Supplemental Information

Animal-Borne Metrics Enable Acoustic

Detection of Blue Whale Migration

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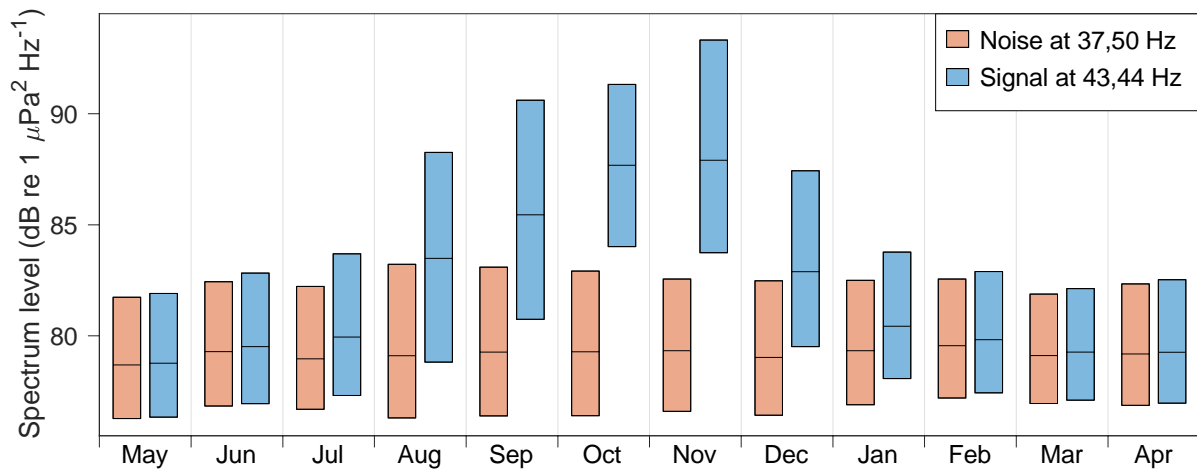
Figure S1. Signal (blue whale B call 3rd harmonic) and noise (nearby background frequencies) statistics for call index (CI) calculation, Related to Figures 1B and 2A. Boxes show 25th 50th and 75th percentiles of daily values across the five study years, colored by noise (red) and signal (blue), While noise bands in the CI calculation are relatively constant throughout the year, signal bands vary seasonally, indicating that the seasonal patterns described in Figure 2 are driven by blue whale song signal rather than variation in background noise conditions.
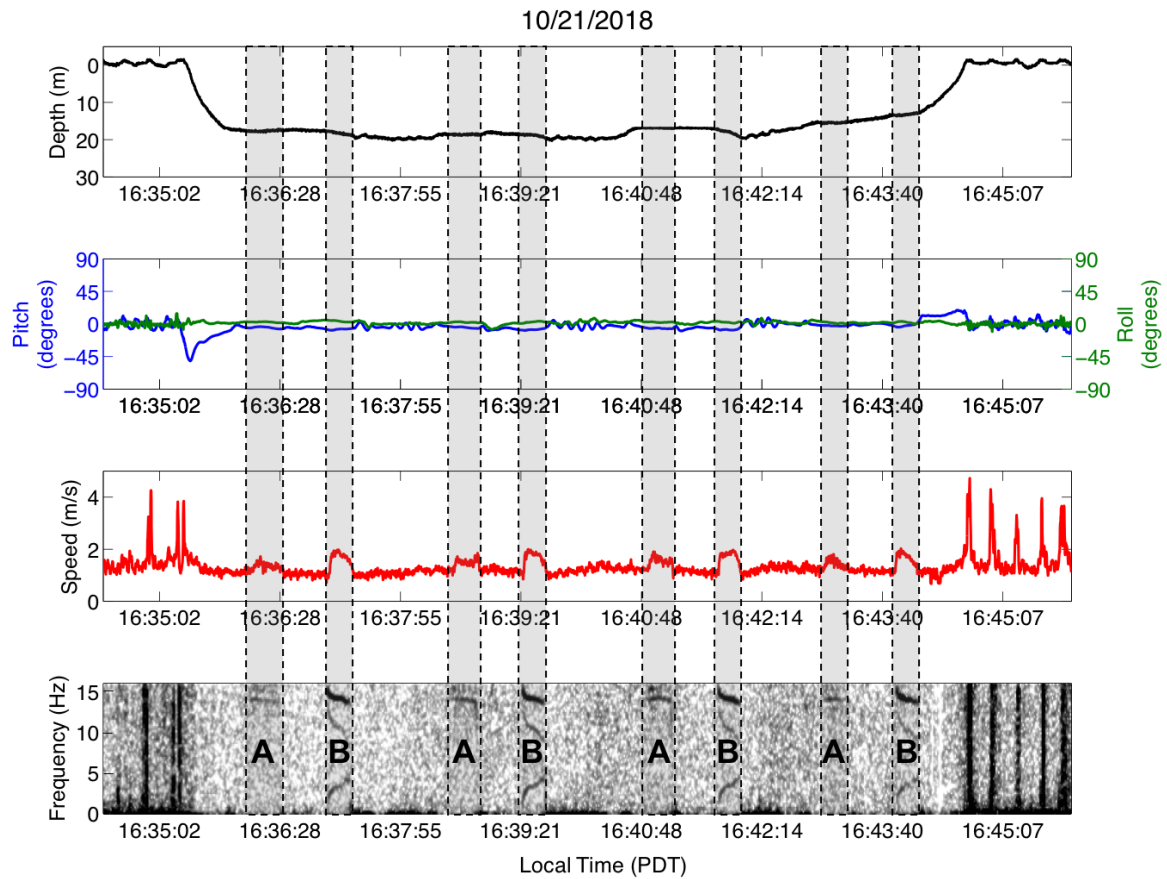
Figure S2. Call detection from medium-duration TDR10 accelerometer data, Related to STAR Methods. Panels display (top-to-bottom) time-synced depth, pitch and roll, speed, and low-pass-filtered Fast Fourier Transform of accelerometer signal (x-axis). Blue whale A and B calls are clearly identifiable in the accelerometry, seen as spectrogram features at the fundamental frequencies (~15 Hz) of blue whale A and B calls. These vocalizations are also visible as artifacts in the accelerometer jiggle-calculated speed profile.

Year	CATS Deployments	TDR10 Deployments	Total Deployments	Total Hours	Total Calls (A + B)	Total Lunges
2017	4	0	4	77.65	411	1107
2018	6	1	7	383.93	2549	2543
2019	3	1	4	202.55	1008	1242
Total	**13**	**2**	**15**	**664.13**	**3968**	**4892**

Table S1. Summary of tag deployments with call and feeding lunge detections, Related to Figures 3 and 4.