



Destruction of habitat¹

"Britain's insects...are disappearing."²

Over recent decades many factors have resulted in the decline of insect diversity and abundance across Britain. In order of importance the main causes appear to be: habitat loss, pollution - mainly by synthetic pesticides and fertilisers - biological factors such as pathogens and introduced species and Climate Change.³



Habitat change is an immediate consequence of human activity. Increasing amounts of the natural landscape are being transformed for food production and to provide sites for buildings and transport infrastructure.⁴

"The intensive management of agricultural land had by far the largest negative impact on nature across all habitats and species."⁵

Since the 1950's a general intensification of agricultural management has taken place as practices shifted from a traditional, low-impact farming style to intensive, industrial-scale production. This process included the planting of genetically uniform monocultures, the repeated use of pesticides and synthetic fertilizers,⁹ the abandonment of mixed farming systems, the intensification of grazing regimes⁶ and widespread loss of hedgerows, boundary trees, and botanically-rich field margins.⁷ These major changes to agriculture management and techniques were all instigated by policies decided by both the UK and European governments.⁶ All have had major negative impacts on insect populations.

"Habitat management for insect conservation and biodiversity should be a primary goal."⁸

Communities and individuals could help reverse the trend through planting flowers and grasses to roadsides, rail embankments, municipal parks and private gardens to provide essential resources and habitat for insects.⁹ However while this may play an important role it is essential that improvements to both rural and urban environments to encourage biodiversity also be undertaken at a national level. Conservation actions that reverse the decline of threatened species will require dramatic and large-scale changes to Government Policy. This will involve changes to funding for agriculture and woodland management to the benefit of species and habitat conservation.

It will also require a total change in methods of agricultural production¹⁸ and most importantly a drastic reduction - if not total elimination- of the use of agro-chemicals.

"Thousands of protected areas in the UK represent sanctuary for biodiversity."⁹

Legislation will also be required and to reduce the pressure on the natural landscape caused by intensive agriculture and house building by maintaining, restoring and creating high-quality resilient habitats through landscape-scale projects.⁹ Currently about 2% of the UK is designated as Nature Reserves and some 10% as Special Protected areas.⁶ Based on recent studies it seems obvious that current conservation efforts are proving insufficient.

Numerous genetically diverse populations are necessary to ensure persistence of a species.¹⁰ This can only be achieved through the creation of more nature reserves. Such reserves need to be very large and selected to protect examples of the widest possible range of native ecosystems and habitats.¹⁰

Currently the remaining insect populations occupy islands of suitable semi-natural habitat amongst a sea of intensively managed and hence unsuitable land. As the landscape becomes more fragmented the likelihood of extinction increases. Thus, legislation is required to protect all such existing natural habitats but also extend them to provide connectivity.⁹

"Conserve biodiversity by establishing natural area preserves."¹¹



The Knepp Estate - UK

Recent experiments have shown that there is an alternative to the highly managed conservation projects that consume a great deal of time and money - that is by simply returning large areas of land to nature. Examples in Holland and Britain have demonstrated that a landscape free for all human activity or intervention allows nature takes its course and quickly re-establish balanced and thriving ecosystems. Immense tracts of marginal land across the UK should be designated as such wild reserves.

"Climate Change is...predicted to change distribution and therefore diversity patterns of insects."¹²

Insect species richness and composition are known to be strongly affected by environmental factors such as temperature and moisture. Climate Change is causing numerous changes in the geographical range, abundance, phenology, ecology and interactions of species and is widely perceived as a significant and increasing risk.¹³ Most species have declined in a reaction to Climate Change.¹¹ It will require a concerted International effort to achieve the required reductions to global greenhouse gas emissions agreed in the 2015 Paris Climate Accord.

The massive and wide-ranging decline of insect populations experienced over recent decades requires a dramatic change in the approach to conservation.⁹ Urgent action is required to reverse this trend and begin to manage habitats for the benefit of insects - and Nature as a whole.⁶

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