

Short-distance winter movements of Mallards (*Anas platyrhynchos*)

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Key words

Avian Influenza, waterbird movements, risk zones

Background and study goals

The goal of the project is to determine how far and how often mallards move during winter and which environmental factors determine their location and movements. When the environmental factors predicting mallard occurrence are identified, these factors can then be used as criteria for the assignment of risk zones where protective measures need to be taken.

Methods

We captured Mallards at four different locations in the lake Sempach region, equipped 25 individuals with VHF telemetry tags and 9 individuals with GPS tags. The latter provided one location every 30 min. We determined the locations of these birds in the period between 16 November 2008 and 4 April 2009.

Results and their relevance

Mallards *Anas platyrhynchos* interact tightly with anthropogenic landscapes. 97 % of the localizations were within 50 m distance of a water body (lake, ponds, streams). Localizations close to settlements were somewhat overrepresented in the vicinity of the only sizable lake in the study perimeter, but not in the hinterland. Regular daily movements of up to 10 km between the lake and the other areas were observed, but heterogeneity among individuals was the most striking characteristic of movement patterns. Flight activity was highest just before the start of the astronomical twilight and around sunset. We found a slight influence of moon light on the movements, but not of mean day temperature.

Mallards are potential vectors of Avian Influenza viruses. Because they move regularly between small and large waterbodies, Mallards may act as vectors not only in the vicinity of large waterbodies, but also on a wider scale. Our results show that "risk" zones, which were established within 1 km from larger waterbodies in Switzerland and where captive birds were protected from contact with wild birds, do not encompass large parts of the actual Mallard movements.

Oral presentations and Report

Sauter, A. 2009. Stockentenbewegungen im Winter: Welche Rolle spielen die Stockenten als mögliche Überträger von Vogelgrippenviren. Schweizerische Vogelwarte, 6 April 2009

Sauter, A. 2009. Stockentenbewegungen im Winter: Beiben die Enten innerhalb der Risikogebiete? Technical Corner, BVET, 28 April 2009.

Sauter A., Korner P. & Jenni L. (2009) Land use by Mallard *Anas platyrhynchos* in winter. Swiss Ornithological Institute, Sempach, 19 pages.

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