Document: ACCOBAMS-SC14/2021/Doc28
Distribution: 09/11/2021

IDENTIFYING WHALE WATCHING HOTSPOTS IN THE ACCOBAMS AREA: A PROGRESS REPORT

IDENTIFYING WHALE WATCHING HOTSPOTS IN THE ACCOBAMS AREA: A PROGRESS REPORT

Presented by Gianna Minton, Expert

Issue: identification of hotspots of Whale Watching activities in the ACCOBAMS area

1. Action requested

The Scientific Committee is invited to:

a. note the progress in the identification of hotspots of Whale Watching activities in the ACCOBAMS area
b. provide advice on future actions to be undertaken.

2. Background

In order to support the implementation of some activities of the 2020-2022 ACCOBAMS Program of Work related to Cetacean watching (CA2d), Gianna Minton was engaged to conduct a study aimed at identifying hotspots of Whale Watching activities in the ACCOBAMS area. The study aims at mapping any potential pressure on cetacean populations that are targeted for whale watching activities throughout the ACCOBAMS area.

This study is based on questionnaires circulated to data collection partners in each country of the ACCOBAMS Area. The methodology and the questionnaires were developed under the guidance of the Whale Watching Working Group.

As such, the aim of this study is not to obtain information on specific whale watching tour operators. Rather it aims to collect data that can be used to generate rough, but comparable measures of whale watching pressure exerted in different areas throughout the ACCOBAMS region.

The following document represents a brief progress report on this project, including the methodology applied and an overview of the data collected as of November 2021.

IDENTIFYING WHALE WATCHING HOTSPOTS IN THE ACCOBAMS AREA: A PROGRESS REPORT

November 2021, for the ACCOBAMS Scientific Committee

By Gianna Minton

BACKGROUND AND CONTEXT

Under CONTRACT No. 08/2020/LB 6450-6900-52, Gianna Minton was engaged to conduct a two-part review of whale-watching in the ACCOBAMS area as part of the 2020-2022 ACCOBAMS Program of Work related to Cetacean watching (CA2d). As specified in the terms of the contract, the first part of the project entails: *a study aimed at identifying hotspots of Whale Watching activities in the ACCOBAMS area. This study could be based on questionnaires circulated to ACCOBAMS Focal Points, experts, partners organizations and selected whale watching operators. Other methodologies could be proposed by the Consultant and will be considered taking into account the limited budget available for this activity.*

The study aims to map potential pressure on the cetacean populations that are targeted for whale watching activities throughout the ACCOBAMS area. We know from numerous studies on the impacts of whale watching that the number of vessels present with cetaceans (Williams and Ashe, 2007; Schuler et al., 2019), their engine noise (Sprogis et al., 2020), and the cumulative amount of time that cetaceans are exposed to vessels and vessel noise (Pérez-Jorge et al., 2017) are all important factors in determining whether or not whale watching activities can be considered sustainable, or potentially harmful over time.

As such, the aim of this study is not to obtain information on specific whale watching tour operators. Rather it aims to collect data that can be used to generate rough, but comparable measures of whale watching pressure exerted in different areas throughout the ACCOBAMS region.

The following text represents a brief progress report on this project, including the methodology applied and an overview of the data collected as of November 2021.

METHODOLOGY

Data collection

While data on the frequency and intensity of whale watching effort exists for some regions within the ACCOBAMS area that have been well studied, including the Straits of Gibraltar and parts of the French coast of the Pelagos Sanctuary (e.g. Mayol et al., 2007; Cazalla et al., 2016; Gimenez, 2017), there is no standard measure for whale watching activity throughout the ACCOBAMS region. For this study, information on the scope and scale of whale watching activity in the ACCOBAMS area has been obtained through two main approaches:

1. A **Questionnaire-based data gathering** approach that relied on the distribution of a questionnaire to identified whale watching data collection partners in every country of the ACCOBAMS Area. These data collection partners have been responsible for the coordination of the completion of questionnaires at a country, province, or port-by-port regional level. In exchange for their inputs and collaborations they will be included as co-authors in any peer-reviewed journal article that might arise from this exercise, and they (or their affiliated organisations) will also be given due credit and recognition in the final report.

   Data gathering has been conducted in two phases:

   - **Phase I**: a more general country-level questionnaire that assessed very roughly how many WW operators there are, the locations from which WW takes place, and what kinds of guidelines or regulations are in place for WW in each country.

   - **Phase II**: a detailed questionnaire that allows a more detailed assessment of the level of pressure from whale watching vessels on whale and dolphin populations in areas where data collection partners are able to gather more detailed data. This questionnaire aims to characterise and generate a

standardized measure of whale watching activity in each region through an estimation of the number of vessels operating tours and the duration and frequency of tours that are offered in high and low seasons. This was developed by the contractor and refined in consultation with members of the ACCOBAMS Whale Watching Working Group (WWWG), many of whom are also acting as data collection partners. The full questionnaire template is available online here.

For both questionnaires, respondents have been asked to provide *meta-data*, as opposed to details of particular operators. Data on particular operators has been provided by some respondents and can be used as additional information to aid in the ground-truthing of responses (see below), but this detailed listing is not the main aim of either questionnaire. Note that this exercise focuses on *commercial* whale watching only, as defined by Hoyt in his landmark study of whale watching worldwide (Hoyt, 2001).

A virtual online 'training' or orientation session was held for data collection partners in April 2021 to ensure that they understood how to use the Phase II questionnaire, and to provide them the opportunity to ask for clarifications.

2. A **desk-based research and ground-truthing** approach will include the collection of additional information and ground truthing of questionnaire responses from the following sources:
   - A desk-top review of published reports and peer-reviewed literature on the key species and populations present in the ACCOBAMS region and their conservation status at ocean- basin level, as well as local level if applicable. This can include the (unpublished) results of the ACOBAMS Survey Initiative and any available drafts of ACCOBAMS regional level Red List Assessments;
   - The 2009 study of global whale watching funded by IFAW (O'Connor et al., 2009) and specific studies commissioned by ACCOBAMS and other partners (e.g. Mayol et al., 2007; Cazalla et al., 2016; Gimenez, 2017);
   - Discussions with the ACCOBAMS WW Working Group, High Quality WW label partners, and other targeted experts and partners;
   - Internet searches for whale watching operations in specific towns/locations indicated by the sources above, especially where questionnaire results are lacking in specificity, detail, or lacking altogether.

Data analysis and mapping

Data analysis will take place in two phases. The first phase questionnaire will be compiled to create a very simple table of the countries in the ACCOBAMS region that allows comparison of the rough estimates of WW operators, numbers and possibly locations of WW ports/harbours, and the status of voluntary or legally enforceable regulations/guidelines in each country.

A second phase of analysis will combine the results of the Phase II questionnaire and desk-based study into a spreadsheet that can be used to quantify, at a minimum, the average estimated number of whale watching tours offered per week from as many towns or harbours in the ACCOBAMS region as possible. Ideally, the questionnaire results will also allow for a more refined estimate of vessel-hours per town/harbour to allow a comparative mapping of pressure. As the study progresses, we will determine how these results can best be presented in a visual/map format – either using a shaded grid-cell approach, or different-sized and shaded symbols for each town/port. Ideally, we could map the indicated radius of tours from each port together with a shading/colour scheme to indicate density of tours (vessel-days or vessel-hours). Although the limited scale of this study will not allow these results to be analysed in relation to the detailed distribution of the cetacean species present in each region, the visual mapping exercise could include symbols or icons for the main focal species in each area.

The resulting maps will also be accompanied by tables and text that explain the results in more detail and highlight findings of particular interest, especially where particular (vulnerable) species or populations may be experiencing high levels of (seasonal) pressure from whale watching, or where reported practices may cause additional pressure on populations (e.g. use of aircraft to locate cetaceans, offering in-water encounters, etc.).

PROGRESS AS OF NOVEMBER 1ST, 2021

Phase I Questionnaire

As of November 1st, 2021, Phase I questionnaires providing a general overview of whale watching, were completed by data collection partners from 24 ACCOBAMS range countries. Of these countries, 50% (n=12) reported that there was no commercial cetacean watching currently taking place (although two reported plans to develop this category of tourism). Six countries reported that only 1-10 commercial operators offered WW tours, two reported 11-20 operators, three reported 20-50 operators, and only one country reported more than 50 commercial operators, with Portugal, France, Italy, and Spain being the countries that appear to host the highest numbers of commercial whale watching operators (see Table 1 below).

Interestingly, these four countries also appear to have the highest levels of legally enforceable regulations and licencing requirements for commercial whale watching operations. Notably only Spain and Portugal (8% of all respondents) have specific licensing requirements in place for commercial whale-watching operators, and only Portugal, France, Spain, Croatia and Bulgaria have legally enforceable whale watching regulations in place (20% of all respondents).

Several different categories of whale watching operations were reported among those countries that have some form of commercial whale watching, with seven countries (29%) reporting the presence of dedicated whale-watching tour operators, six countries (25%) reporting general marine tourism operators that also offer dedicated whale watching tours, five countries (21%) hosting general marine tourism operators that regularly encounter cetaceans, nine countries (38%) hosting research organisations that also involve paying clients in their boat-based work, and only three countries (13%) reporting the presence of marine tour operators that also offer dedicated multi-day whale watching tours.

The data gathered from Phase I questionnaires will be further analysed and mapped and ground-truthed in relation to the responses to Phase II questionnaires and desk-based research.

Table 1: Countries with the highest levels of reported commercial whale watching activity, and the legal status of WW in those countries as reported in Phase I questionnaires completed by voluntary data collection partners.

Country	Number of reported commercial operators	Number of harbours from which WW takes place	Whale watching legally defined?	Specific licensing required for WW?	Legally Enforceable WW regulations?	Voluntary WW Guidelines?
Portugal	>50	10	Yes	Yes	Yes	Yes
France	20-50	30	No	No	Yes	Yes
Italy	20-50	20	No	No	No	Yes
Spain (not including Canary Islands)	20-50	12	Yes	Yes	Yes	Yes
Croatia	11-20	5-10	No	No	Yes	Yes
Russia	11-20	5	No	No	No	Yes
Cyprus	1-10	2	Yes	No	No	No
Greece	1-10	5	No	No	No	Yes
Israel	1-10	3	No	No	No	Yes
Malta	1-10	5	No	No	No	No
Slovenia	1-10	1	No	No	No	Yes
Turkey	1-10	1	No	No	No	No
Albania, Algeria, Bulgaria, Egypt	0	0	9 countries do have a	No countries	Only Bulgaria has	Only Bulgaria reports

(Mediterranean coast), Georgia, Lebanon, Libya, Monaco, Morocco, Romania, Syria, Ukraine			legal definition of WW despite no commercial operations in place	require licensing	legally enforceable WW guidelines – which are part of general wildlife viewing guildeines	voluntary WW guidelines
Totals and percentages		**Approx. 100**	**50%**	**8%**	**20%**	**41%**

Phase II Questionnaire

As of November 1st, 2021, Phase II questionnaires have been received from data collection partners in six countries (Portugal, Turkey, Malta, Italy, France and Greece). Data has been compiled for a total of 57 ports and harbours in these six countries, and transcribed into a master spreadsheet to be used in analysis and mapping of results.

The data collected to date is being refined and cross-checked with data compiles, and data is still expected from an additional 5-6 countries, most notably Spain. However, some initial analysis has been conducted, using the data provided on the number of operators, length, and frequency of tours to calculate a rough estimate of 'total annual whale-watching hours' for each harbour (Figure 1).

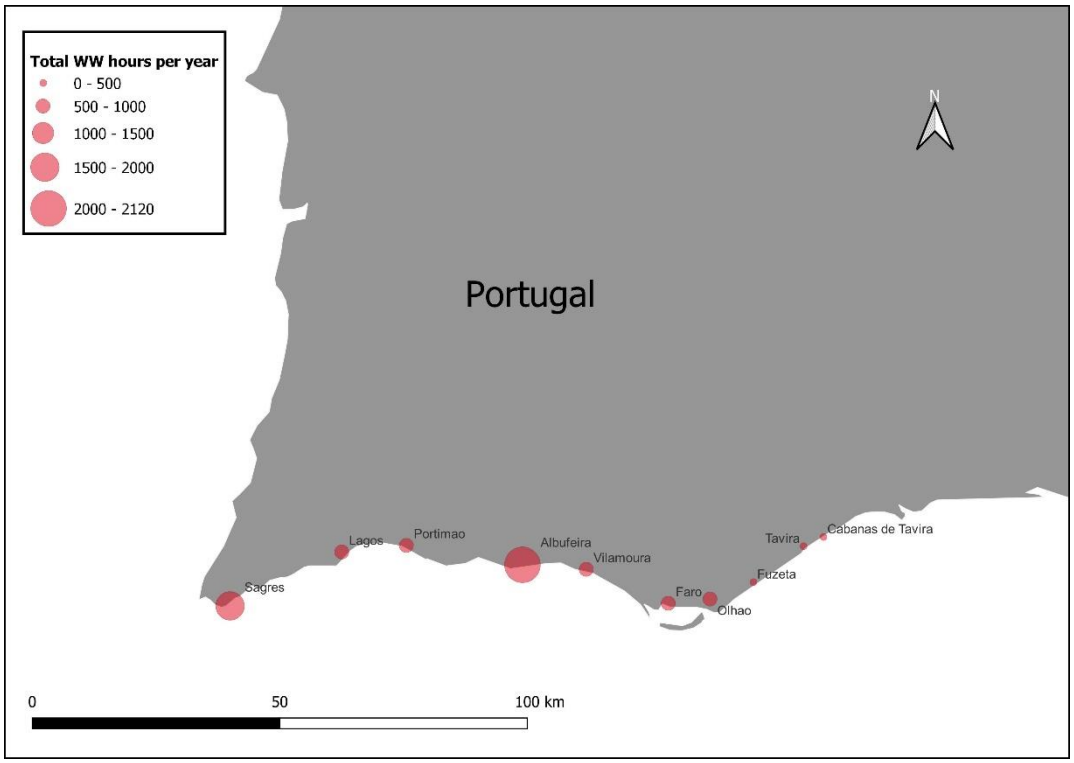

Figure 1: Example of one way that the data compiled through the phase II questionnaire results can be visualized. Data provided on the number of operators, duration and frequency of tours in high and low seasons was used to provide a rough estimate of the total number of whale watching hours conducted from each of the ports and harbours included in the study. The size of the red/pink circles reflect the number of WW hours, not the radius of operations, which can also be mapped from the data provided. Note that this figure is based on incomplete results that are still undergoing analysis. NOT to reproduced or cited.

Phase II results are also being used to map peak seasons (Fig. 2) and provide insight into the times of year at which cetaceans are most likely to be exposed to pressure from whale watching activities.

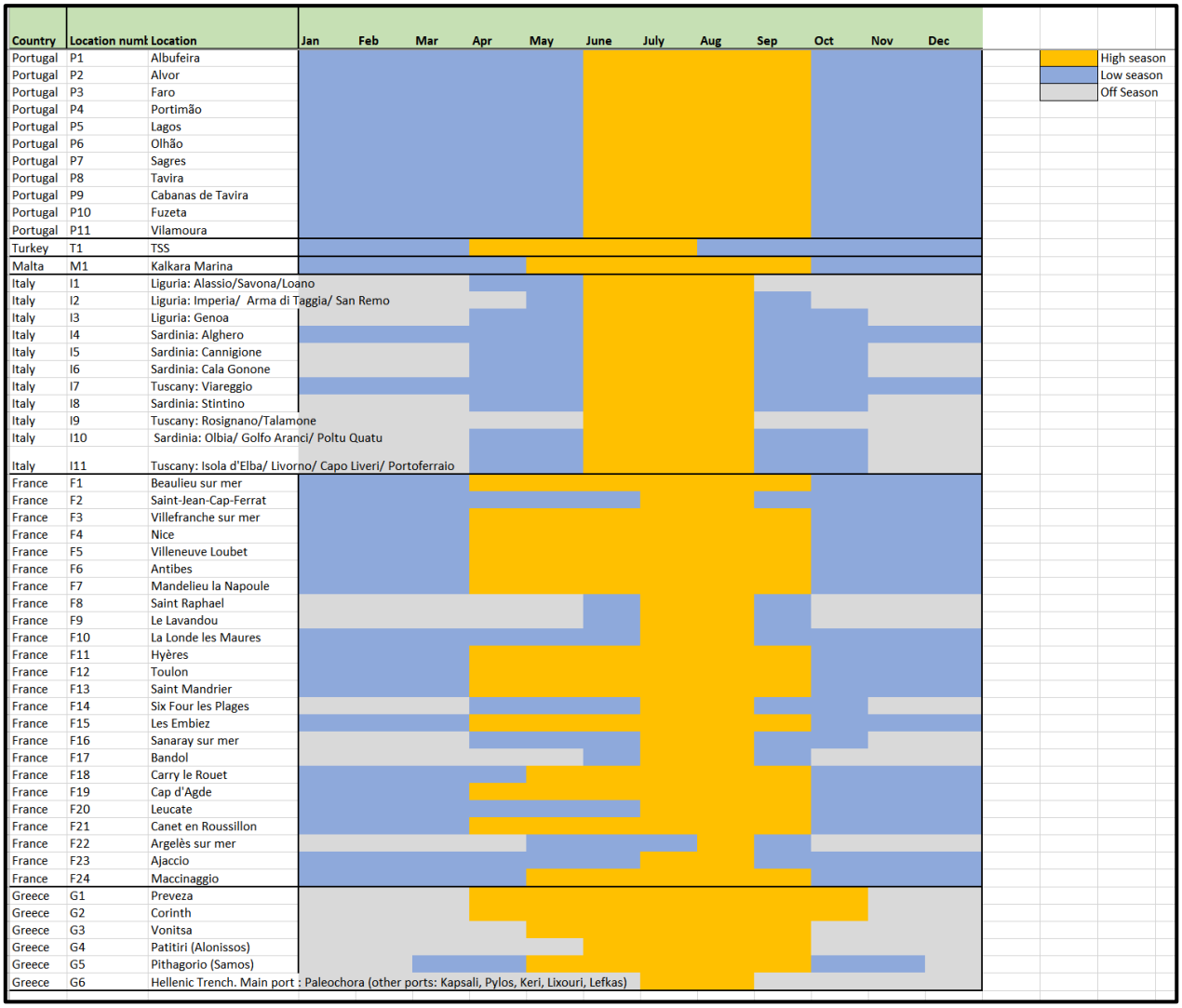

Figure 2: Provisional mapping of high, low and off-seasons for whale watching in the ACCOBAMS region. Note that this represents preliminary results from six responding countries only, with additional results anticipated from Spain and other countries, and current results to be ground-truthed with data compilers and supplementary desk-based studies. NOT to reproduced or cited.

Once the dataset is completed, multiple different types of analyses and mapping are anticipated using the data provided on target species for operations form each port/harbour, types of vessels and engines used, maximum and minimum passenger capacity, and categories of whale watching tours.

NEXT STEPS

The remaining Phase II questionnaires and data clarifications should be received by the end of November, at which point data collection will be considered final and analyses and mapping will be conducted on the dataset available at that point.

A full first draft of the hotspot study report will be completed by mid-January 2022, and reviewed by the Whale Watching Working Group (WWWG) by the beginning of February. A revised draft that includes input from the WWWG will be submitted to the Scientific Committee for review by the end of February. The final draft will be then submitted to the ACCOBAMS MOP in November 2022.

REFERENCES

- Cazalla, E. A., J. M. E. Casado, T. S. Catala, V. C. Tilot, and C. M. Bernal. 2016. Assessment of whale watching activities in the Gibraltar Strait, IUCN-ACCOBAMS.
- Gimenez, O. 2017. Littoral et Mer Programme de recherche participative Les futurs des mondes du littoral et de la mer Rapport final, Centre d'Écologie Fonctionnelle et Évolutive (CEFE).
- Hoyt, E. 2001. Whale Watching 2001: Worldwide tourism numbers, expenditures and expanding socioeconomic benefits, International Fund For Animal Welfare, London.
- Mayol, P., P. Beaubrun, F. Dhermain, and G. Richez. 2007. Le whale watching en Mediterranee. Les enjeux d'un developpement durable. Espaces 244:42.
- O'Connor, S., R. Campbell, H. Cortez, and T. Knowles. 2009. Whale Watching Worldwide: tourism numbers, expenditures and expanding economic benefits; a special report from the International Fund for Animal Welfare, Yarmouth MA, USA.
- Pérez-Jorge, S., M. Louzao, D. Oro, T. Pereira, C. Corne, Z. Wijtten, I. Gomes, J. Wambua, and F. Christiansen. 2017. Estimating the cumulative effects of the nature-based tourism in a coastal dolphin population from southern Kenya. Deep Sea Research Part II: Topical Studies in Oceanography 140(Supplement C):278-289. doi: https://doi.org/10.1016/j.dsr2.2016.08.011
- Schuler, A. R., S. Piwetz, J. Di Clemente, D. Steckler, F. Mueter, and H. C. Pearson. 2019. Humpback Whale Movements and Behavior in Response to Whale-Watching Vessels in Juneau, AK. Frontiers in Marine Science 6(710)(Original Research) doi: 10.3389/fmars.2019.00710
- Sprogis, K. R., S. Videsen, and P. T. Madsen. 2020. Vessel noise levels drive behavioural responses of humpback whales with implications for whale-watching. eLife 9(e56760)doi: https://doi.org/10.7554/eLife.56760
- Williams, R., and E. Ashe. 2007. Killer whale evasive tactics vary with boat number. Journal of Zoology 272(4):390-397. doi: 10.1111/j.1469-7998.2006.00280.x