

# The spatial distribution of Stocking Rates across Scotland

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## Introduction

The spatial distribution of livestock is a key input to many Scottish Government rural policy objectives. From the recommendations of the Pack Inquiry through the Rural Land Use Strategy and more recently into the work of the Woodland Expansion Advisory Group, the question of “how much livestock is where?” is a live issue.

A team of researchers from the James Hutton Institute sought to calculate stocking rates across Scotland at holding level using data from the June Agricultural Census (JAC) and December Survey (DS) together with mapping from the Integrated Administration and Control System (IACS) and the Crofters’ Commission. This calculation of stocking rates takes into account livestock types and numbers, forage area, seasonal rentals, multiple users of land parcels and common grazings.

## Methods

Included land uses are Common Grazing, Rough Grazing, Grass Over 5 Years, Grass Under 5 Years, and Open Woodland (Grazed).

Total Livestock Units (LSU) are given by the following formula:

Livestock Units = (Cattle \* Cattle Weighting) + (Sheep \* Sheep Weighting) + (Deer \* Deer Weighting) where:

Cattle Weighting = 1.00 livestock units for all cattle excluding those under 1 year.

Sheep Weighting = 0.12 livestock units for all sheep excluding lambs.

Farmed Deer Weighting = 0.3 livestock units for all deer excluding calves.

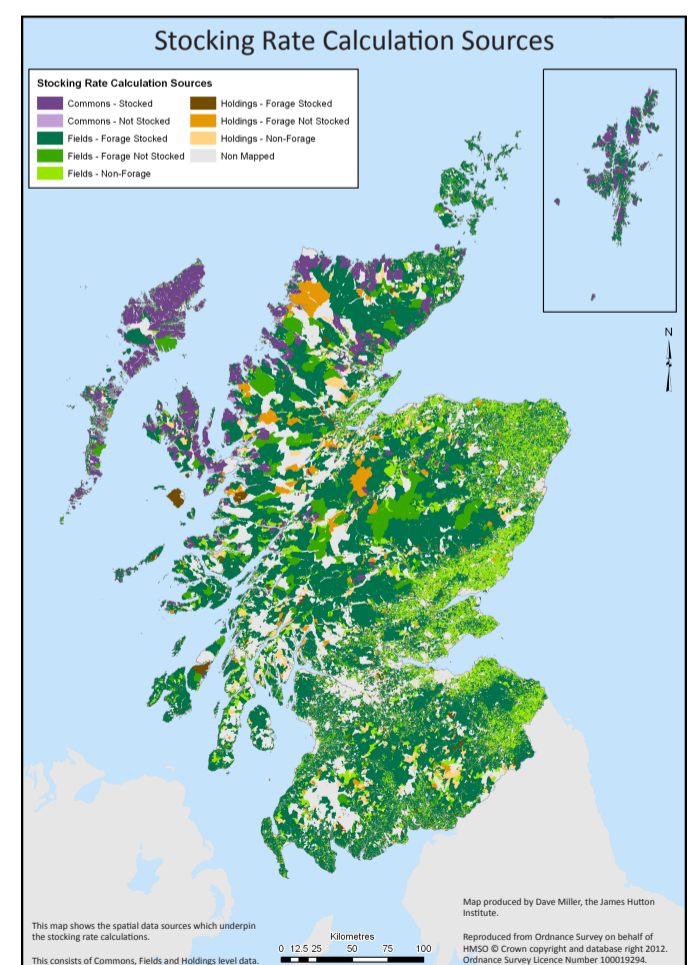
## Discussion

Dark grey areas in the map (zero stocking rate) indicate one of the following:

- 1) Non-forage land use associated with the field (e.g. Arable classes).
- 2) No declared land use for the field and no stock owned by the holding.
- 3) Forage land use declared but no stock owned by the holding code which is using the field.

White areas indicate no IACS or Crofters Commission mapping. For remaining areas the distribution of stocking rates can be seen.

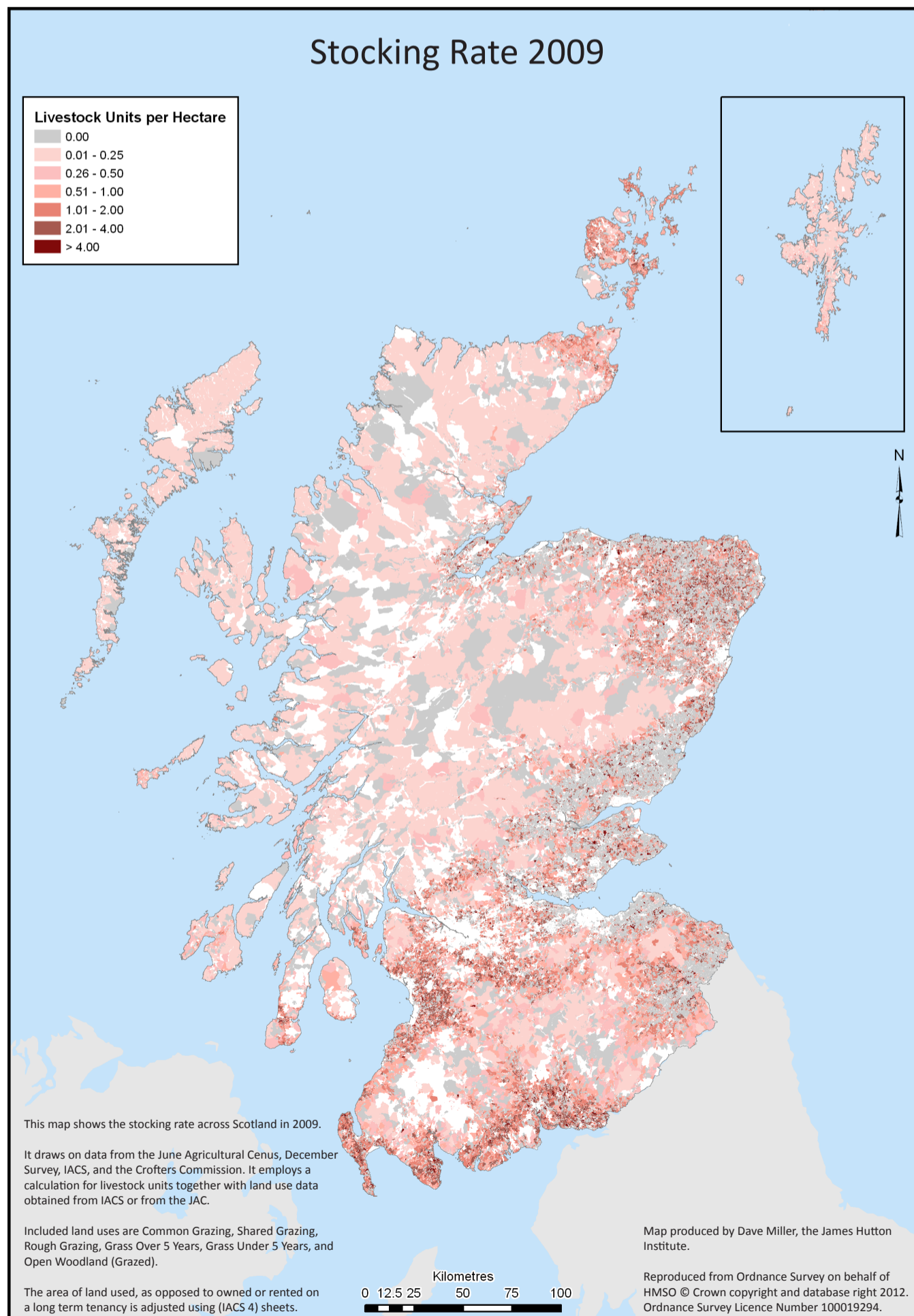
## Stocking Rate Calculation Sources



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**Livestock Units per Hectare**

- 0.00
- 0.01 - 0.25
- 0.26 - 0.50
- 0.51 - 1.00
- 1.01 - 2.00
- 2.01 - 4.00
- > 4.00

This map shows the stocking rate across Scotland in 2009.

It draws on data from the June Agricultural Census, December Survey, IACS, and the Crofters Commission. It employs a calculation for livestock units together with land use data obtained from IACS or from the JAC.

Included land uses are Common Grazing, Shared Grazing, Rough Grazing, Grass Over 5 Years, Grass Under 5 Years, and Open Woodland (Grazed).

The area of land used, as opposed to owned or rented on a long term tenancy is adjusted using (IACS 4) sheets.

Map produced by Dave Miller, the James Hutton Institute.

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