

Case Study

Gayles Farm – meadow planting and arable reversion to mark historic airfield and support chalk grassland habitat

National Trust

The Vision

Our vision for Gayles Farm was twofold:

To mark the site's significance as former RAF Friston – the only airfield in Sussex to have seen active service in World War II – by establishing wildflower meadows on the old runways.

To enhance wildlife and connectivity by planting ex-arable land with species-rich meadow and herbal ley – providing habitats, nectar sources, and ecological corridors, as well as 'layback land' for out of season grazing to support the restoration of surrounding chalk grassland.

Key Facts

Gayles Farm is 127 hectares in total – including 70ha chalk grassland, some of which is designated as a Site of Special Scientific Interest (SSSI).

The project centred on taking 50 hectares of land out of arable production. 11 hectares were re-seeded as wildflower meadow and, adjacent to this, another 39ha as herbal ley. The soil consisted of clay-with-flints overlying chalk.



Wildflower meadow marking historic WWII runways at Gayles Farm. Credit: Thyone Outram

What we achieved

Wildflowers now mark the old World War II runways, and the 1.4km meadow strips are visible from land and air. Guided walks independently visit the old airfield and flowery runways. Spitfires regularly fly over, performing rolls and loops in appreciation of marking the heritage.

The wildflower strips were sown with native grasses and flowers, and the herbal ley provides late season nectar sources. Ecological surveys and observations have shown a developing invertebrate community in the meadow runways, including an increase in some butterfly species and day-flying moths, and large numbers of parasitic tachinid flies. The herbal leys feature high numbers of bumblebees foraging on the flowering legumes.

Increasing numbers of reptiles have also been recorded in the ex-arable area. Although adder numbers are still low compared to the surrounding chalk grassland, they are now regularly found in the runway meadows and fenced-off rough grass areas.

Protected areas for ground nesting skylarks have been established. Autumn flocks of goldfinch and other bird species feed on the wildflower seed. Birds of prey are regularly seen over the runways hunting for small mammals.

How we did it

After the final harvest in July 2022, ground preparation of the ex-arable area commenced with shallow cultivation using a power harrow, rolling and then harrow-seeding in mid-autumn. No herbicide was applied.

The old runways were sown with a locally sourced, native seed mix for chalk soils containing 20% wildflowers and 80% native grasses, plus 5% bright annuals (poppy, cornflower, corncockle, corn marigold, corn chamomile). The herbal ley area around the runways was planted with a GS4 herb and legume rich mix.

Water supply was installed (underground pipes and troughs) and grazing introduced.

Cattle graze the meadow runways in autumn, with 15-20% left ungrazed for overwintering wildlife; Rotational sheep grazing on herbal ley in spring/summer.

Silage cut on ~40% herbal ley in late May/early June, with 6m strips left uncut to provide connectivity between meadow runways and rough grassland; this area is left ungrazed for 8 weeks to allow late summer flowering, followed by aftermath grazing in autumn.

Seeding and water supply costs totalled £38,000 (in 2022).

Longer term management is being supported by Countryside Stewardship.

Lessons learnt

Success factors have included celebrating the old airfield, seeing increased wildlife on the farm, engaging volunteers, and joint working with the tenant farmer and grazier.

Herbicide application after harvest/ before meadow seeding is not always necessary – in this case we had no great unwanted plant burden, with minimal ragwort/ thistle after 3 seasons.

Meadow plants take their time – don't lose heart in the first year. We had a strong show of bright annuals in year 1 but these are becoming less dominant and the balance of flowers is changing over time, with chalk grassland species such as kidney vetch, small scabious and wild marjoram gradually becoming more abundant.

We used electric fencing to fence off the meadow runways from sheep-grazed areas – however this needs considerable regular maintenance and resource.

Consider using professionals for baseline surveys (and budget for this). Volunteer surveying is fun if an area is rich in wildlife – but surveying ex-arable land before much wildlife had moved into the area, and moving through thick vegetation on rough ground over long distances, was sometimes demoralising for volunteers.

“As a complete novice in the bug world, this day was a great introduction and left me wanting to learn a whole lot more. It's amazing how you have transformed this farm.”

Participant – pollinator survey training



Further information

[Runways become meadows in South Downs National Park - South Downs National Park Authority](#)

[Friston - Airfields of Britain Conservation Trust](#)

The Changing Chalk Partnership

Led by the National Trust, Changing Chalk was a four-year partnership project from 2022 to 2026 working to reverse the ecological decline of chalk grassland in the eastern South Downs, bring histories to life, and connect local communities to the internationally significant landscape on their doorstep.

www.nationaltrust.org.uk/changing-chalk-partnership



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