Determining marine mammal detection functions for a stationary land-based survey site

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‘Spotbox’

Figure S1. The SpotBox, the visual survey instrument used at Fin Island Research Station in 2017. The SpotBox is an assembly of multiple survey instruments designed specifically for this study as an improvement upon conventional theodolite-based land studies. The SpotBox integrates an aligned spotting scope (Zeiss DiaScope 20-60x85 T* FL) and digital SLR camera (Canon 7D with 100-400mm zoom lens), a camera shutter remote control, a digital magnetometer (MotionNode USB), and a data entry tablet (HP Spectre X2) with custom software (Find My Fins, written by EMK). The assembly rotates atop a swinging arm braced to a post (‘swivel hips’) as a single unit and is weather-proofed and portable for ease of use in the field.
Figure S2. A) GPS track of Elemiah route with known GPS locations, alongside Spotbox estimates of Elemiah location. B) Actual distance of the Elemiah from Fin Island Research Station, alongside distances estimated by Spotbox. Concentric circles are the approximate locations of the horizon for EMK, the observer during the trial, at the start of the trial (larger circle) and the end of the trial (smaller circle) as the tide was rising.