

Contribution of wild vs. managed pollinators to UK crop pollination.

Crop pollination in the UK depends upon a combination of wild pollinators and managed honey bees. However, honey bees alone are only able to meet a maximum of 34% of the demand of crop pollination and therefore UK food security is much more reliant on the services of wild pollinators than of managed species ([Breeze et al. 2011](#), [Breeze et al. 2014](#), [Hutchinson et al. 2021](#)). With the number of pollinator-dependent crops continuing to expand in the UK, the reliance on wild pollinators is expected to increase.

Monitoring declines in crop pollinators and pollination services.

The UK Pollinator Monitoring Scheme (UK PoMS) is providing high quality species abundance data for bees and hoverflies from across the UK. It's 95 sites are representative of UK land use and will provide important data on the abundance and diversity of pollinators in the wider landscape. However, UK PoMS currently does not specifically include sites with insect-pollinated crops. There is a clear opportunity to use the current scheme as a backbone on which to add two modules which will provide critical insights into the status and trends of crop pollinators as well as the level of pollination service they are providing:

1. Crop pollinators: The addition of sites where crop flower visitors are monitored on a small selection of economically important pollinator dependent crops (e.g., apples, strawberries, oil seed, and field beans).
2. Pollination services: At the same sites, directly measuring the contribution of insects to production (using standardised pollinator exclusion and supplementary pollination protocols), to be able to estimate the contribution, or shortfall, of pollination services to crop yield, quality and market value.

These two modules would provide a direct way of monitoring pollination services which could be used to target interventions to enhance wild pollination services in areas where there are deficits ([Garratt et al. 2021](#)). The cost of these modules would be quite modest after establishment (estimated to be a small proportion of the current UK PoMS costs, i.e., < £0.25M p.a.) with respect to the estimated total annual market value of insect pollination which is >£600M to farmgate sales alone ([Breeze et al. 2020](#)).

This same approach could be applied to the monitoring of natural enemies of crop pests and the delivery of natural pest regulation services through the development of other modules.