

Reproductive success of female bottlenose dolphins (*Tursiops truncatus*)

in an ultra-oligotrophic marine environment

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Introduction

- The reproductive output of common bottlenose dolphins (CBD) *Tursiops truncatus* has been extensively explored worldwide. However, it remains largely undocumented in the Mediterranean Sea.
- Bottom trawlers, the major fishery industry along the Israeli coastline act as a point of attraction for CBD and may improve the chance of raising a healthy calf.
- The significant presence of females with calves around trawler nets can indicate this resource's importance for the population.
- This study aims to estimate baseline reproductive parameters such as birth seasonality, interbirth intervals, and calf mortality for the Israeli CBD population, and to obtain a deeper understanding on the relationship between CBD and bottom trawlers in this region.

Objectives

This research will examine factors influencing female reproductive success for the Eastern Levantine Sea CBD population, including:

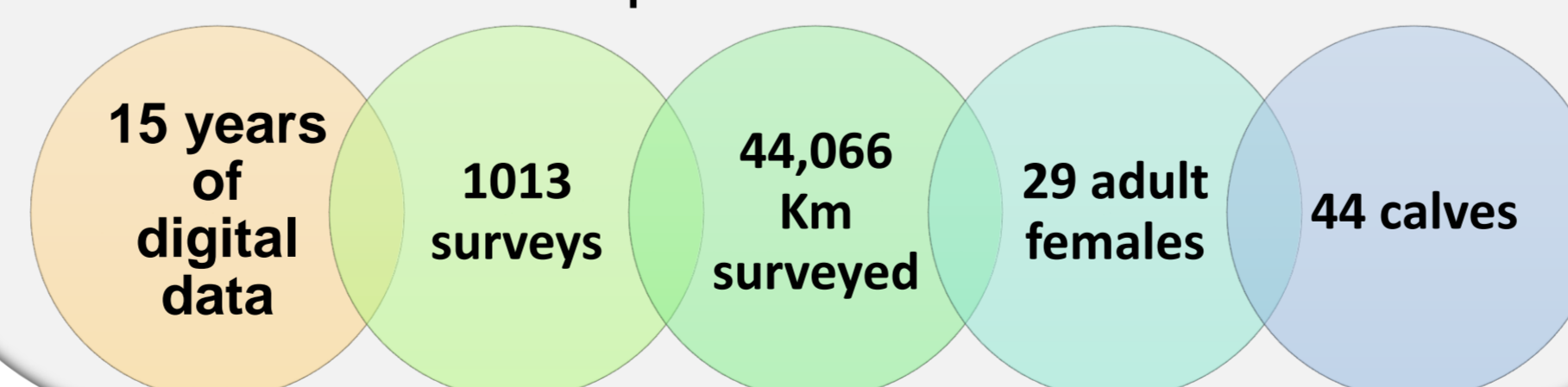
1. Birth seasonality
2. Interbirth intervals
3. Calf mortality
4. Comparing the abundance of females with calves to other adult groups foraging around bottom trawler nets.



Zigi (ID 1044), was first sighted in 2005 (left) and last in 2020 (right). During these years she was sighted with five different calves.

Materials & Methods

- Collecting data at sea
- **Photo ID**
- Large dolphins that have been recorded with a closely associated calf on ≥ 2 independent sampling occasions are a "mother".
- **Age classes**- 4 relative age classes based on total body length.
- A database from a >20-year-long stranding monitoring program will provide supporting evidence for some of the estimations.
- **One-zero sampling**- presence/absence of mother and calves foraging around the trawler nets.
- **Predominant activity sampling**- trawler/CBD activities and net position.



Preliminary Results

So far, data between 2005-2020 were analyzed. Of the 29 females, 13 of them were observed with different calves over the years. The maximum number of documented births per female in the study period was five calves (Zigi). Birth seasonality, even though not yet statistically tested seem to have a seasonal peak in summer since most births occur between June to October. According to the stranding data, two carcasses of pregnant females were observed in February and July, and stranding neonates (n=5) occurred between April and September. Neonate identification is based on external appearance and total body length.

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