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Interactive comment on "Marine mammal tracks from two-hydrophone acoustic recordings made with a glider" *by* Elizabeth T. Küsel et al.

Anonymous Referee #1

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the paper is interesting as it offers a report on the use of gliders for performing acoustic surveys to detect and study marine mammals. The specific case present and interesting option based on a low cost recorder rather than custom complex dedicated electronics. However the paper appears more as a basic tech report than a scientific paper. The findings have no scientific relevance for marine biology and the authors show little expertise in the description of detected biological sounds. Dolphin clicks and sperm whale clicks are well known now. The figures don't show the characteristics of detected events in detail, e.g. to clearly show the differences among artifacts and real signals, or to show the multi paths underlined in the text. The multi paths in recording biosonar clicks is well known and the multi paths can be positively used to improve the localization od sperm whales. Surface multi paths are generate by the sea surface, but often also the sea bottom generates reflections of sperm whale clicks. With a flat

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Discussion paper

sea surface reflected clicks show phase inversion, described in the text as mirror images. Advantages/disadvantages of the use of a glider are not presented. Which is the impact of flow noise ? How the change in depth influences the recording ? Which type of noises are made by the glider itself, e.g. when it changes its asset ? is the quality of the recorder well suited to the task ? Authors write about clicks with energy content increasing with frequency. Most dolphins do produce clicks with peaks above 40 kHz and up to 100 kHz and more. Recording them at close range may result in very high frequency levels that may saturate the hydrophone, its preamplifiers and even the recorder input. Also to consider the resonance of the ceramics in the hydrophones and the possible aliasing effect induced by the intrinsic a-a filters of the recorder that may "reflect" the acoustic energy above Nyquist down to the recorded range. A minor point concerns the choice of the recorder. External batteries have been used. Other pocket recorders have less noise and require much less power than the Tascam. Some can run for 48 hours on their two internal AA batteries. The recorder is called "voice recorder" but it should be called "music recorder".

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