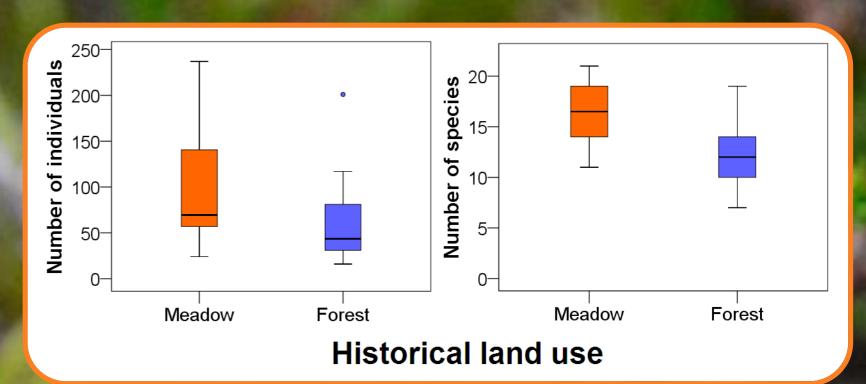
## Impact of historical land use and time since clear-cutting on butterfly diversity in clear-cuts

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## **Background and Aim**

Historical land use has been shown to affect the biodiversity of today. Dormant seed banks can sprout decades or even centuries after their habitat was altered. This shows that plants, and animals dependent upon them, can persist in a landscape even though they suffer from habitat destruction and fragmentation. However, this retention is not everlasting.

The aims of this study was to investigate the impact of historical land use and time since clear-cutting on butterfly assemblages in 48 production forestry clear-cuts with a history of either meadow or forest.



Clear-cuts with a history of meadow had a higher number of butterfly individuals and species compared to clear-cuts with a history of forest.





Clear-cut with a history of meadow.



Clear-cut with a history of forest.

## Number of species Number of species Number of species 150 100 2 3 4 6 7 8 Time since clear-cutting (years)

Trends did not differ between clear-cut types with time since clear-cutting.

## **Conservation Implications**

- Clear-cuts with a history of meadow contained greater butterfly diversity than clear-cuts with a history of forest despite experiencing one generation of production forestry.
- This study show that clear-cuts with a history of meadow are valuable conservation targets for decreasing fragmentation and increasing connectivity in the Swedish landscape.

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