



**Fig. S9. Simulated and measured regional and local migration on 11-12 September 2015.** (a) Background migration density (birds  $\text{km}^{-3}$ ) in regions not affected by ALAN. This density is the mean migration density between 2-20 km from Tribute in Light. (b) Bird density at the installation as recorded with the KOKX radar in 2015. Shaded areas indicate periods when lights were off. This density is peak density observed within 500 m of the installation. Simulated densities during light-on periods are given in orange, using the parameterization of the best model fit (model 1).