**Supplemental information SI1. Detection function modeling**

As we mentioned in the subsection “*Estimating the detection function*”, we fitted a detection function *g(y)* to account for the probability of detecting maras by the standard distance sampling methodology (Buckland et al., 1993). We compared three different key functions as candidates, the half-normal, uniform and Hazard rate (Thomas et al., 2010). We removed the 10% of the sightings corresponding to the most extreme distance values (Buckland et al., 2001; Thomas et al., 2010; Buckland *et al*. 2015), resulting in data truncation set at 304 m from the line. Then, we visually explored frequency histograms of distances (Buckland et al. 2001; Fig.S1) and took into account the “*shape criterion”* to select the best model,. This criterion is based on the analyses of the most critical region of the function close to the line (Buckland et al. 1993; Buckland et al., 2001), being especially important where some data heaping at zero distance is suspected. Consequently, we decided to discard the hazard rate and uniform functions as the *shape criterion* suggests to exclude spiked functions near zero distance.



**Fig SI.1.** **Distribution of perpendicular detection distances of *D. patagonum* sightings.** Solid line represents the final fitted key functions: a) Half-normal, b) Uniform, c) Hazard rate. The bars represent the observed data grouped into distance intervals according to the perpendicular distance at which they were detected.