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Encounter rates and habitat use of common bottlenose dolphins in Malta's coastal waters

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INTRODUCTION

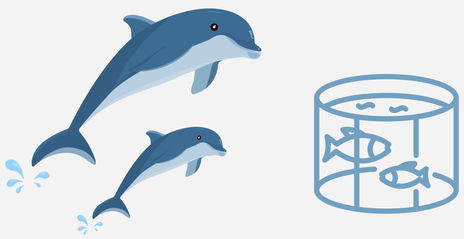
★Previous research on common bottlenose dolphins (*Tursiops truncatus*) in Malta has primarily focused on their association with aquaculture sites.

★Increasing tourism and media coverage have drawn attention to a rising number of sightings in areas beyond these sites, suggesting the ecological importance of Malta's coastal habitats for the species.

★Knowledge on the ecological dynamics and distribution in the northeastern coastal waters of the archipelago remains limited, which may partly explain the lack of adequate protection measures in the area.

OBJECTIVES

- Demonstrate the regular summer occurrence of bottlenose dolphins in coastal areas in the Northeastern side of the Maltese archipelago.
- Understand habitat use within and beyond aquaculture sites in the area.



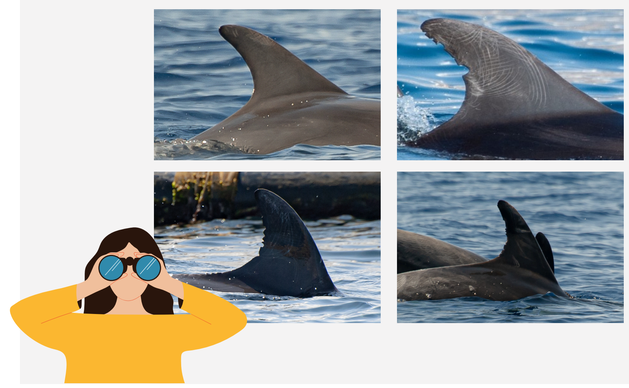
METHODOLOGY

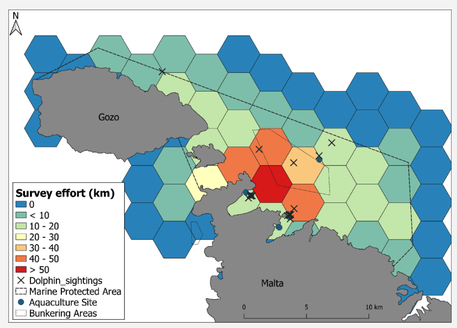
★The study area coincides with the MPA MT0000105.

★ Visual observation were carried out between July and September 2024 during 17 vessel-based surveys. A total of 484.80 km was covered on effort, at a mean speed of 9.7 knots (SE ±0.18).

★ Sampling of predominant behavioural activities was carried out using focal group follows (1 sample = 5').

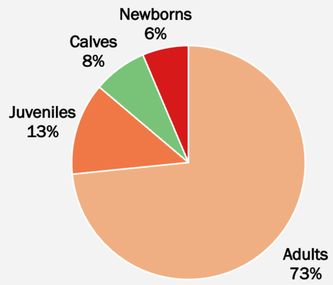
★Photos were taken for individual Photo-ID.





RESULTS

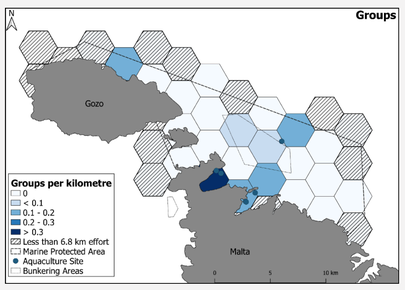
1. Group Size and Composition

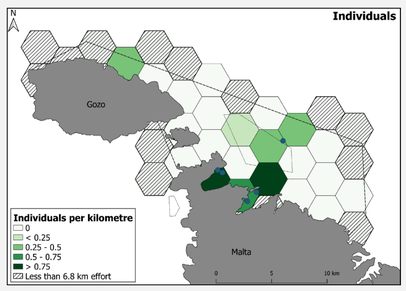


Groups: 20
Mean group size: 4.75
(SE ±0.56; SD 2.47)
Range: 1-10 individuals

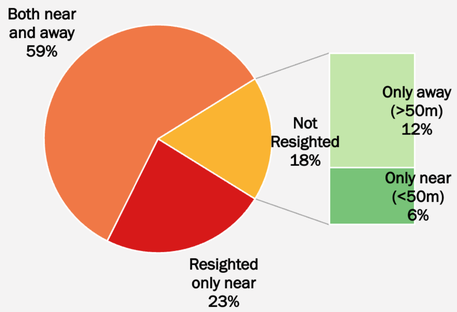
2. Encounter Rates

4.12 groups per 100km
19.8 individuals per 100km





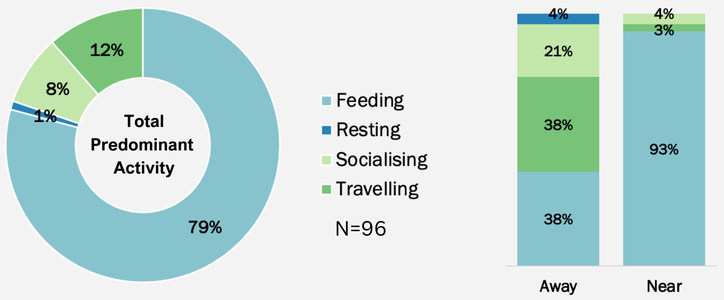
3. Photo-ID near/away from aquaculture sites



Identified: 17
Resighted: 14

4. Behaviour near/away from aquaculture sites

Feeding is associated to aquaculture (Fisher's Exact Test, p-value = 9.052e-08) but other activities are widespread.



DISCUSSION & CONCLUSION

★The observed mean group size suggests the area is primarily used by small to medium-sized groups, aligning with other coastal bottlenose dolphin populations.

★Encounter rates were relatively high compared to other Mediterranean regions, indicating the site's importance within the species' range.

★Despite the influence of aquaculture sites on foraging opportunities, summer resightings indicate site fidelity and highlight the importance of the wider area in supporting key behaviours.

★The consistent presence of subadults suggests the area's potential role in supporting early life stages.

★Based on these findings, we recommend strengthening conservation efforts to ensure the protection of this population in this coastal MPA.

BIBLIOGRAPHY

★ Bearzi, G., Fortuna, C.M., & Reeves, R.R., 2009. Ecology and conservation of common bottlenose dolphins (Tursiops truncatus) in the Mediterranean Sea. Mammal Review, 39(2), 92–123. ★Laspina, M., Terribile, K., and Said, A., 2022. Interactions between cetaceans and small-scale fisheries around the Central Mediterranean Maltese Islands. MCAST Journal of Applied Research & Practice, 6(2), pp.113–126. ★Methion, S. and Díaz López, B., 2019. Natural and anthropogenic drivers of foraging behaviour in bottlenose dolphins: influence of shellfish aquaculture. Aquatic Conservation: Marine and Freshwater Ecosystems, 29(6), pp.927–937. ★Milani, C.B., Vella, A., Vidoris, P., Christidis, A., Koutrakis, E., Sylaios, G. and Kallianiotis, A., 2017. Encounter rate and relative abundance of bottlenose dolphins and distribution modelling of main cetacean species in the North Aegean Sea (Greece). Journal of the Black Sea/Mediterranean Environment, 23(2), pp.101–120.

ACKNOWLEDGMENTS

This study was carried out as part of the COASTWISE project, financed by the Ministry for Education, Sport, Youth, Research and Innovation. Visual surveys were conducted during marine life observation tours with Discover the Blu. The authors extend their gratitude to all the volunteers, participants and citizens who took part in the data collection.

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