

Tackling pollinator decline in Cornwall through enhanced natural capital management policies and practices

SWEEP delivered a first-of-its-kind approach to pollinator-friendly habitat management for Cornwall. Phase 1 of this project used a combination of auditing, mapping, evaluation and business engagement, to safeguard or enhance the ecosystem services that pollinators provide, and strengthen local and national policies to benefit birds and insects.

SWEEP Impact Summary



Fast-tracking delivery of the

UK's **1st** county-wide approach to pollinator habitat management in Cornwall



8,000ha of pollinator-friendly habitat, including wildflower meadows, created, safeguarded or enhanced.



Strengthened **5** policies including [Cornwall's Pollinator Action Plan 2019-2023](#) and the UK's [National Pollinator Strategy](#)



Ways of Working



Why it mattered?

Over the past century, 97% of Britain's wild flower meadows have been lost and with them, a significant proportion of pollinating insects, including a third of our wild bee species. This drastic decline is detrimental to the ecosystem services that our grasslands and pollinators provide, such as plant pollination - fundamental for food production, soil quality, pest regulation and, where grasslands protect water courses and prevent flooding, water management.

Three quarters of Cornwall's land area is farmed, with the majority dominated by grass production for dairy and beef (73% of 262,790ha). A strong horticultural industry covers only 1 % of farmed land, yet produces around



One out of every three mouthfuls of our food depends on insect pollination... Without (pollinators), treasured landscapes would be devoid of colour and life; agriculture and tourism would suffer; and wildlife would perish."

[Foreword, Cornwall's Pollinator Action Plan, 2019-2023](#)

30% of the South West's fruit and vegetables through high-value crops reliant on insect pollination. Cornwall Council also owns vast areas of common land, greenspaces and road verges (around 16,000ha).

Despite a number of existing initiatives to manage grassland in a less intensive fashion - such as the charity Plantlife's '[NoMowMay](#)' and the Countryside Stewardship scheme - most grassland in Cornwall still remains heavily mown, grazed and fertilised, resulting in a 'green desert' which lacks biodiversity.

What we did

Responding to this growing issue, Prof. Juliet Osborne, Dr Grace Twiston-Davies and Dr Jess Knapp from the University of Exeter's Environment and Sustainability Institute worked closely with Natural England, Cornwall Area of Outstanding Natural Beauty, Cornwall Council, Duchy of Cornwall, Buglife, and two EU-funded growth programmes for Cornwall and the Isles of Scilly - Tevi and Future Focus.

Engaging 34 active partners and completing 24 outreach/engagement activities, the team delivered:

- a new version of [Bee-Steward](#)

- an award-winning landscape-scale decision support tool that helps farmers and land managers understand how their practices affect bee survival and pollination. It has been enhanced to provide grassland and horticulture settings, and financial costs and benefits;
- 39 bespoke 'Pollinator Management Reports', including Bee-Steward reports, to land-owners (such as farmers, orchards and holiday parks) and other businesses, and supported 38 Cornish SMEs on business-led pollinator-enhancing solutions via [Tevi](#);
- [Buglife's North Cornwall B-Lines](#) - a series of 3km wide 'insect pathways' along which wildflower-rich habitats are being restored, created and linked together - in collaboration with Cornwall Council;
- a pollinator audit for Cornwall and the Isles of Scilly - reviewing pollinator and habitat projects from 2018-19.
- publically accessible GIS map of pollinator hotspots and top habitat creation areas - with [Kernow Ecology](#);
- integration of Bee-Steward into the New Environment Management Scheme through delivery of two trials by the National Association of AONBs and Plantlife in collaboration with Detra and Natural England.

Impacts & benefits delivered



Natural Capital

Creating improved habitat for pollinators: 7,384ha of land has been created, enhanced or safeguarded specifically for pollinators (through the Bee-Steward plans) across farms, orchards, holiday parks and other businesses in Cornwall and the Isles of Scilly, with more expected in phase 2 of this SWEEP project. A further 545ha of new pollinator habitat has been pledged (flowering cover crops, perennial wildflower meadows, trees and hedgerows), and 391 ha of habitat enhanced by seeding or management.



Attitudinal/Capacity

Improved stakeholder knowledge and shifting attitudes: Stakeholders are now better informed about the benefits of adopting a natural capital approach to pollinator-friendly land management. They are working in a more engaged, collaborative way across Cornwall which is accelerating the pace of change.



Organisational Function

Delivering cost-savings, organisational efficiencies and strategic improvements

- Buglife completed its Cornwall B-line mapping faster and more efficiently and used it to support more robust funding proposals leading to the listing of nine pollinator habitat creations.
- The new Bee-Steward model has created more pollinator-focused and resilient land management plans, for example, enabling the Duchy of Cornwall to develop 112 pollinator-friendly natural capital plans with 112 of their tenant farmers across Devon, Cornwall, and the Isles of Scilly.
- Bespoke SWEEP 'Bee-Steward action plans', have saved landowners money across the region through costs avoided from hedgerow management (£3,380pa), cover crop planting (£29,337pa) and a provision of £2,000 of wildflower seeds. They also supported four successful Countryside Stewardship applications providing financial returns for the next five years.



Policy & Legislation

Strengthening pollinator policy both regionally and nationally

- Cornwall's Pollinator Action Plan 2019-2023 directly refers to SWEEP's Bee-Steward model and Buglife B-lines
- Cornwall's Wildlife Trusts' Nature Recovery Networks and Cornwall Council's tree planting guidelines both reference Buglife B-lines
- Cornwall AONB's successful application to Defra for an Environmental Land Management scheme test trial is using Bee-Steward to help guide landscape-scale management decisions
- The National Pollinator Strategy incorporates SWEEP's Buglife B-line work into its evidence base.



Working with SWEEP helped us gain a high level of stakeholder engagement in the county, accelerate the B-Lines mapping process and identify synergistic and complementary projects to deliver B-lines on the ground."

Andy Whitehouse, Buglife

Case Study: Cusgarne Farm

Cusgarne Farm successfully applied for mid-tier organic Countryside Stewardship funding worth £26,430 over five years to develop pollinator-friendly habitat. Greg Pascoe, Owner of Cusgarne Farm said: *"Collaboration with SWEEP showed us how important our hedgerows are for pollinators, especially queen bumblebees... 20% of our farm is now in the Wild Pollinator and Farm Wildlife Package."*

Looking to the future

Phase two of this project builds on this pioneering work and strong relationships forged with partners. It will continue to deliver impacts that integrate pollinator-management ideas into decision-making and policy, scaling these from local to national level. It will also develop novel opportunities for natural capital business excellence in the South West and create a legacy of grass-roots environmental leadership in the region, drawing upon the 70 stakeholders and partners engaged with so far.



Visualising the impact of establishing certain habitat types via the Bee-Steward model reports brings the process of land management for pollinators to life, greatly helping discussions with our farming tenants."

Jeremy Clitherow, Natural Capital Project Adviser, Duchy of Cornwall

Underpinning NERC Science

- NE/J014893/1 - NERC WESSEX BESS project - Biodiversity and the provision of multiple ecosystem services in current and future lowland multifunctional landscapes.
- NE/P016731/1 - NERC Innovation Project - Bee-Steward: A decision-support tool for land owners, managers and advisors to support pollinator populations on farmland.
- NE/J015237/1 - NERC F3UES BESS project - Fragments, functions and flows - the scaling of biodiversity and ecosystem services in urban ecosystems.
- NE/P010725/1 - NERC Knowledge Exchange Fellowship - using bee models to support decision-making in the implementation of the National Pollinator Strategy in Cornwall.

About SWEEP

The South West Partnership for Environmental & Economical Prosperity (SWEEP) is a partnership between the University of Exeter, the University of Plymouth, and Plymouth Marine Laboratory. Funded by the Natural Environment Research Council and stakeholders together to solve key challenges faced by those working with our natural resources. www.swEEP.ac.uk



Natural Environment Research Council

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