



## Comments of draft report

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|------------------------------|---|---------------------------------------|------------------|
| <b>Title</b>                 | MiniSCANS-II: Aerial survey for harbour porpoises in the western Baltic Sea, Belt Sea, the Sound and Kattegat in 2020 |                                       |                  |
| <b>National contact</b>      | Bianca Unger, Anita Gilles (AG), Nadya Ramirez-Martinez (NRM)   |                                       |                  |
| <b>Funding Agency</b>        | Federal Agency for Nature Conservation (BfN)  |                                       |                  |
| <b>Contact at agency</b>     | <b>Mirko Hauswirth (MH)</b>   |                                       |                  |
| <b>Deadline for comments</b> | <b>1-7-2021</b>   | <b>Deadline for handling comments</b> | <b>1-8- 2021</b> |

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| <b>1</b>  | <b>Comparisons of distribution patterns and absolute abundances between years is the central aim of the survey series. Abundance estimates for the different years plotted in Fig. 5 do not refer to the same area. This makes it impossible to interpret Fig. 5 as a time trend. Please plot abundance estimates for the same core area in all years.</b> | Fig. 5                                    |   | Thanks for the comment. When we prepared the figure, we aimed to add to the time series as reported in the same style as readable in the SCANS-III report (Hammond et al. 2021). We also think that the additional figure showing the different spatial extents of survey areas, would make interpretation easier. However, given the ad-hoc reduced interpretability due to different areas, we have decided to change the figure 5 and now display density instead of abundance since | <b>AG</b>                                   |



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|   |  |   |   | this metric is more straight-forward to compare between surveys.   |   |
| <b>2</b>  | <p><b>„However, confidence intervals overlap between all surveys (Figure 5) and, therefore, the point estimates are not significantly different from each other on the 5% level.“</b><br/> <b>This conclusion is wrong: Two samples with overlapping 95% CI can be significantly different from each other. (It’s true (for normally distr. Samples) that when confidence intervals don’t overlap, the difference between groups is statistically significant. However, when there is some overlap, the difference might still be significant.)</b></p> <p><b>The conclusions p. 20 also need to be changed: You cannot conclude</b> ” but due to the high variance of the estimates, they are statistically not significantly different“ because you did not test that.</p> | p. 16                                     |   | <p>Agree, we need to test and perform a trend analysis before we can get to any conclusion. Therefore, we deleted this sentence on significant differences. The (dedicated) trend analysis will be done in the framework of the HELCOM BLUES project.</p> <p>The conclusion was also adjusted accordingly.</p> | <b>AG</b>                                   |



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| 3   | <b>Can we get the density estimates and transects as shp-files as well as the raw data (conditions and sightings with group sizes for every transect segment)?</b>   | Fig 4                                     |   | The shapefiles can of course be provided to you as always (in the usual format that shows conditions and sightings); Data are available to all project funders.  | NRM   |
| 4   | <b>Can we get a plot and shp similar to Fig 4 of averaged densities across the different surveys e.g. in the last decade (would be important for environmental impact assessments to have spatial density plots)</b>   | Fig. 4                                    |   | Averaged densities across the different surveys were not worked up in this project. It could be achieved following either OSPAR QSR or HELCOM HOLAS assessment.  | AG  |
| 5   | <b>Comparison of distribution patterns and absolute abundances between years is the central aim of the survey series. Please outline why the platform was changed, if + why transect design changed relative to the aerial survey in 1994 and if you think the survey design should undergo any further changes in the future.</b> |   |   | Using either of the methods/platforms, i.e. ship and aircraft, should result in comparable estimates of absolute abundance. As indicated in Table 4, aerial surveys have been also used in 1994. The extend of SCANS 1994 is depicted in Figure 5. The survey was a mix of aerial and ship based, hence using that older design is not appropriate. The target of the current survey was to cover the management area of the Belt Sea population and this in much higher effort as before. | NRM   |



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|   |   |   |   | <p>Moreover, the survey design for MiniSCANS-II overlaps with the German national monitoring which has been a major contribution to lower the costs.</p> <p>For SCANS-IV, the design will be changed, for example with more finer-scale coverage in the Great Belt and the Sound, which is an area where earlier surveys showed higher densities and a general lower survey effort per area comparable with previous SCANS-surveys.</p>  |   |
| 6   | <p><b>You report that 38 racetracks were conducted. This seems to be a nice basis for further analysis. Can you report more on the results, e.g. table of results in this study and a comparison to racetracks in earlier surveys. Can you report the calculation how the ESW was obtained.</b></p> <p><b>What is the most likely direction of bias for each of the two platforms / survey designs (aerial vs. ship) and why? E.g. did you observe low densities in areas</b></p> |   |   | <p>The number of 38 racetracks was unfortunately too low. For a robust analysis at least 60-80 trailing sightings are needed for a mark-recapture experiment such as the tandem/racetrack technique. A large number of “recaptures” is needed to estimate the capture probability (in this case <math>g(0)</math> and therefore ESW) reliably. However, we always extend our racetrack-database and for the next evaluation these newly collected ones will be included as well.</p> | AG<br>NRM                                   |



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| <i>that were sampled in aerial surveys but could not be sampled in ship surveys?</i> |   |   | <p>The ESWs (incl. g(o)), stratified for good and moderate conditions, used for analysis are the ones based on the German aerial and SCANS surveys.</p> <p>Direction of bias:<br/>Absolute abundance could be estimated and should be comparable between methods. The differences in density of MiniSCANS-II should not be related to the method, but in fact changes in animal density and/or distribution.</p> |   |
| Please report more   |   |   |  |   |
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