

Project Update: September 2017

Regarding whale-watching benefits and impacts in northern Peru, thanks to Rufford Foundation I brought the total station to perform my land-based survey sampling in northern Peru. In addition and in parallel I also performed land-based surveys in northern Chile with the objective to characterize maritime traffic and determine any potential collision risk with cetacean species in Mejillones bay (23°S, northern Chile).

Last week I participated in the 4th International Marine Protected Areas Conference with the attached e-poster. I though may be is useful to add this poster presentation to my project in Rufford web.



 4th International Marine Protected Areas Congress
 IMPAC4 Chile 2017

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Título:
SPATIAL EVALUATION OF COLLISION RISK BETWEEN SMALL CETACEAN SPECIES, FIN WHALES AND SHIPPING IN MEJILLONES BAY (23°S, NORTHERN CHILE)

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1. OBJECTIVE

The aim of this study is to determine the spatial distribution of small cetaceans and large whales and whether they overlap with maritime traffic routes in order to assess any potential collision risk and contribute to the Marine Spatial Planning of Mejillones bay.

2. METHODS

From March 2016 to March 2017 a total of 138.5 hours of land based surveys from Punta Rieles cliff (61.5 m height) in Mejillones bay with a total station were performed. Five opportunistic boat-based surveys were performed during the study period.





Humpback whale
(*Megaptera novaeangliae*)

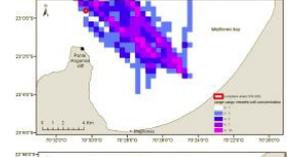


Fin whale
(*Balaenoptera physalus*)

Figure 1. Punta Rieles cliff Land based observation point view and total station.

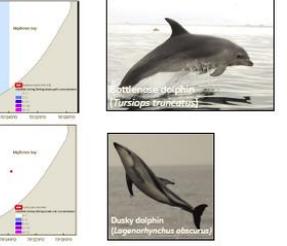
3. RESULTS

- Humpback whale and fin whale's 50% KDE home range overlap with Large-cargo vessel's navigation route.




3. RESULTS

- Bottlenose dolphin's and Risso's dolphin's 50% KDE home range overlap with artisanal fishing diving boats navigation route. Long-beaked common dolphin's 50% KDE area overlap with industrial fishing boats; Dusky dolphins with artisanal fishing-diving boats and Burmeister's porpoise with artisanal fishing boats





Risso's dolphin
(*Grampus griseus*)



Long-beaked common dolphin
(*Delphinus capensis*)



Burmeister's porpoise
(*Phocoena spinipinnis*)



Bottlenose dolphin
(*Tursiops truncatus*)

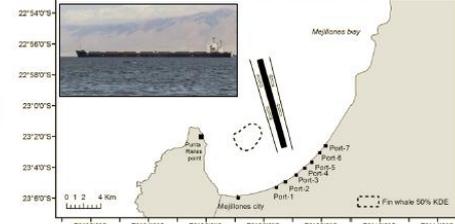


Dusky dolphin
(*Lagenorhynchus obscurus*)

4. CONCLUSIONS

- 1- Potential collision risk between fin whales, humpback whales and large-cargo vessels and between small cetaceans and fishing boats is imminent in Mejillones bay
- 2- Mean navigation speed of large cargo vessels, artisanal and industrial fishing boats exceeds the permitted speed of 10 knots.
- 3- We strongly recommend the creation of a Traffic Separation Scheme of large cargo vessels and an "Area to avoid" the home range of cetacean species within Mejillones bay.

PROPOSED TRAFFIC SEPARATION SCHEME AND AREA TO BE AVOID



ACKNOWLEDGMENTS:    