

High occurrence of pollinating insects on new ecoduct in western Sweden

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OBJECTIVE

To evaluate the function of a new constructed ecoduct for pollinating insects (butterflies and bumble bees).

- Can a safe passage for large mammals over a major highway also contain functional habitats for pollinating insects and offer a safe dispersal path cross the highway?

ECODUCT SANDSJÖBACKA

Ecoduct Sandsjöbacka was constructed in year 2018 to secure safe passages for wildlife across the highway E6 in Sweden. The ecoduct is 64 m long and 32 m wide, crossing four lanes. Over 100 trees of six species has been planted on the ecoduct and an area of 8000 m² has been seeding to create a flowery meadow of local occurring plant species.



RESULTS

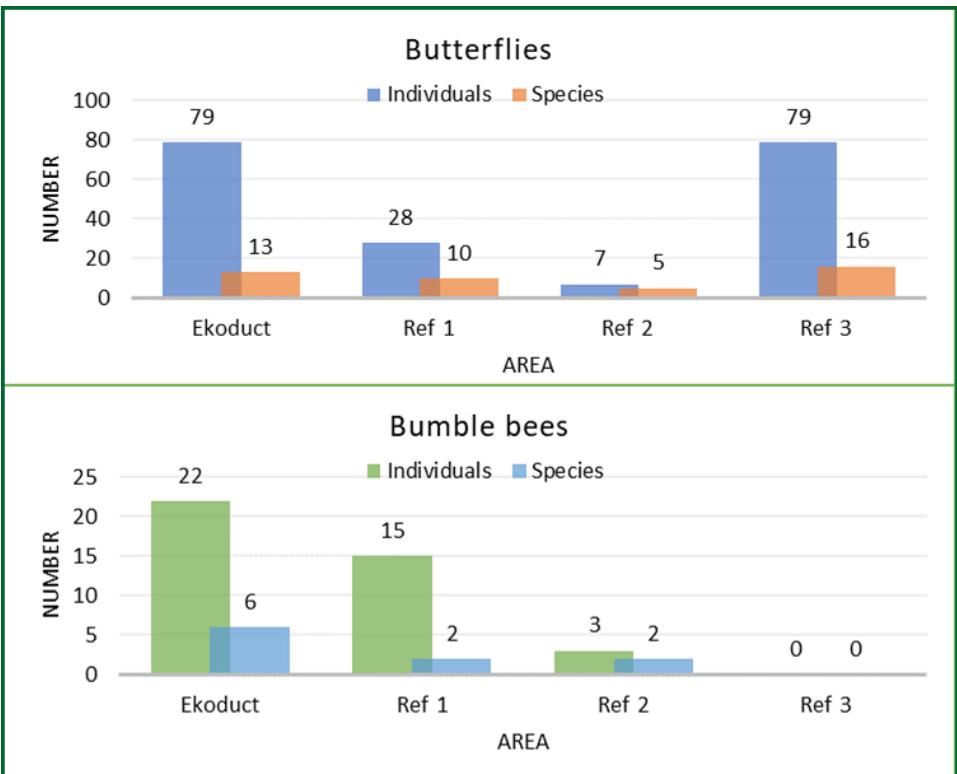
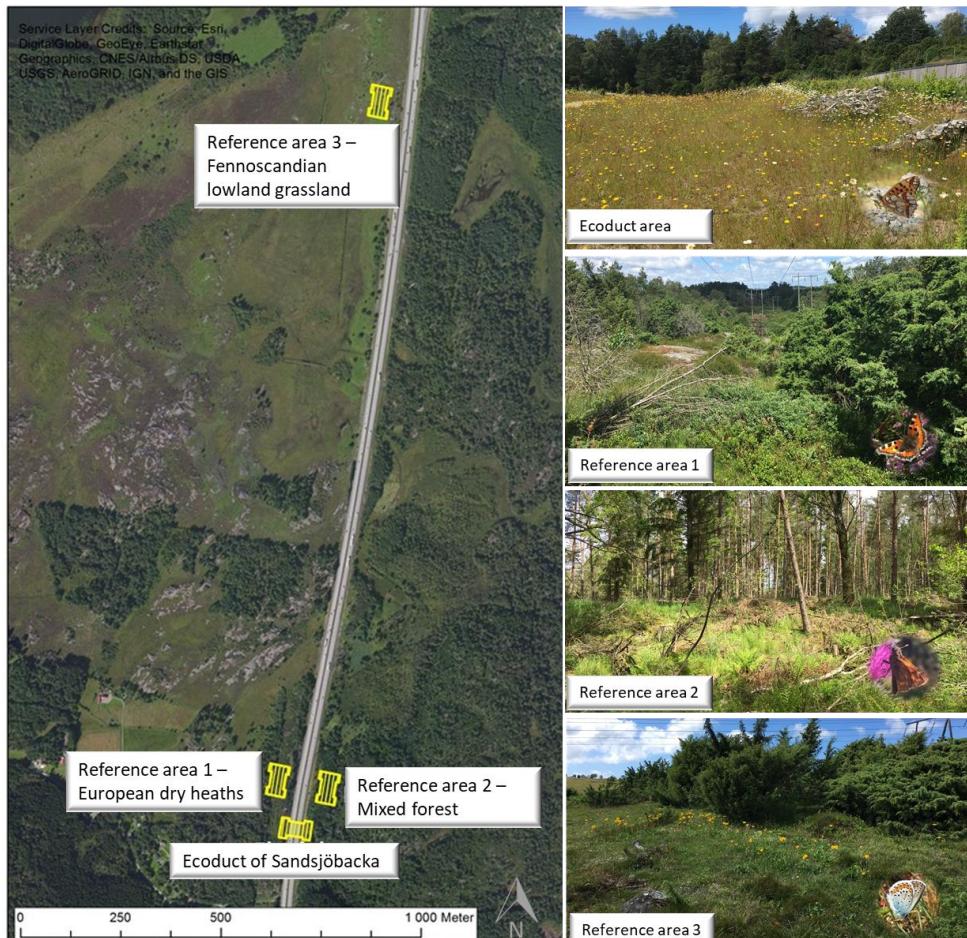


Two frequently occurring species on the ecoduct - Common blue (*Polyommatus icarus*) and Broken-belted bumblebee (*Bombus soroeensis*).

The result shows that the ecoduct is widely used by pollinating insects and hold equally or more species compared to nearby suitable habitats. Compared to the habitats of European dry heaths and mixed forest, the ecoduct holds more species and more individuals of butterflies and of bumble bees. Moreover, the ecoduct holds approximately the same number of species and individuals of butterflies as the fennoscandian lowland grassland. Surprising, as the fennoscandian lowland grassland was empty on bumble bees, five species were recorded on the ecoduct.

METHOD

Survey of pollinating insects was made using scientific standardized methods based on line transects on the area of the ecoduct as well as on three reference areas nearby the ecoduct (European dry heaths, mixed forest and fennoscandian lowland grassland). The survey was performed with one visit per month during May to August 2019. The monitoring program is financed by the Swedish Transport Administration.



CONCLUSIONS

This study show that functional environment for pollinating insects can be integrated in infrastructure wildlife passages for large mammals. As the ecoduct attracts pollinators well, it also offers a safe dispersal path cross the trafficked highway. We can also conclude that pollinating insects is attracted to the new created environment after just one year and hence reconstruction of suitable living areas for these organisms can be an effective measure for upholding pollinator numbers.