Are visual and radar bird sampling techniques correlated?
Christopher Bowser and Robert Beason

To evaluate the similarities between visual “bird-count” sampling technique and automated radar data collection technique we compared the numbers of birds that were detected by each sampling technique within the same time frame. We found that radar detected 71% of the individuals that were recorded during visual observations when the bird did not land within visual observation range. The reasons for non-detection of the remaining birds were because the birds were outside the radar beam, were small birds too far (> 2 km) from the radar to detect, or were over areas of high ground clutter. A comparison of the total number of birds detected by each technique showed that because the radar monitors all sampling sites simultaneously, it detected more than 50 times the number of birds per hour as visual sampling. Visual sampling reported additional birds near the ground that were never within the radar’s beam pattern and radar sampling recorded birds that were not seen by the visual observer because the observer was looking in a different direction. Within this study we found that each technique has biases: visual towards lower-flying birds and radar towards higher-flying birds. Traditional visual sampling and radar monitoring provide complementary pictures of avian hazards on an airfield.