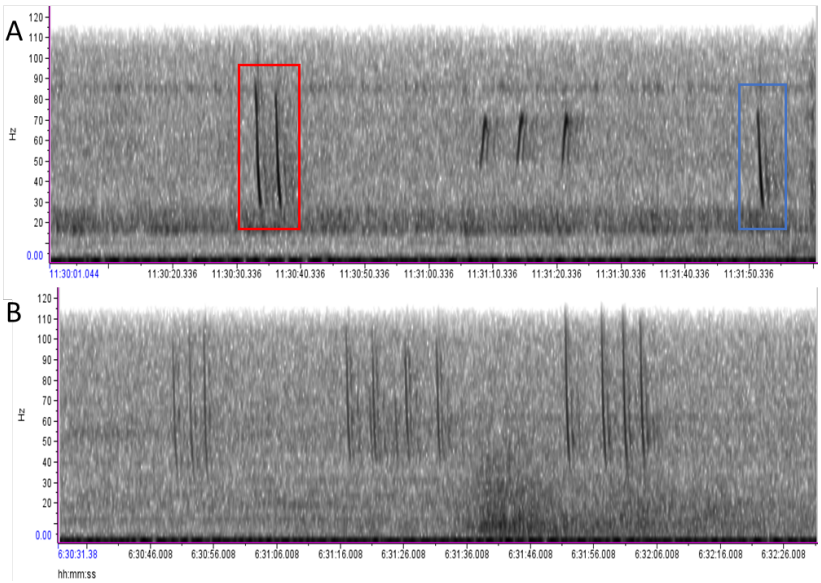

Fig. S1. Spectrogram (128 pt FFT, 70% overlap, Hann window, 250 Hz sample rate) of sei whale downsweeps examples that are accepted as true detections. (A) In red, a typical doublet of downsweeps is shown, and in blue, a single downsweep. (B) A typical triplet of downsweeps and other series with a greater number of downsweeps are shown.

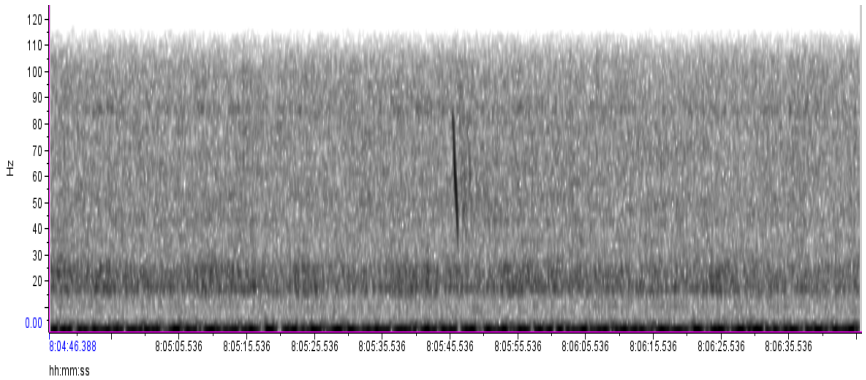

Fig. S2. Spectrogram (128 pt FFT, 70% overlap, Hann window, 250 Hz sample rate) of a solitary downsweep example that was removed from the data analysis.

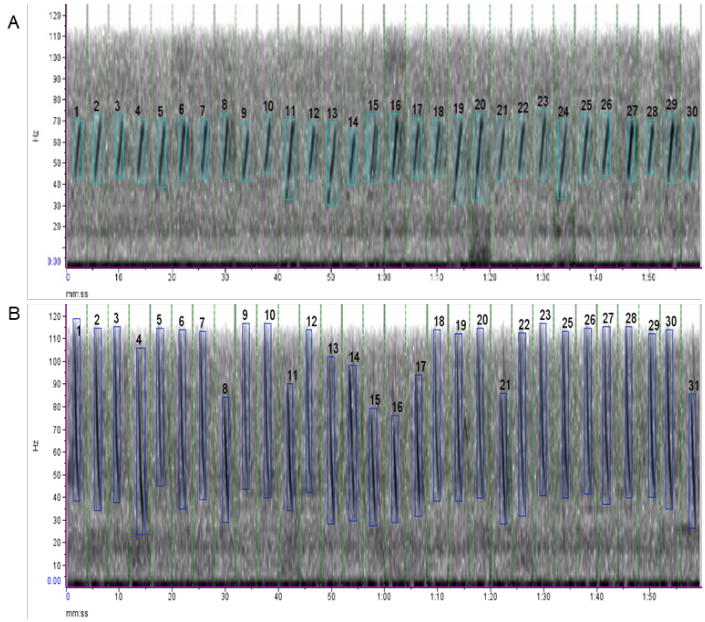

Fig. S3. Spectrograms (128 pt FFT, 70% overlap, Hann window, 250 Hz sample rate) of data templates from the automatic detector of sei whale upsweeps (A) and downsweeps (B).
Note: vertical dotted lines show the separation between 4s files that each contain a single call used in the template.

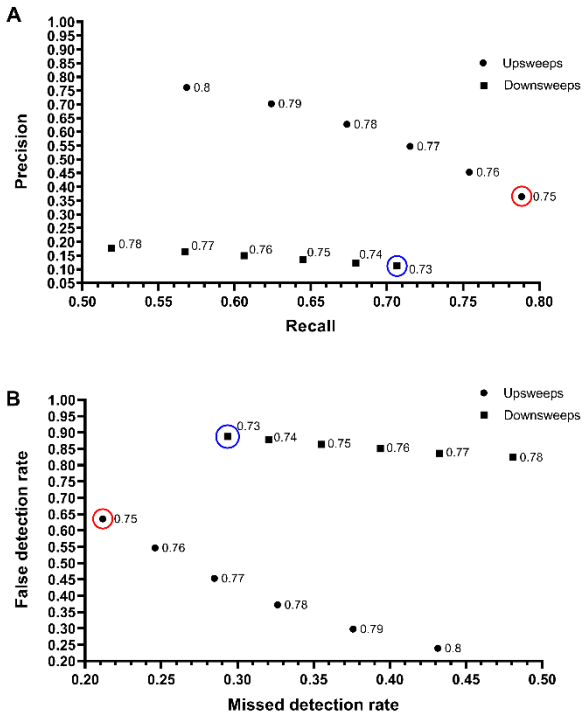

Fig. S4. Performance metrics of the automatic detector for 6 correlation thresholds for upsweeps and downsweeps. For the application of the detectors across the entire dataset, an optimal performance of the upsweep detector was determined with a threshold value of 0.75 (red circle), and a threshold value of 0.73 for the downsweeps detector (blue circle).

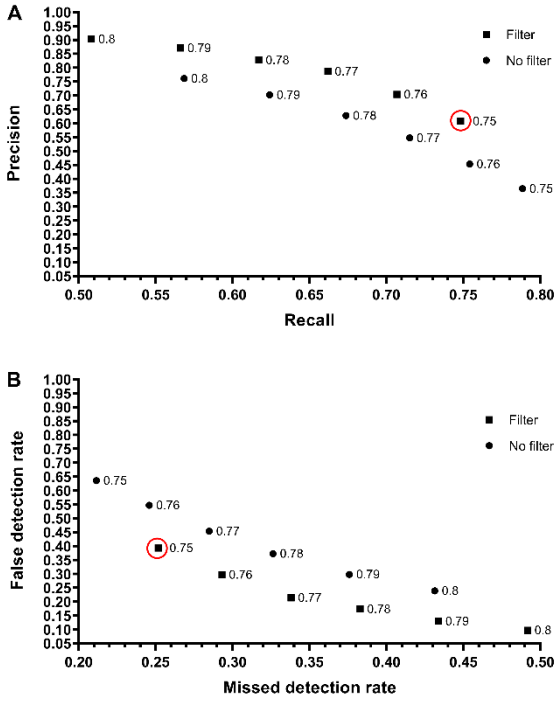

Fig. S5. Performance metrics of the upsweep detector without filtering ("No filter") and with the selected post-processing filter ("Filter") for the 6 correlation thresholds. Each curve represents a different condition (with or without filter), and each point on the curves represents a threshold value. An optimal performance of the detector was determined with a threshold value of 0.75 for detection and a post-processing INI filter value of 420s for applying the detector to the entire dataset (red circle).