Review of: "Nutritional status and prey energy density govern reproductive success in a small cetacean"

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The research article entitled "Nutritional status and prey energy density govern reproductive success in a small cetacean“ by Ijsseldijk et al. is well written and represents a valuable piece of research. The authors reveal a current gap in science and aim to investigate, whether internal or external conditions, like health and nutritional status affect pregnancies and foetal growth of harbour porpoise. The study is based on a large set of data, including available literature and new data from The Netherlands. Special focus was on the influence of availability of energy dense prey items in cetacean nutrition, as this factor showed significant negative impact on foetal size and probability of being pregnant. It could be clearly shown, that it is necessary to incorporate these nutritional factors into the assessment and not only focus on chemical pollution (e.g. PCBs). In Summary, I strongly recommend this manuscript, although several minor concerns can be addressed:

- As this study deals only with harbor porpoises, the title should be changed from: “… small cetatcean” to “…harbour porpoise”. Small cetacean can be mentioned as keyword to maintain visibility.
- Table 1 is confusing in its presentation, without background information one may not understand the presented numbers. Are the data from all datasets or including „various subsamples“ (not explained in the manuscript)? For example to “All adult (n=280) include “Adult females” (n=171) and “Adult males” (n= 110) (280vs.281)? This should be explained and arranged more clearly.
- Cumulative Human Impact: With five of 14 stressors, the fishery impacts a lot to this measure. As the impact of fishery may strongly vary between each year within several of the studied ecosystems, e.g. the Baltic Sea, with its recent catch limitations, this fluctuation should be taken into count.

- Beneath that, declining stocks of several preyed fishes, especially gadoids, may also have an important impact on the nutritional status and the MEDD of porpoises. This may be of significant importance and could be an additional proxy?
- Page 1 introduction: consider of rephrase “produce a calv every year thereafter” to “get pregnant every year thereafter”
- Page 2 introduction: add polychlorinated biphenyls (PCB) in the first row
- Page 2 Results + Fig.1: Citation of Fig 1 (line 3 of results) is incomprehensible. Label of x-axis should be changed to follow the dates. Additionally, two different units (mm-cm) are used in text.
- Page 3 add: Dutch waters: age at sexual maturity (ASM).