

Swaddle, J. P., Moseley, D. L., Hinders, M. K. and P. Smith, E. (2016), A sonic net excludes birds from an airfield: implications for reducing bird strike and crop losses. *Ecol Appl*, 26: 339–345. doi:10.1890/15-0829

## **Abstract**

Collisions between birds and aircraft cause billions of dollars of damages annually to civil, commercial, and military aviation. Yet technology to reduce bird strike is not generally effective, especially over longer time periods. Previous information from our lab indicated that filling an area with acoustic noise, which masks important communication channels for birds, can displace European Starlings (*Sturnus vulgaris*) from food sources. Here we deployed a spatially controlled noise (termed a “sonic net”), designed to overlap with the frequency range of bird vocalizations, at an airfield. By conducting point counts, we monitored the presence of birds for four weeks before deployment of our sonic net, and for four weeks during deployment. We found an 82% reduction in bird presence in the sonic net area compared with change in the reference areas. This effect was as strong in the fourth week of exposure as in the first week. We also calculated the potential costs avoided resulting from this exclusion. We propose that spatially controlled acoustic manipulations that mask auditory communication for birds may be an effective long term and fairly benign way of excluding problem birds from areas of socioeconomic importance, such as airfields, agricultural sites, and commercial properties.