

## Conservation implications

Old maps can be used to identify valuable areas for butterfly conservation in boreal landscapes. To maintain good butterfly habitat in these areas it is important to preserve a herb rich flora by avoiding dense even-aged coniferous forest. 

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## History matters

Impact of historical land-use on butterfly diversity in clear-cuts in a boreal landscape

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## Background

During the last century there has been a dramatic decrease in species rich grasslands used for hay production. In boreal regions this is a result of abandonment of farms. Large areas once covered by flower rich meadows have become dense coniferous forest.

## Aim

To test if historical land-use has an impact on butterfly diversity in clear-cuts after a generation of coniferous forest.

## Method

Butterflies in clear-cuts, 12 historically managed as meadows and 12 with a long history as forest, were recorded. Cadastral maps from the late 19th century were used to find sites in Östergötland for the study.

## Results

- **78 %** of the recorded butterflies were present in clear-cuts with a background as meadows.
- **44** different species were recorded in meadow clear-cuts, compared to **30** in clear-cuts with a long history as forest.
- The higher diversity seems to be explained by larger abundance of nectar and host plants.
- Several of the recorded butterflies are threatened in other parts of Europe.

## Conclusions

- The legacy of historical land-use enable higher diversity of butterflies in clear-cuts than otherwise would be possible.
- Clear-cuts on former meadows serve as temporary habitats for butterflies and contribute to their persistence in the boreal landscape.

