoring Project - Phase 1 (*Projeto de Monitoramento de Praias - Bacia de Santos-Fase 1* - PMP-BS). In the studied period LAMAQ collected 173 animals and R3, 83. From the total numbers, LAMAQ had 16% (29) fresh carcasses and R3, 32% (27). LAMAQ collected a higher number of species (LAMAQ=19, R3=08), *Pontoporia blainvillei* was the most frequent one (LAMAQ=47, R3=45) and stranding was more frequent in winter and spring in both datasets. Although the annotated period of LAMAQ is 20 times R3 period, the number of collected carcasses is only two times higher, demonstrating that maybe the numbers from LAMAQ are either underestimated or there was an increase of marine mammals 'death. In the other hand, more fresh carcasses were proportionally collected by R3 allowing complementary analysis as histopathology and, consequently, finding the cause of death. Data collected until now shows that more efficiency would be acquired associating daily monitoring to long term research, contributing to better studies and marine mammals' species conservation. The PMP-BS Phase 1 operates between the Brazilian states of Santa Catarina and São Paulo and is part of the requirements established by the federal environmental licensing process of the Brazilian Environmental Agency (IBAMA), for the exploration of oil and gas at the Santos Basin pre-salt province.

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This study compares stranding data in Santa Catarina Island, Brazil (Fig 1) from two different strategies:

→ Opportunistic data collected by Laboratório de Mamíferos Aquáticos (LAMAQ) during 30 years (1983-2012) ;

→ Systematic daily monitoring and a toll free call center in the same area performed by Associação R3 Animal (R3) during 19 months (Aug 2015 - Feb 2017).

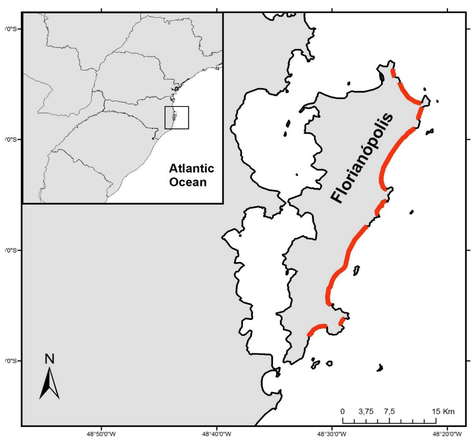

Photo: R3 Animal/Renato Coelho

Fig. 1 . Map showing the location of Santa Catarina state and studied regions

In the studied period LAMAQ collected 173 animals and R3, 83. From the total numbers, LAMAQ had 16% (29) fresh carcasses and R3, 32% (27) (Fig. 2).

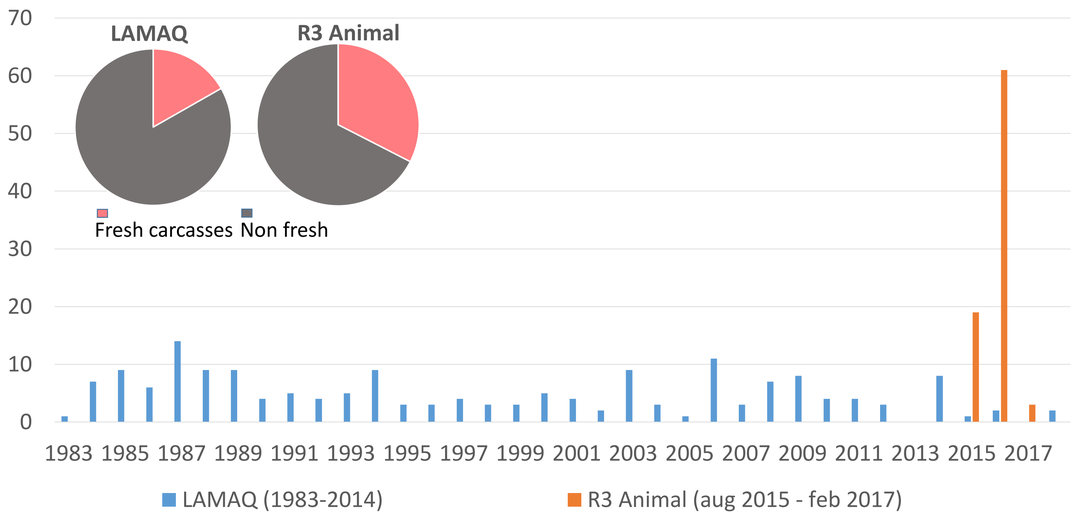

Fig. 2 – Data annual comparison and comparison between fresh/non fresh collected carcasses

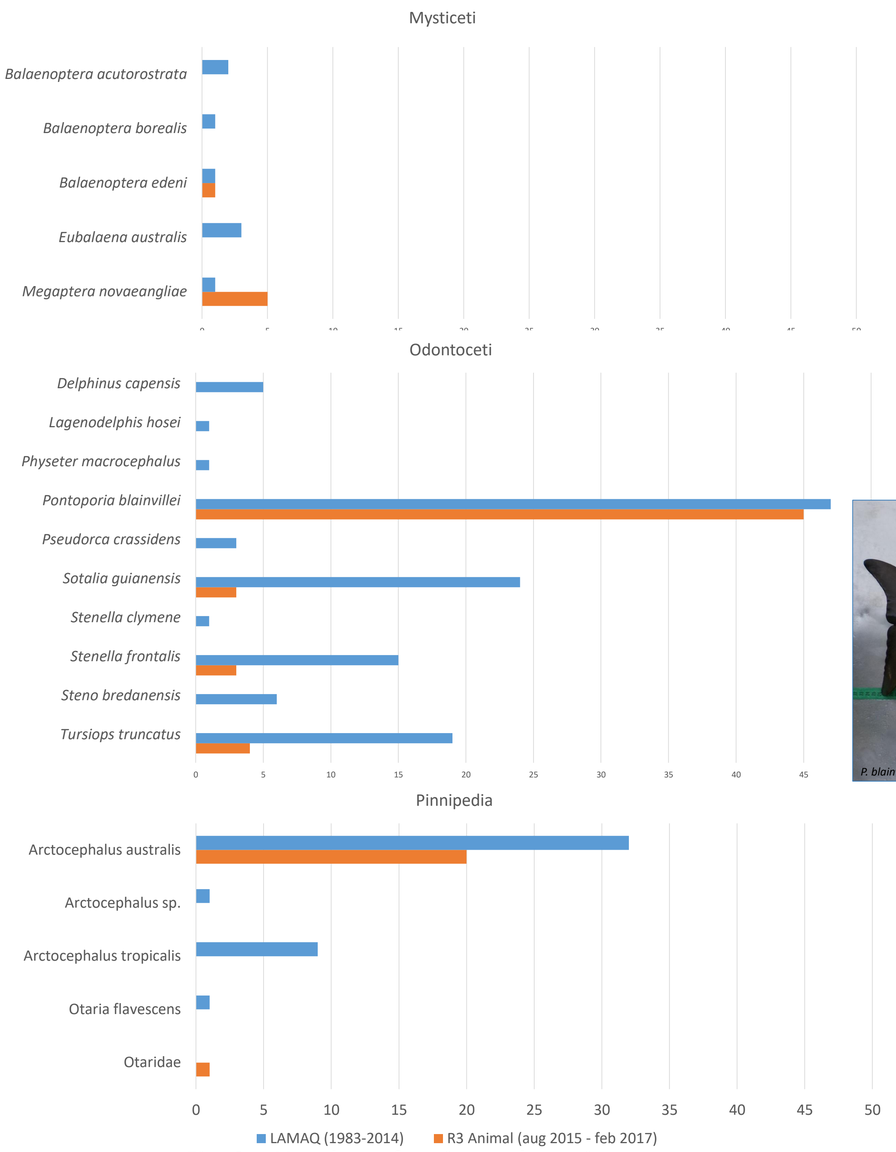

Fig. 3 – Number of registered species

- LAMAQ collected a higher number of species (LAMAQ=19, R3=08)
- *Pontoporia blainvillei* was the most frequent one (LAMAQ=47, R3=45) (Fig. 3)

Photo: R3 Animal/Everton Zart

- Stranding was more frequent in winter and spring in both datasets (Fig. 4).

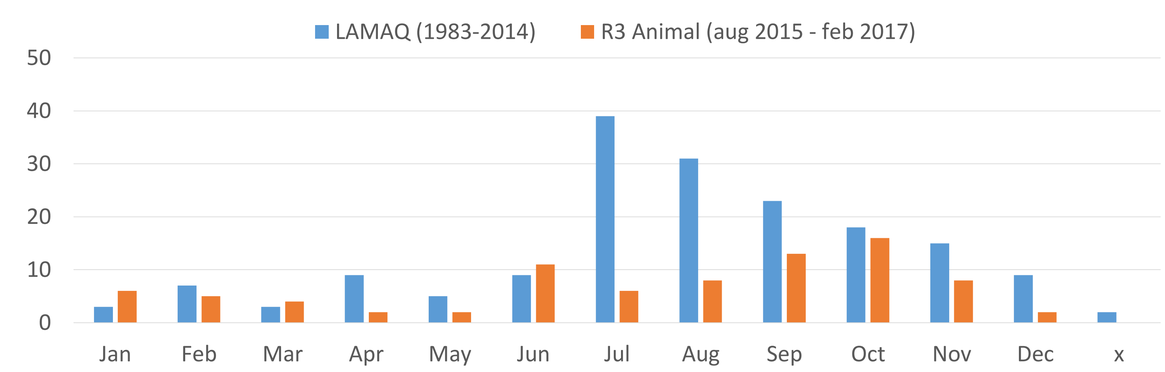

Fig. 4 – Monthly data comparison

→ LAMAQ period is 20 times R3 period, the number of collected carcasses is only 2x higher, demonstrating that maybe the numbers from LAMAQ are either underestimated or there was an increase of marine mammals death.

→ More fresh carcasses were proportionally collected by R3 allowing complementary analysis as histopathology and, consequently, finding the cause of death.

Data collected until now shows that more efficiency would be acquired associating daily monitoring to long term research, contributing to better studies and marine mammals´ species conservation.

PMP–BS
PROJETO DE MONITORAMENTO DE PRAIAS – BACIA DE SANTOS

The PMP-BS Phase 1 operates between the Brazilian states of Santa Catarina and São Paulo and is part of the requirements established by the federal environmental licensing process of the Brazilian Environmental Agency (IBAMA), for the exploration of oil and gas at the Santos Basin pre-salt province.