
Summary

Openness and meadow bird densities; quantifying landscape characteristics

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Black-tailed godwit, openness, Natura 2000, landscape clutter, meadow birds

A major part of the Netherlands consists of meadows used for dairy farming, which form the main habitat for meadow birds. The Netherlands is especially important for the breeding population of black-tailed godwit (*Limosa limosa*). Despite much research and many policy measures at the local scale, meadow bird populations still decline. We focused on the nest site selection of meadow birds. We recognize three important large-scale landscape-ecological requirements: groundwater level, land use and landscape openness. Our results show that landscape openness and land use are equally important, followed by groundwater level. Importance of



Figuur 2 gebieden met hoogst berekende dichtheden voor de grutto (in groen) in relatie tot de ligging van de Natura 2000-gebieden die voor de soort zijn aangewezen (in paars). Naar Van der Vliet *et al.*, 2015.

Figure 2 areas with highest calculated densities for black-tailed godwit (green) with respect to the location of the special protection areas (SPAs) designated for his species (pink) After Van der Vliet *et al.*, 2015.

openness is explained because meadow birds want to be able to visually locate their potential predators followed by deterring them from the breeding site.

Using these three landscape factors, we identified five Dutch core breeding areas where black-tailed godwit will still breed in 2020. They are all open meadow landscapes with high water levels, resulting in an agricultural management that can sustain a healthy godwit population. Unfortunately, the five core areas are not officially designated as Natura 2000 reserves for this species while two are located in areas with the largest pressure of landscape clutter.