

Demography, Spatial Distribution and Movements of the Swiss Cattle Population in 2002/03



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Background

In 1999, a new system for the registration of cattle movements was introduced in Switzerland. Farm data is collected in a **national farm database**. The farmers have to have an „**animal list**“ where every change of livestock on the farm has to be recorded. Every newborn calve has to be tagged with standardised **ear tags** and its birth has to be reported to the **animal movement database (AMD)**. If an animal leaves the premises, the farmer has to fill out an „**accompanying document**“ and notify the departure to the AMD. The new owner notifies the arrival of the animal.

Results

During the study, 1.6 Mio. cattle were recorded in Switzerland, distributed among 52'000 farms. The median of the number of cattle per farm was 33 (Fig.1). The main population consisted of dairy breeds (80%), the rest were beef breeds, local breeds and exotic breeds.

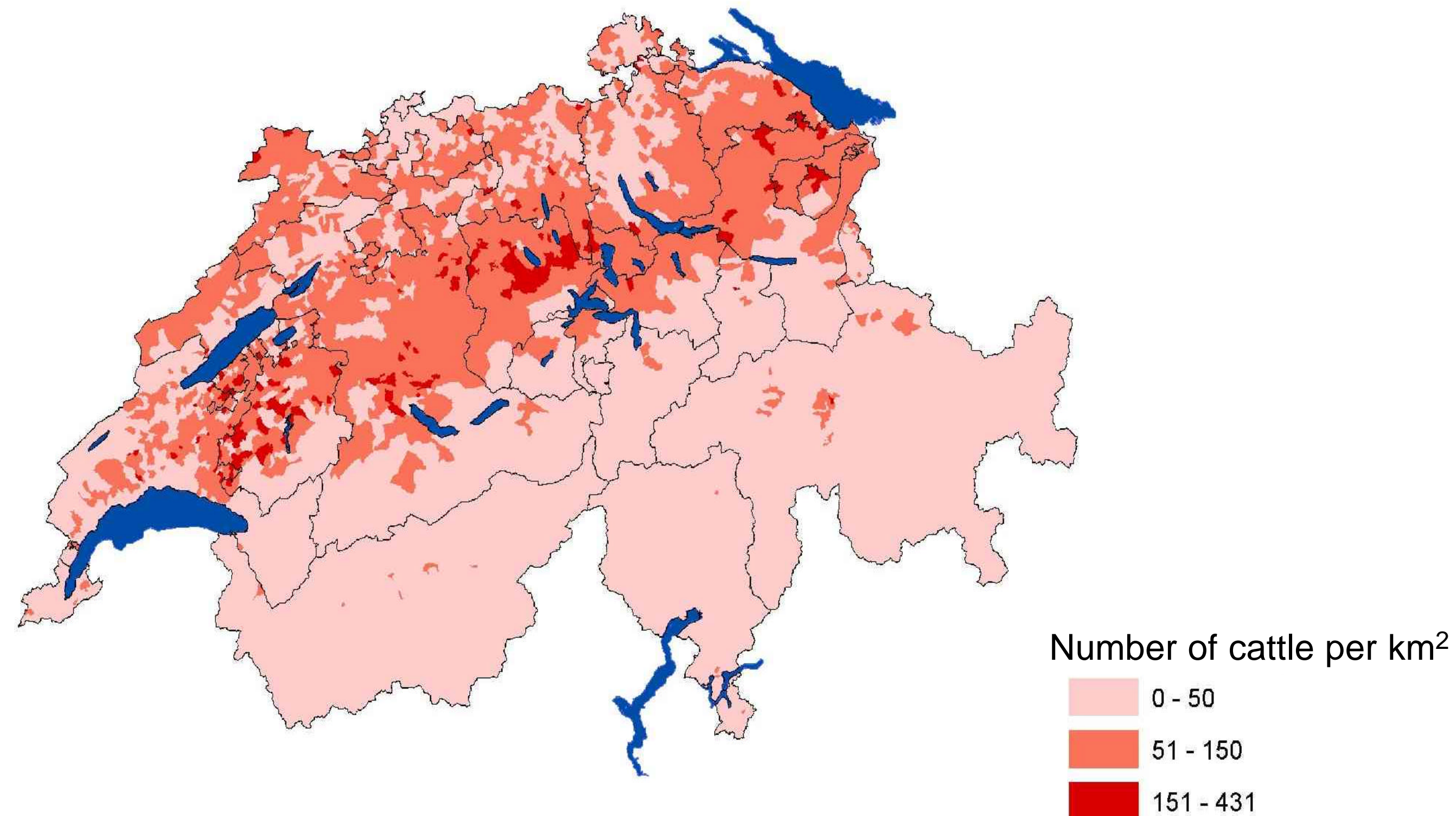


Fig. 2 Map of cattle density in Switzerland (2003)

The distribution of cattle follows the topography of the country: the densely populated areas (>150 animals/km²) were found in the flat Mittelland. The higher regions and the Alps in the southern part of Switzerland were sparsely populated (<50 animals /km²) (Fig. 2).

Conclusions

It was shown that cattle movements occur frequently in Switzerland which implies a high risk for disease spread in case of an outbreak of a highly contagious disease. The AMD provides suitable denominator data for epidemiological analyses.

Aim of the study

Cattle data from the AMD were to be analyzed for the first time to describe cattle farms, cattle demography and trade. Descriptive statistics were performed and maps showing the cattle movements were created.

Materials & Methods

The analyses were based on three tables of the AMD containing data on farms, cattle and cattle movements. Standard statistical and spatial analysis methods were applied.

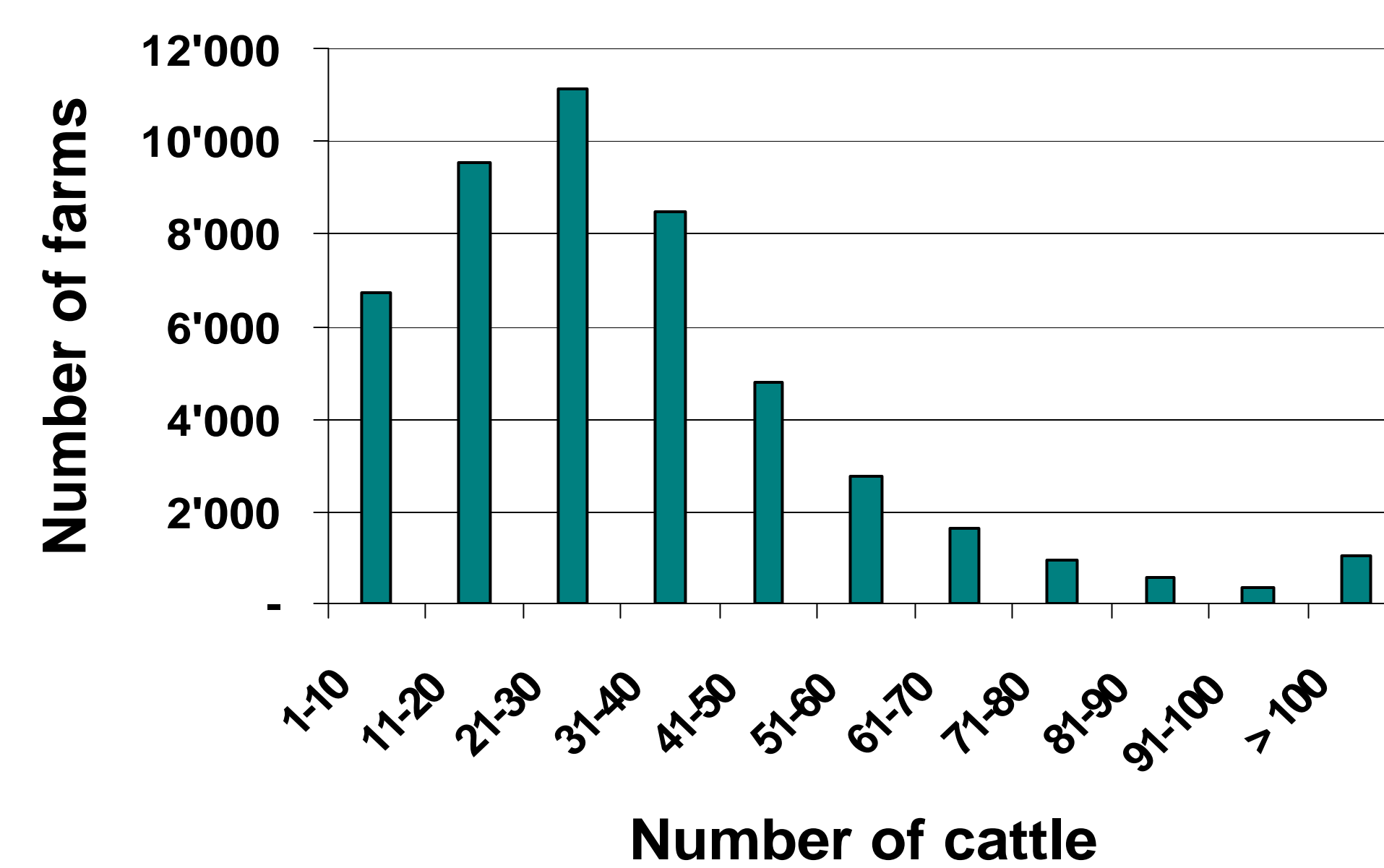


Fig. 1: Histogram of number of cattle per farm

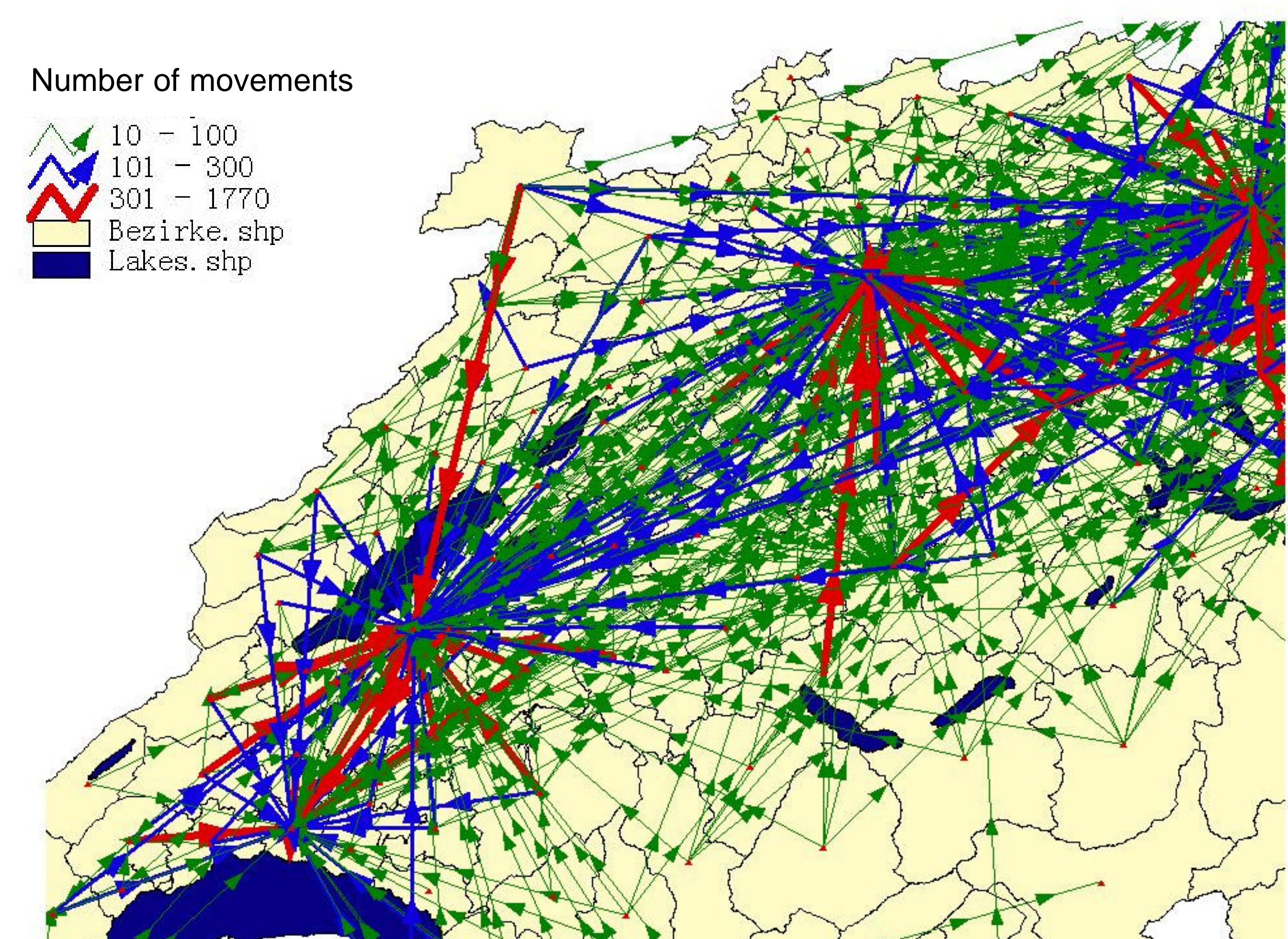


Fig. 3 Example of cattle movements from farms to slaughter in a selected region of Switzerland

As shown in Fig. 3, cattle movements in Switzerland were numerous and without distinct patterns. On average, 28.3 movements on and off the farm occurred per year.