Sea aster colletes female © Steven Falk

Bees under siege from habitat loss, climate change and pesticides

The East of England is one of the richest regions for bees in Britain due to the diversity of habitats present. This report aims to consolidate our knowledge of bees in the East of England, highlight the species that are most threatened and recommend conservation actions to rebuild declining populations.

Invertebrates are essential to maintaining functioning ecosystems and the decline of our wild pollinators is of widespread concern.

Almost 90% of wild plants and 75% of leading global crops depend on animal pollination, with the annual contribution of animal pollination to global crop production estimated at 235 to 577 billion US dollars.

Bees face a range of complex and interacting threats, including habitat loss, fragmentation and degradation; climate change and changes to weather patterns; and pesticides and environmental pollution.

Bee species under threat in the East of England

- **25 species (11%) threatened**
- **17 species (7%) regionally extinct**
- **An additional 31 species (14%) of conservation concern**

The East of England Bee Report identifies 25 species that are considered as threatened in the region. This includes species known from only a small number of sites, and species whose current status in the region is unclear.

The report used data on the distribution of 228 bee species recorded in the region. The East of England has **nationally important populations** of a number of bees including **Moss carder bee (*Bombus muscorum*), Red-shanked carder bee (*B. ruderarius*), Shrill carder bee (*B. sylvarum*), Sea aster colletes (*Colletes halophilus*) and Margined colletes (*C. marginatus*).**

An additional 31 species are identified as being of conservation concern in the East of England. Although not as highly threatened, their future is far from secure.

Important habitats for bees in the East of England

The coastline provides a variety of habitats, including the **extensive marshes, shingle, sand dunes and soft cliffs** of the coast that support some nationally important bee populations.

The **heathlands** (found in Breckland, Bedfordshire, Norfolk and the Sandlings, Suffolk) support some rare and specialist bees including the Small sandpit mining bee (*Andrena argentata*) and the Bilberry mining bee (*A. lapponica*).

Wetlands including the Norfolk Broads and areas of The Fens are important for wetland bees, while chalk grasslands in areas including Bedfordshire and Hertfordshire also support specialist species.

The East of England is notable for its **brownfield habitats**, and throughout the region **quarries, gravel pits, sea walls and post-industrial land** such as the Thames Gateway can have exceptionally important assemblages of bees.

The Bilberry mining bee, Tormentil mining bee (*Andrena tarsata*) and Armed nomad bee (*Nomada armata*) have recent records from only single sites.

Bees in the region are under pressure from many factors including habitat loss, degradation and fragementation including development: in six years more than half of important brownfield sites in the Thames Gateway were lost, damaged or under immediate threat. Changes in land management including grassland improvement, conversion to arable, timing of cropping and grazing, and increased use of chemicals have led to declines in plant diversity, and the loss of nesting opportunities in the landscape. Trees and scrub threaten open heathland and many mineral extraction sites have been unsympathetically restored.

Conservation action is urgently required to ensure no more of the region's threatened bees are lost

A number of conservation actions could be used to stabilise the threatened bee populations in the East of England, and reverse declines. These would also benefit the wider bee and pollinator community.

- Identify opportunities to connect habitat fragments, promote coordinated management and provide a mosaic of habitats, along B-Lines, to form the linkages in the Nature Recovery Network that has been committed to in the Government's 25 Year Environmental Plan and the new Environment Act.
- Protect coastal habitats and sea walls, safeguard wildlife-rich brownfield sites and promote appropriate land management for all habitats for the wildlife they can support.
- Local Authorities should work with, and support, local communities to restore and create new habitat for pollinators and implement changes in land management, building on the model of projects such as Urban Buzz.
- Survey and monitor bee populations, on a ongoing basis, to improve the evidence base relating to our wild pollinators.
- Maintain and increase awareness, advice, support and funding for practical delivery projects.

Connected habitats, along B-Lines, to develop a Nature Recovery Network for pollinators, are vital.

The B-Lines network has already been mapped in the East of England, with funding and support from Natural England and Anglian Water, and sets out a vision of connected habitats for a bee-friendly future.

The 25 Year Environment Plan and the new Westminster Environment Act provide opportunities to embed the changes that we need:

- statutory nature targets for pollination, pollinators and restoring the environment;
- duties on national and local government to produce formal Nature Recovery Maps, setting out where a network of restored pollinator habitats will be created; and
- a strong and independent watchdog: an Office for Environmental Protection to hold government to account for delivering improvements.

Further information

The East of England Bee Report can be downloaded at: https://www.buglife.org.uk/sites/default/files/EofE%20bee%20report%202019%20FINAL_17MAY2019_compressed.pdf

The National Pollinator Strategy: for bees and other pollinators in England can be found at: https://www.gov.uk/government/publications/national-pollinator-strategy-for-bees-and-other-pollinators-in-england

The 25 Year Environment Plan can be found at: https://www.gov.uk/government/publications/25-year-environment-plan

Further information on B-Lines can be found at: https://www.buglife.org.uk/b-lines-hub