

Reviving British Bees: why we need a National Bee Action Plan



The UK is home to over 250 species of bee including honey bees, bumblebees and solitary bees. Bees are important to our food supply and our economy but they are under threat. We urgently need a National Bee Action Plan to reverse bee decline.

This is Friends of the Earth's summary of the main findings and recommendations from research by the University of Reading, carried out for Friends of the Earth in 2012. The full report, 'Decline of England's Bees: Policy Review and Recommendations' (Breeze, T.D, Roberts, S.P.M, Potts, S.G) is available at www.foe.co.uk/beesreport

It would cost at least

**£1.8
billion**

a year to replace bees services with hand pollination.

Bees are in trouble and action is needed to help them. Analysis by the University of Reading for Friends of the Earth shows that, while the UK Government has funded research and taken some steps to help bees, additional work is required to reverse their decline.

It's clear that action is needed in several areas and across Government, including looking at the way we farm our land and the way we plan our towns and cities. That's why Friends of the Earth is calling on David Cameron to urgently draw up a National Bee Action Plan. He will need to work across Whitehall and with local and devolved governments – and with farmers, businesses and government agencies – to ensure that effective action for bees is put in place across the UK.

What's happening to our bees and why?

Bees in the UK are declining at a worrying rate:

- Two bumblebee species have become extinct.
- Managed honey bee colonies fell by 53 per cent between 1985 and 2005.
- Wild honey bees are nearly extinct in many parts of the UK.
- Solitary bees have declined in over half (52 per cent) of the areas studied.

It's widely recognised that changes in agriculture are the main cause of bee decline across Europe. For example, species rich hay meadows have declined by 97 per cent since the 1930s, removing an important source of forage for bees.

The trend towards growing the same crop over large fields (monocultures) has reduced the diversity of flowers available and resulted in the removal of hedges. Species that have more specialised food needs, like the Shrill Carder Bee, have been particularly hard hit. It is listed as a species in need of conservation measures in the Natural Environment and Rural Communities Act.

Hedges act as corridors for bees to move between feeding and nesting sites, as well as providing food and nest sites themselves, so their loss is a problem for bees. The impact is greater on smaller bees that are less able to move between habitats.

Increasing use of chemicals has also had an impact on bees. Fertilisers have made the soil less suitable for many of the plants bees rely on for food. The use of large quantities of herbicides to control weeds removes flowering plants that provide food for bees.

Shrill Carder Bee



There is increasing evidence that insecticides – particularly some of the neonicotinoid based products – are affecting bee health and, combined with other pressures, may be killing bees. Solitary bees – which make up the vast majority of British bees – may be particularly vulnerable to the effects of pesticides.

Pests and diseases are also a major threat to honey bees and other managed bees. The Varroa mite is thought to be one of the main causes of native honey bee loss. The impact on wild bees is harder to assess but 'spill-over' of diseases and pests between wild and managed bees has increasingly been observed.

Climate change can alter the timing of plant flowering, or the time that bees come out of hibernation, which means bees may emerge before there is enough food available.



Some of the food pollinated by bees

Strawberries	Squash
Blueberries	Aubergine
Raspberries	Broad beans
Apples	Basil
Tomatoes	Coriander
Avocado	Cucumber
Courgettes	Pumpkin

The price of many fruits and vegetables would go up without bees. The price of British apples could double.

Why should we be worried?

We need bees to pollinate many important food crops, including most fruit and vegetables. Bee pollinated crops are important sources of vitamins A and C, and minerals like calcium. By pollinating attractive wildflowers like bluebells and poppies, bees also help support the natural environment that people love – benefitting us culturally and economically, as well as ecologically.

Several bee species, including honey bees and the Buff-tailed Bumblebee, are commercially reared to pollinate crops including apples and strawberries. But wild bees have an important role in pollination too. It requires the combination of solitary bees and managed bumble bees to produce good quality strawberries.

Mason bees are the most effective pollinators of apples, while tomatoes need large bodied bumbles to ‘buzz-pollinate’ them by vibrating the flowers to release pollen. There’s growing evidence that diversity of bee species is important in ensuring good quality crops and reliable yields. A diversity of pollinators also provides resilience at times of environmental change. But this diversity is threatened by the loss of bees’ sources of food and shelter.

Through pollination services, bees make a significant contribution to the British economy. Calculations from the University of Reading show that:

- £510 million of annual total crop sales in the UK are pollinated by bees and other insects.
- Replacing bee pollination with hand pollination could cost farmers £1.8 billion a year in labour and pollen alone.
- The price of many fruits and vegetables would go up without bees. The price of British apples could double.

Because fruit and vegetables are high value crops, bees offer significant economic benefits to regions like South East England and the West Midlands where these crops are important. Bees also pollinate clovers and other plants that are central to pasture systems for livestock grazing, and so are important in Wales, the Scottish Highlands and England’s northern and western regions.

The use of pesticides overall rose 6.5 per cent between 2005 and 2010.

Why we need a National Bee Action Plan

It's clear that there isn't a single solution to the multiple threats our bees face. The UK Government's Natural Environment White Paper for England recognises the importance of bees to the economy and the Government has taken some welcome action to help honey bees through its Bee Health Programme. But analysis of Government policy by the University of Reading highlights inconsistencies and inadequacies in its approach to protecting all bee species.

Friends of the Earth is now calling on the UK Government to produce a National Bee Action Plan to ensure that a comprehensive set of measures is put in place to reverse bee decline and avoid rising costs to farmers and consumers. The recommendations set out here are Friends of the Earth's, informed by research and recommendations from the University of Reading.

Agriculture

In 2013 reform of the Common Agricultural Policy (CAP) in Europe will influence how we farm the land. It's an opportunity to use subsidies paid to farmers to support and encourage bee-friendly farming.

The European Commission has suggested some measures that would help bees. These include requiring a proportion of payments to depend on farmers growing a variety of crops, and creating wildlife friendly Ecological Focus Areas (EFAs) on seven per cent of their land. EFAs could include wildflower strips and hedges.

The UK Government should be using its influence to support and strengthen these measures. For example, bees would benefit more if the EFAs were bigger (10 per cent of the farm) and if farmers were allowed to include wildlife friendly crops in their subsidy claim.

Some measures within the existing CAP that pay farmers to manage their land in wildlife friendly ways – like Agri Environment Schemes – have helped to provide additional flowers and nesting sites for bees. The Higher Level Stewardship (HLS) scheme has supported the creation and management of meadows, species rich grassland and heathland. More funding is needed to ensure these benefits are widespread enough to help reverse bee decline.

Some practices known to be beneficial to bees are not supported by the UK Government. Our Government doesn't support mixed cropping systems, where farmers plant two crops in the same field, or Agroforestry, where crops or livestock are combined with forestry or orchard production.

Farmers also need better advice about how best to support bees on their farms and how bees can improve their crops. Very little guidance is available and it's possible that yields are already lower than they could be.

The National Bee Action Plan should set out how the UK Government will support farmers to manage their land in a way that provides the food and habitats that bees need. This should include using opportunities provided by Common Agricultural Policy reform and ensuring that farmers have access to good quality independent advice.

Pesticides

The Government's Pesticides Strategy doesn't set any targets for reducing pesticide use, nor does it specifically consider impacts on bees or other insects. Use of pesticides overall rose 6.5 per cent between 2005 and 2010. The 2011 Natural Environment White Paper failed to set out any commitment encouraging alternatives to chemical pesticides.



Between 1984 and 2008 we lost 130 local wildlife sites in Derbyshire alone.

Positive measures could include more targeted use of herbicides to allow bees' food sources to survive. Rotating crops, so the same crop is not planted in the same place every year, helps to reduce pests and diseases. The choice of crop (for example, planting clover or field beans) can help provide food for bees too.

Pesticide approval is directed by European legislation. But member states can take independent action to ban certain products. There are problems with the way risks are currently analysed, not least because exposure of bees to pesticides in the field may not be accurately assessed in tests. Approvals don't take account of the variable impact on different species, yet several studies indicate that solitary bees are particularly vulnerable to the effects of chemicals, including some neonicotinoids.

The National Bee Action Plan should set out how the UK Government will achieve a quantifiable reduction in the use of pesticides, including encouraging alternative pest control methods. It should commit to improving the assessment of pesticides' impacts on bees, and to suspending the use of those pesticides thought to be linked to bee deaths until fully independent reviews prove they're not contributing to bee decline.

Conservation

There is wide variation in the level of protection given to habitats that are important for bees. Between 1984 and 2008 we lost 130 local wildlife sites in Derbyshire alone. Those designated as nationally important, such as Sites of Special Scientific Interest (SSSIs), fared better.

This suggests that policies protecting bees are only effective in isolated areas. Many natural areas are under direct pressure from development, and indirect pressures like pollution. The UK Government's trial Nature Improvement Areas in England – which aim to improve the way our countryside is managed for wildlife beyond protected sites – are a useful approach but only cover a tiny area of the UK.

Some bee species have limited protection through:

- Natural Environment and Rural Communities Act (NERC) – protects 17 bee species
- UK Red List of threatened species – protects 71 bee species

However, protection needs to be much more effective. The NERC regulations do not explicitly restrict development and are not enforced across local authority boundaries. Lack of bee expertise at local level is a further barrier to effective action for bees.

The Red List needs updating to ensure it covers the most threatened species. And species previously included in the UK Biodiversity Action Plan were not even selected to be monitored as part of the Biodiversity 2020 Strategy which replaced it.

The National Bee Action Plan should set out how the UK Government will improve the way bees and the services they provide are monitored and better protected. It should designate more habitat sites for bees and include bees as a priority group in its Biodiversity 2020 Strategy. It should ensure that there is sufficient expertise on bees nationally – especially in environment agencies – and that new expertise is made available to local authorities.

Planning

As development continues to increase, protecting sites that are important for bees becomes more challenging. In South East England – where population growth is projected to be highest – 35 per cent of land is protected in designated wildlife sites, which makes conflict likely. Unless there's a fundamental change in the way development takes place, wildlife will lose out.





Tree Bumblebee

Planning policy for England has recently been revised to make it easier and faster for development to go ahead. Similar moves are afoot in Wales and Scotland. The new National Planning Policy Framework (NPPF) for England states that development shouldn't normally be permitted on protected sites but allows for exceptions.

The threat to protected sites arises from an emphasis that planning policy should primarily be a tool to boost economic growth, rather than an impartial assessor of proposed development. It doesn't properly recognise the importance of local nature reserves.

Since many sites of importance to bees are not designated or protected in other ways, the areas that bees and other pollinators rely on will be vulnerable to development pressures. Many of these sites will be important to local people too.

Despite the clear economic and aesthetic benefits of pollination, the NPPF doesn't indicate how these and other 'ecosystem services' should be maintained or enhanced through planning policy, simply that they should be recognised. Further, the NPPF mentions the desirability of increasing the space for nature in our towns and cities but offers no clear guidance on how this will be achieved at the local level.

The National Bee Action Plan should commit to protecting designated wildlife sites that are important to bees. It should set out how the UK Government and devolved governments will ensure guidance and expertise is available to inform strong Local Plan policies that protect areas important to bees. It should also insist that new developments create areas for nature, including green roofs and other natural spaces.

Bee health

The UK Government has a Bee Health Programme to develop research into pest control, develop responses to new pests and inform beekeepers of good management practices. Legislation requires beekeepers to inform the Government of diseases in their colonies, although this doesn't cover viruses. A major concern for beekeepers is the lack of effective medication for bee pests.

So far UK Government policy and debate on bee health has tended to focus on managed honey bees. Diseases in wild bees are difficult to study and even more difficult to treat. But spread of disease between managed and wild bees is a concern and is thought to be increasing. While measures to improve bee health in managed bees will help to reduce this spread, there's a lack of measures to curb transmission to wild bees.

The National Bee Action Plan should set out how the Government will address the health of all bees not just honey bees. It should commit to ongoing research into the health of managed bees and ensure the responsible management of beehives.

Want to know more?

Download a full copy of the research by the University of Reading at www.foe.co.uk/beesreport

Join Friends of the Earth's Bee Cause campaign at www.foe.co.uk/bees