

Acute and chronic behavioral effects of kelp gull micropredation on southern right whale mother–calf pairs off Península Valdés, Argentina

Supplementary material

Table S1. Summary data from the statistical models used for the analyses

Figure S1. Effect of video recording duration on mother-calf respiration rates

Figure S2. Histograms of maternal swim speed in PV and HoB

Figure S3. Effect of video recording duration on kelp gull attack rate at PV

Figure S4. Effect of day-of-the-year on gull attack rates on mother-calf pairs at PV

Figure S5. Effects of calf growth rates and body size on gull attack rates at PV

Figure S6. Effect of day-of-the-year on proportion of irregular breaths at PV

Figure S7. Effect of lesions on gull attack probability on calves at PV

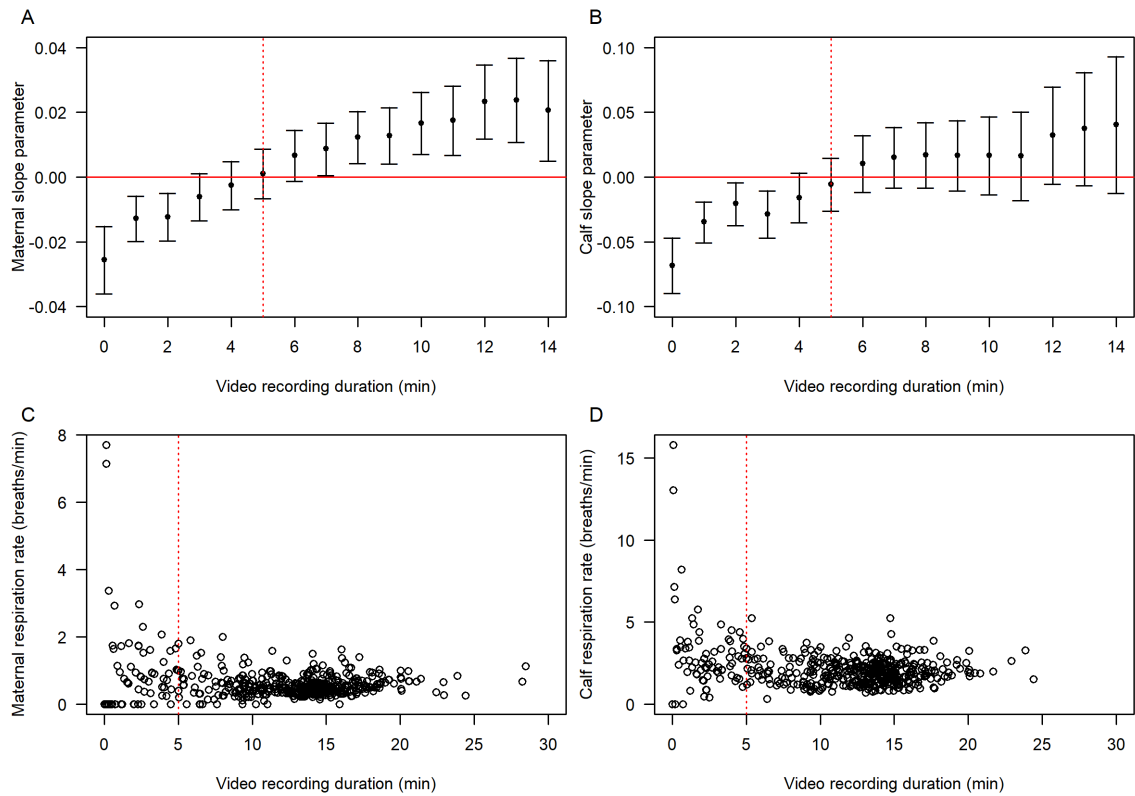


Figure S1. Slope parameter values of southern right whale (A) maternal respiration rate and (B) calf respiration rate as a function of video recording duration. Each data point and error bar represents the slope parameter and 95% CI from a linear model fitted between respiration rate and video duration after using different minimum thresholds for duration. The solid horizontal red line indicate a slope of zero (no effect of video duration on respiration rate) and the dotted vertical red line indicate the corresponding threshold durations (i.e. 5 min for both mothers and calves). (C) maternal respiration rate and (D) calf respiration rate as a function of video recording duration at Península Valdés, Argentina and Head of Bight, Australia. The dotted vertical red lines indicate the lower threshold values (i.e. 5 min for both mothers and calves), below which videos were excluded from analyses to avoid biased estimates. $n = 477$ videos.

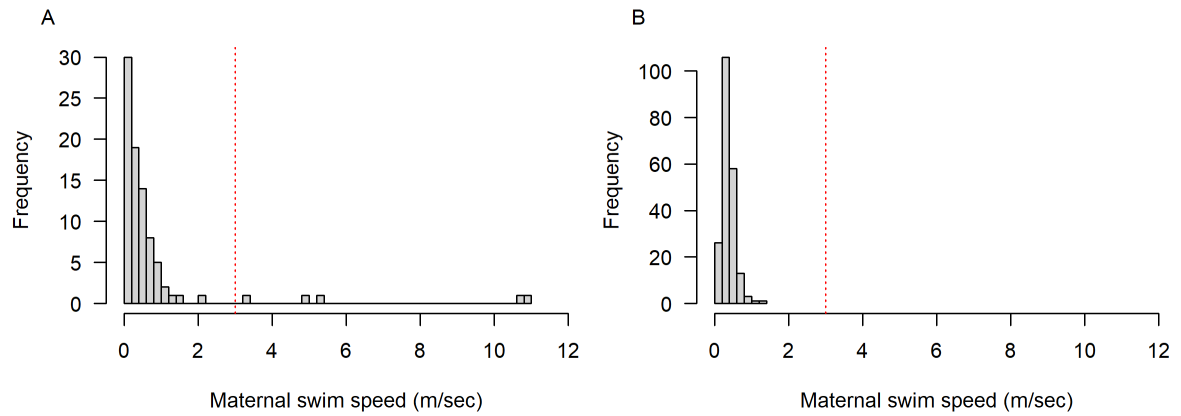


Figure S2. Frequency histograms of maternal swim speed of southern right whales at (A) Península Valdés, Argentina and (B) Head of Bight, Australia. The dotted vertical red lines indicate the upper threshold value (3 m s^{-1}), above which data were excluded from analyses.

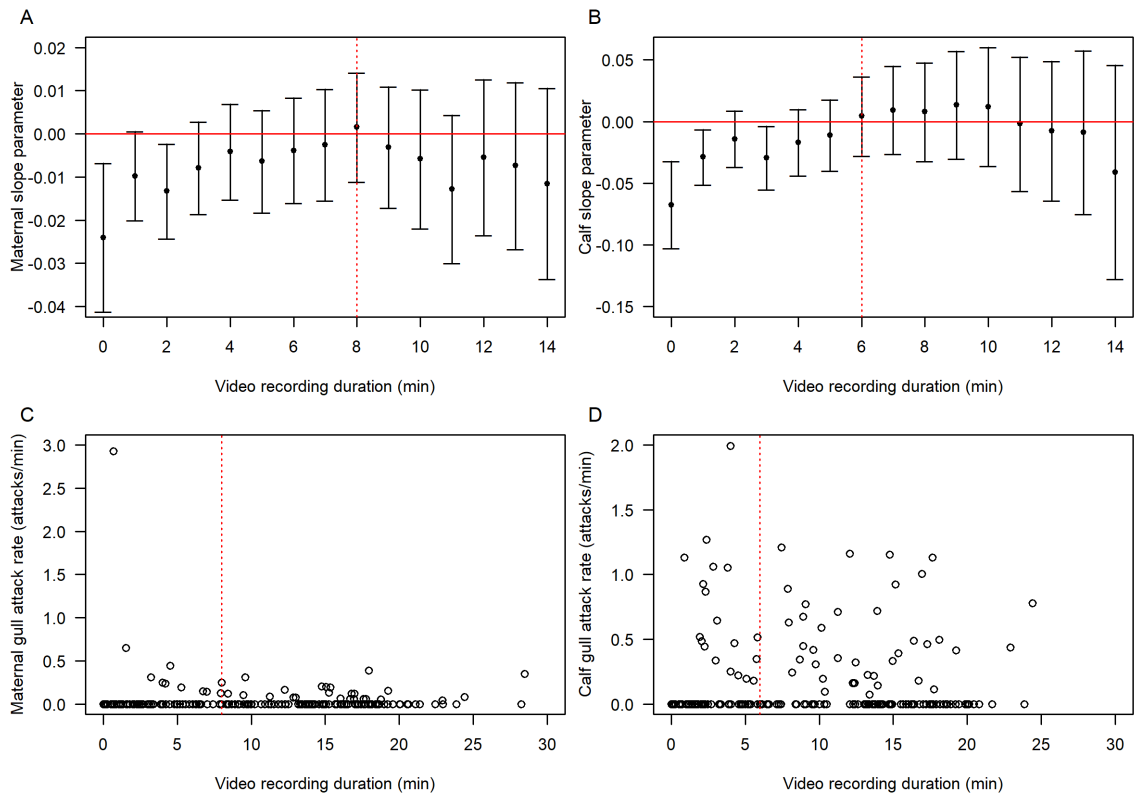


Figure S3. Slope parameter values of kelp gull attack rates on southern right whale (A) mothers and (B) calves as a function of video recording duration. Each data point and error bar represent the slope parameter and 95%CI from a linear model fitted between gull attack rate and video duration after using different minimum thresholds for duration. The solid horizontal red line indicate a slope of zero (no effect of video duration on gull attack rate) and the dotted vertical red line indicate the corresponding threshold durations (8 and 6 min for mothers and calves, respectively). (C) gull attack rates on mothers and (D) calves as a function of video recording duration at Península Valdés, Argentina and Head of Bight, Australia. The dotted vertical red lines indicate the lower threshold values (8 and 6 min for mothers and calves, respectively), below which videos were excluded from analyses to avoid biased estimates. n = 194 videos.

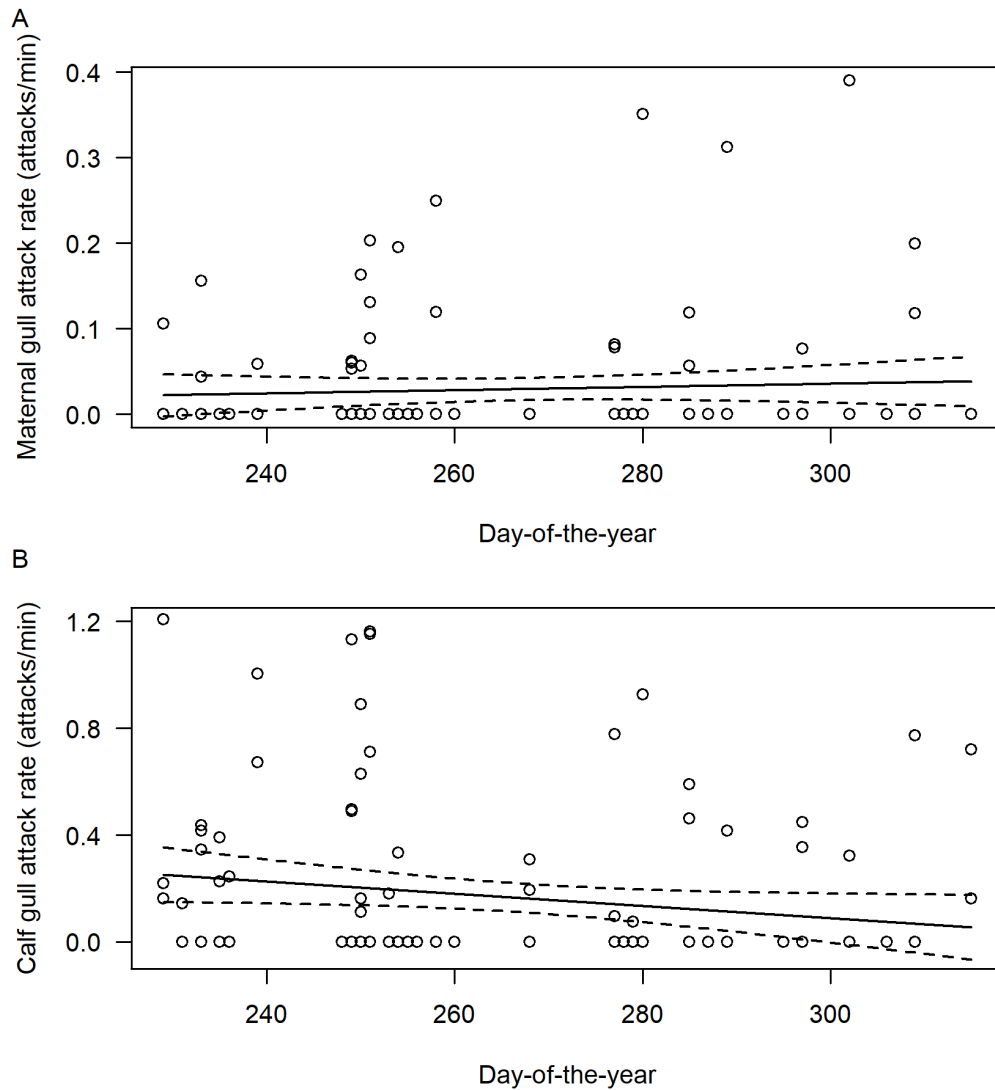


Figure S4. Rate of gull attacks on southern right whale (A) mothers and (B) calves at Península Valdés, Argentina, as a function of day-of-the-year (Day 240 and 300 = 28 August and 27 October, respectively). The solid lines represent the fitted values of the linear model and the dashed lines represent 95% CIs. $n = 119$ follows.

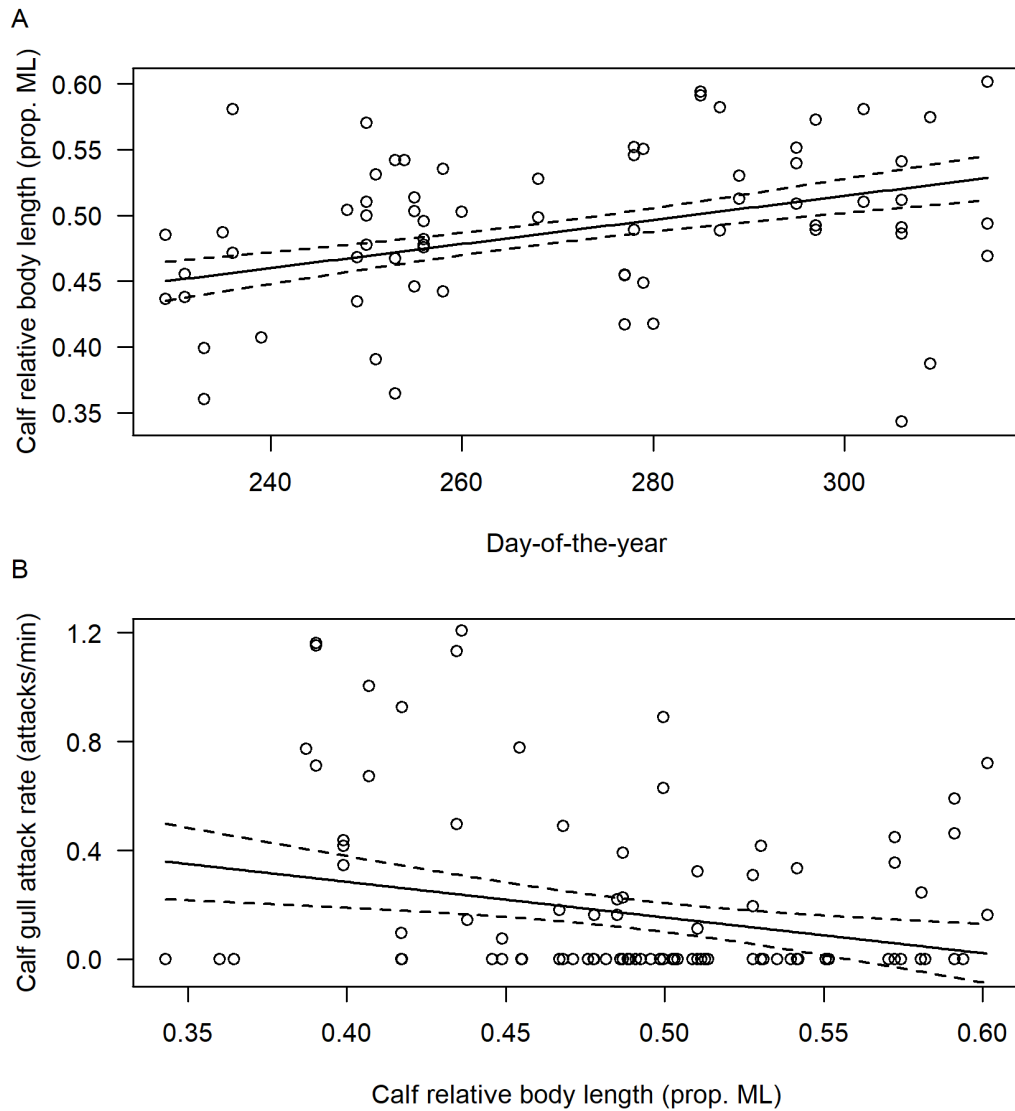


Figure S5. (A) Calf relative body length as a function of day-of-the-year ($n=194$) (Day 240 and 300 = 28 August and 27 October, respectively) and (B) rate of gull attacks on southern right whale calves as a function of calf relative body length ($n=119$), at Península Valdés, Argentina. The solid lines represent the fitted values of the linear models and the dashed lines represent 95% CIs.

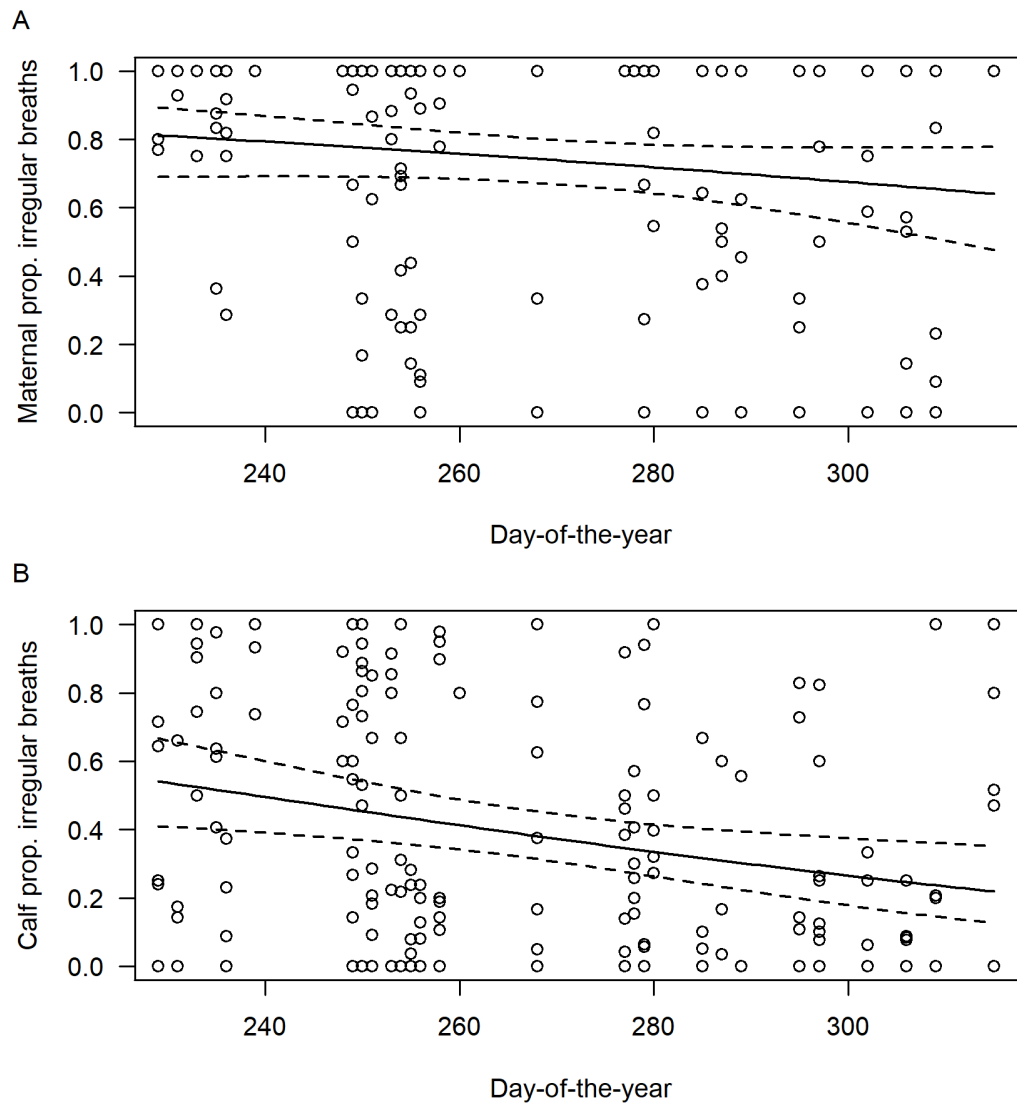


Figure S6. Proportion of irregular breaths (chronic behavior of oblique breathing) as a function of day-of-the-year for southern right whale (A) mothers (n=178) and (B) calves (n=193) at Península Valdés, Argentina. The solid lines represent the fitted values of the binomial-GLMs and the dashed lines represent 95% CIs.

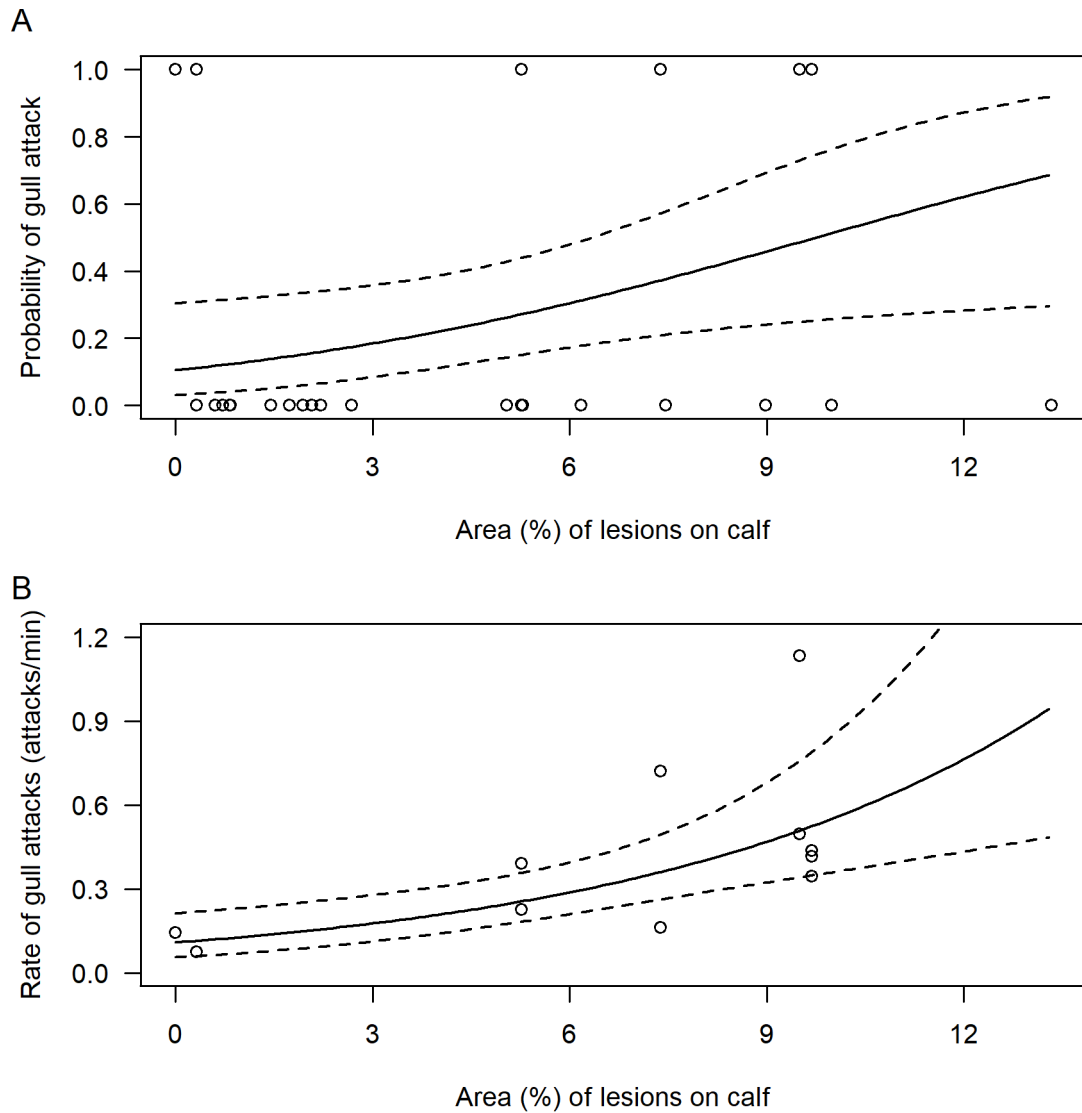


Figure S7. (A) Probability and (B) rate of gull attacks on southern right whale calves at Península Valdés, Argentina, as a function of the area covered by lesions on the back of the calves. The solid lines represent the fitted values of the binomial-GLM ($n = 55$) and the LM ($n = 15$), respectively, and the dashed lines represent 95% CIs.