

## Supplementary material to the article “Vertical configuration of a Side Scan Sonar for the monitoring of *Posidonia oceanica* meadows”

This supplementary material includes information that completes the description of the acoustic data processing.

Figure S1 shows a flow chart about different processing steps together with a brief summary of some of them.

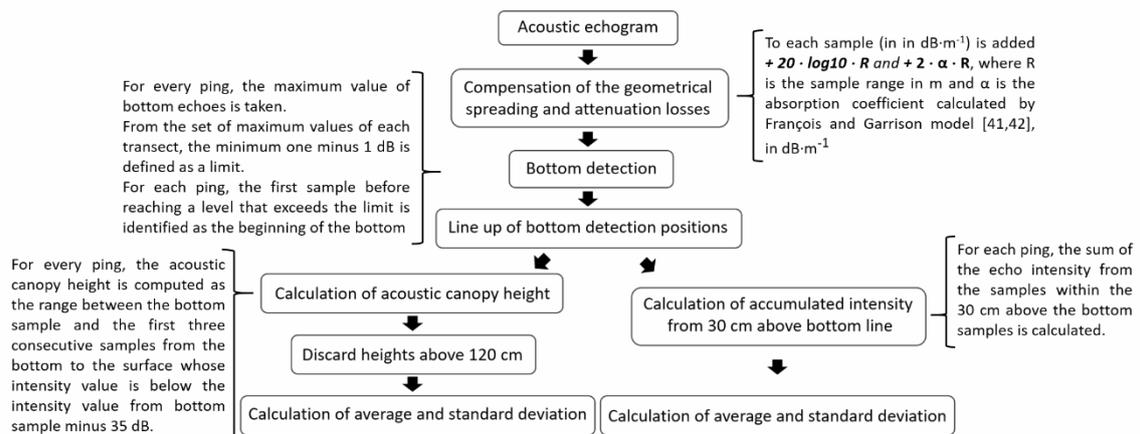


Figure S1. Flow chart about the processing algorithm of the acoustic data.

Figure S2 shows a fragment of the echogram from transect D1 where the delimitation of the bottom line and the resulting canopy height after processing can be observed. This figure presents the most interesting pings of the Figure 7 of the article, since non-target detections are present next to and above the canopy and the algorithm is able to discriminate between them, and in case of not being able, the height measurement is not taken. In order to visualize the operation of the canopy height detection algorithm, a ping where canopy height is measured (number 369 from Figure S2) and a ping where the rule of discarding measurements of height above 120 cm is applied (number 377 from Figure S2) are displayed in Figure S3. Furthermore, the position of the bottom, the height of 120 cm and the threshold defined for each ping according to the intensity value of the bottom sample are marked in the same figure.

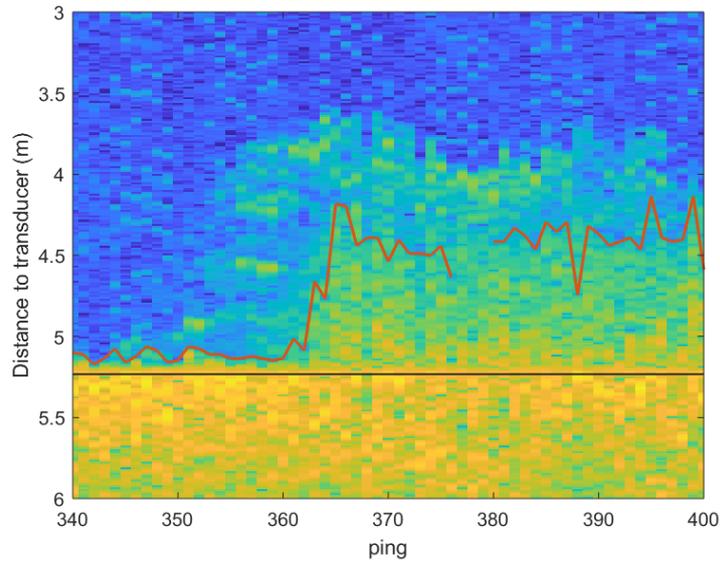


Figure S2. Fragment of the echogram from transect D\_1. The solid black line marks the bottom and the red line marks the beginning of the *Posidonia oceanica* detection.

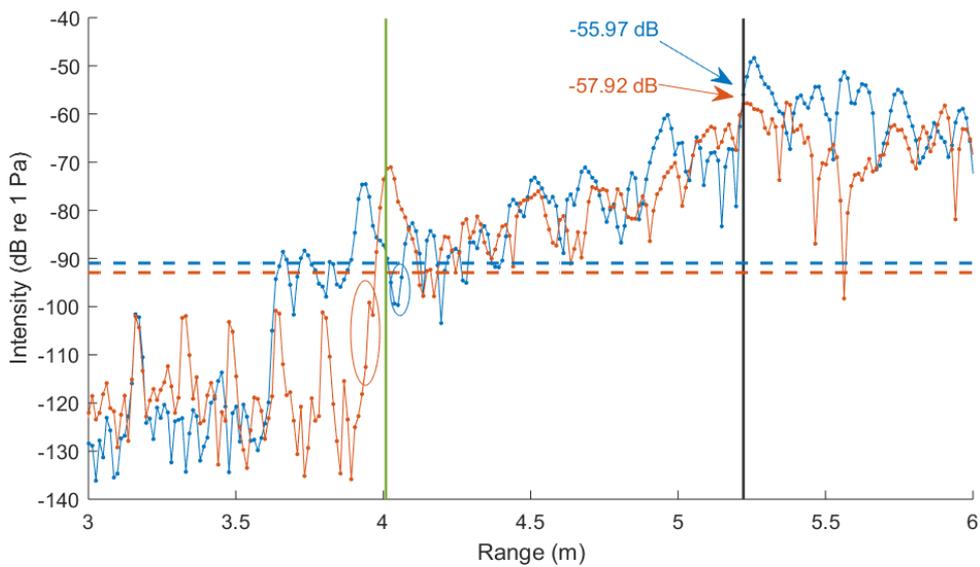


Figure S3. Ping 369 from Figure S2 is plotted in blue and ping 377 in red. The points on the pings lines represent the samples. The vertical black line marks the bottom. Intensity values with arrows indicate the intensity of the bottom sample for each ping. The horizontal dashed lines mark the intensity threshold for each ping (bottom intensity - 35 dB). Vertical green line marks 1.2 m above the bottom. The ellipses indicate the first three consecutive samples from the bottom that present values less than the threshold for each ping.