

# History matters



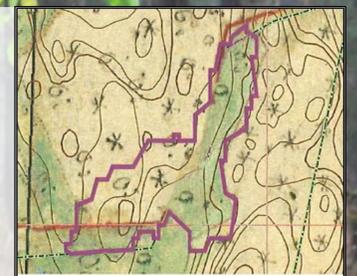
## Impact of historical land-use on butterfly diversity in clear-cuts in a boreal landscape

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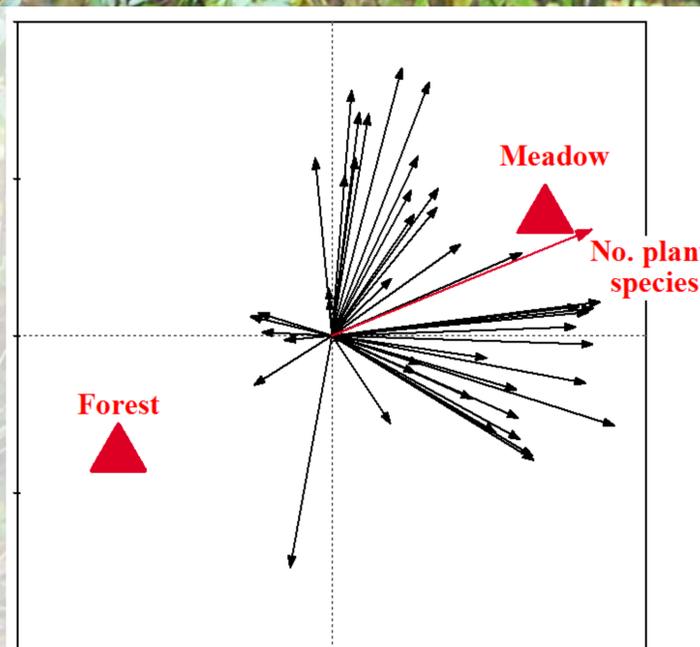
**Background & aim:** Abandonment of agricultural land-use in boreal regions has resulted in that areas of former species rich semi-natural grasslands today are forested. Plant diversity in habitat fragments has shown to be affected of historical land-use. This study investigated if historical land-use also has an impact on butterfly diversity in clear-cuts even after a generation of forest.

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



### Results:

- Significantly higher butterfly diversity in former meadows. (black arrows = butterfly species)
- Differences correlated with availability of host plants and nectar sources.
- Threatened butterflies are present in the clear-cuts.



### Conclusions:

- Historical land-use as meadow enable higher butterfly diversity in clear-cuts.
- Former meadow clear-cuts serve as temporary habitats for butterflies associated with semi-natural grasslands.

### Conservation implications:

- Values tied to historical land-use will decline, resulting in habitat degradation and decreasing butterfly populations.
- Preservation of open patches together with self generation or replantings of deciduous trees are suggested to maintain good butterfly habitat
- Valuable areas can easily be found with cadastral maps

