

The Flight of the Hoverfly

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Aim

To measure the dispersal ability of the endangered aspen hoverfly *Hammerschmidia ferruginea*.

Introduction

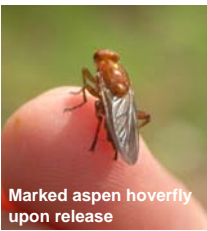
Aspen hoverflies develop on decaying sap that builds up under the bark of dead aspen trees.

Adult females visit decaying aspen logs to oviposit eggs and males defend territories on this oviposition resource, presumably to acquire mates.

Aspen trees are widespread in the UK but only in Scotland do they exist in large enough groups to sustain a population of the aspen hoverfly.

In order to manage aspen woodlands to benefit this rare insect we need to know more about its dispersal behaviour.

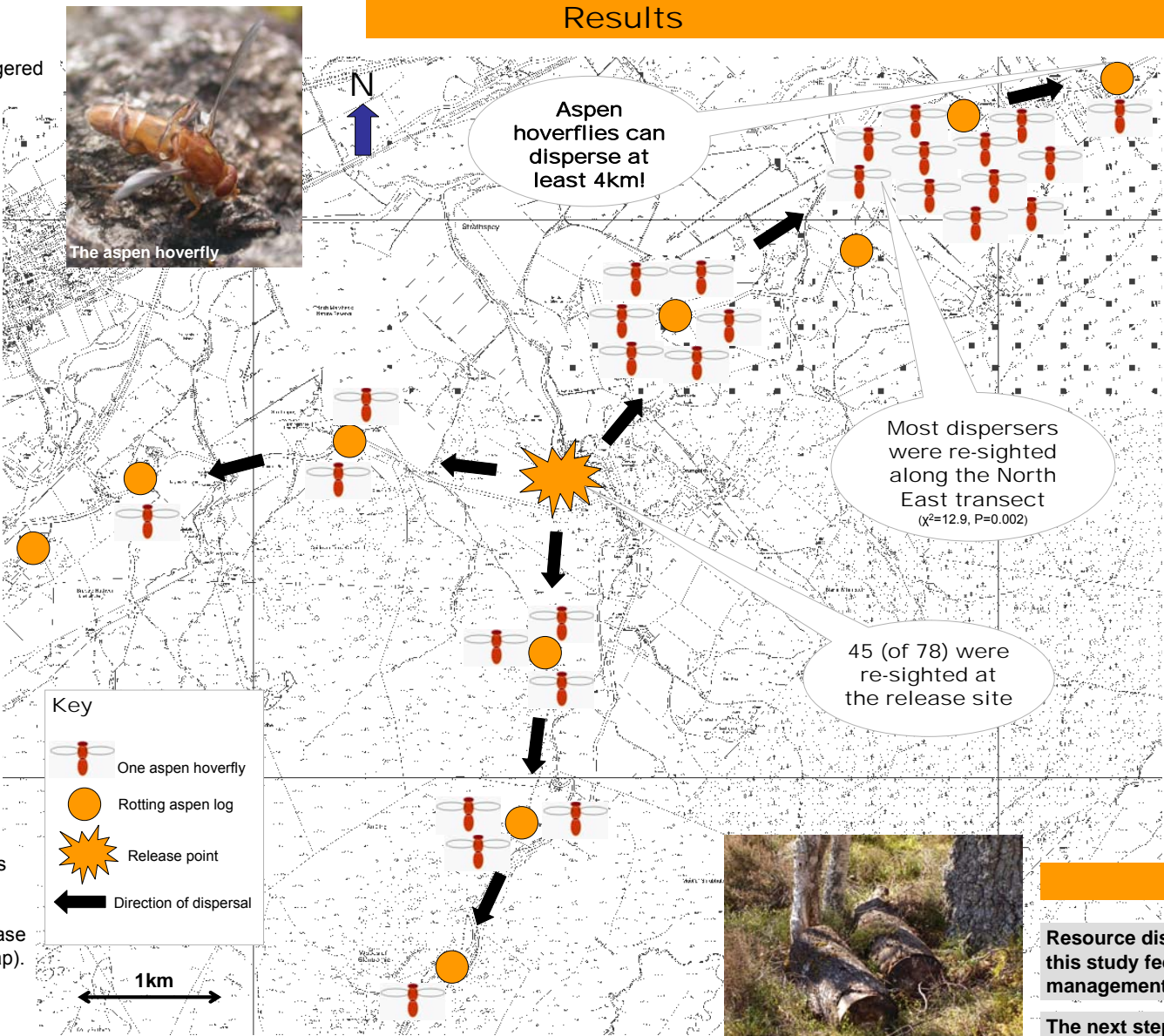
Method



Rotting aspen logs were distributed along 3 transects at 1km intervals (see central map).

1066 aspen hoverflies were marked with enamel paint and released at the 'Release point' (see central map).

Over two months the logs were intensively monitored for marked individuals.



Results

More females emerged ($\chi^2=12.9, P=0.002, n=573$) but there was no significant difference between males and females re-sighted (Fig.1).

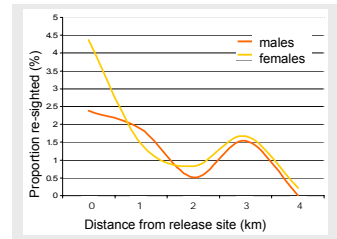


Figure 1. Proportion of males and females re-sighted at each distance from the release site.

Individuals re-sighted at the release site were younger than those re-sighted on the transects ($W=706, P=0.00$) (Fig.2).

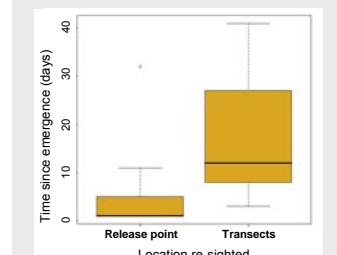


Figure 2. Variation in age upon re-sighting aspen hoverflies at the release site and along transects.



Next step

Resource distribution information gained from this study feeds directly into conservation management.

The next step asks whether these insects require 1km stepping stones i.e. corridors of habitat between isolated woodlands.

Acknowledgement
I would like to thank my seemingly indefatigable field assistants Linnea Bergstrom and Geoff Wilkinson

References
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Rotheray G., Hancock G., Hewitt S., Horsfield D., MacGowan I., Robertson D., Watt K.(2001) 'The Biodiversity and Conservation of Saprophytic Diptera in Scotland' *J Insect Conserv*, 5:77-85