

Dorset Heathlands Air Quality Mitigation

Annual Delivery

Report 2025 – 2026



1. Summary

Purpose and Context

This report outlines the delivery of air quality mitigation across the Dorset Heathlands through a partnership between Dorset Council and Bournemouth, Christchurch and Poole (BCP) Council. The heathlands are internationally designated sites, and mitigation is delivered in accordance with the Dorset Heathlands Interim Air Quality Strategy, with advice from Natural England. Funding is secured through developer contributions, collected through CIL.

Governance and Delivery

Delivery is led by the Air Quality Mitigation Officer within the Environment Mitigation Delivery Team and is supported by a multi-agency steering group comprising local authorities, statutory bodies and land managers. A volunteer network contributes to ongoing air quality monitoring. Mitigation activity is prioritised within 200 metres of major roads, where traffic-related emissions have the greatest impact.

Funding and Budget

The programme is funded on a 75% (BCP Council) and 25% (Dorset Council) basis. Total expenditure for 2025–26 was £127,226, comprising £78,570 for mitigation projects and £48,656 for associated programme costs.

Mitigation Projects Delivered

Mitigation works have focused on addressing nitrogen enrichment from road traffic through targeted heathland remediation. At Avon Heath and Matchams View, scrub removal and soil stripping was delivered over a total of 4.8 hectares at a cost of £50,000 + vat. At Upton Heath, smaller-scale interventions across 1 hectare, costing £11,640 + vat, included vegetation clearance and the creation of bare ground. These measures are designed to restore low-nutrient conditions and support the recovery and resilience of heathland habitats.

Monitoring and Evidence Base

Air quality monitoring undertaken across 14 heathland sites indicates that all sites exceed critical nitrogen load thresholds, with road traffic emissions identified as a principal source of pollution at 12 roadside locations. Vegetation surveys have also been completed at these sites to establish baseline conditions, support ongoing assessment of habitat change and identify priority areas for mitigation delivery.

Engagement and Education

A pilot education session delivered at Hillside First School demonstrated effective engagement with primary school pupils on the topics of air quality and heathland ecology. There is scope to expand this work to support wider awareness and behavioural change.

Future Plans (2026–27)

Further mitigation works are in development, including a proposed scheme at Canford Heath. Additional projects will be brought forward in collaboration with site managers, alongside continued monitoring and the development of educational initiatives.

Overall Conclusion

The 2025–26 programme demonstrates a coordinated and evidence-based approach to mitigating the impacts of air pollution on the Dorset Heathlands. Through targeted interventions, monitoring and engagement, the programme is contributing to the protection and long-term resilience of these internationally important habitats.

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2. Introduction

The Local Planning authorities are working in partnership to deliver Air Quality mitigation for the Dorset Heathlands. [Dorset Heathlands Interim Air Quality Strategy 2020-2025](#) was prepared and adopted jointly between BCP and Dorset Councils and is advised by Natural England. Further information regarding the Interim Strategy is available on the [Dorset Council](#) website.

2.1 Background

Under the Interim Strategy the Local Planning Authorities collect developer contributions from development within 5kms Dorset Heathland designated sites. These contributions are used to fund air quality mitigation in the form Phase 2 mitigation measures. In September 2023 the Air Quality Mitigation Officer was appointed. In July 2024 the Environment Mitigation Delivery Team (EMDT) was created. Bringing together the BCP/DC partnership officers for Nutrient, Heathland Air Quality and Recreation Mitigation. The Air Quality Mitigation Officer role was made permanent in November 2024.

2.2 Structure and Governance

Staff structure

The Air Quality Mitigation Officer is managed by the Environment Mitigation Delivery Team Leader. A team of approximately 15 volunteers has been developed and co-ordinated by the Air Quality Mitigation Officer to assist with air quality monitoring.

Governance

The Air Quality Mitigation Officer is an employee of Dorset Council. The Steering group that advises and supports the initiative is made up of representatives from:

- BCP Planning
- BCP Environment team
- BCP CIL planning and finance
- Dorset Council Planning
- Dorset Council Environment Team
- Dorset Council CIL planning and finance
- Natural England Senior Officer for Conservation and Planning
- Dorset Heath Partnership (DHP) Team Leader – Chair
- ARC Trust
- Dorset Wildlife Trust
- Forestry England
- National Trust
- RSPB

- Dorset and Wiltshire Fire Service
- Dorset Police
- Firewise UK

2.3 Roadside Heathland Sites

To address the direct impact of development, particularly vehicle emissions near transport corridors, Air Quality Mitigation is delivered on heathlands within 200 meters of roads as a priority (Figure 1). There are approximately 650 hectares of heath within 200 meters of A/B roads of which there 475 hectares heath where projects are most likely to be deliverable. This is excluding established woodland, heathland with a significant buffer between the heath and road, and heathland that is only just within 200m of the road.

2.4 Work Areas

Coordination and Management

The key elements of coordination and management include

- o Developing and delivering projects with stakeholders
- o Developing and delivering key messaging
- o Monitoring and reporting the results of mitigation projects

3. Plans and Strategies

3.1 Dorset Heathlands Interim Air Quality Strategy 2020-2025

3.2 Natural England, Natura 2000 Site Improvement Plan: Dorset Heaths

4. Finance

Dorset Council and BCP Council will collect developer contributions through CIL. The budget is split between the two Unitary Councils from developer contributions collected from development within 5km of Dorset Heathland protected habitats. Dorset Council contribute 25% plus hosting costs and BCP Council contribute 75%. Applications for project funding are made via proforma and matrix scoring that is then evaluated by the steering group. Final approval is secured through the BCP infrastructure improvement board and Dorset Council senior management via infrastructure and delivery planning manager.

Stakeholders are encouraged to make applications for funding through the Air Quality Mitigation Officer for their own projects. Both go through a rigorous process to ensure that they prove good value and achieve high standards of mitigation.

4.1 Eligibility

Internal and external applications must meet the criteria set out in the pre-application form. This ensures that:

- Projects are within the 200m roadside zone on the Dorset Heathland.
- Manages impacts to the Dorset Heathland protected habitats from nitrogen based air pollution.
- Contributes towards improving our understanding of the impacts of this adverse effect either directly (monitoring and surveying) or indirectly (monitoring the success of the project outcomes).
- Meets one or more of the strategic objectives as laid out in the Natural England Site Improvement Plan

4.2 Budget (for detailed summary see Appendix 9.2)

Expenditure Description	Amounts
Projects	£78,569.82
Other Expenditure	£48,655.70
Total	£127,225.52

5. Engagement and Awareness Raising

5.1 Hillside First School Education Session 2025

Hillside First School is situated in Verwood adjacent to Stephens Castle Heathland SSSI. The school often uses the heath as a resource for outdoor lessons.

In June 2025 the Air Quality Mitigation Officer joined the Dorset Heathlands Partnership Education Team for an outdoor education session on the subject of Observing Nature.

During this session the AQM Officer delivered an activity about Lichens and Air Pollution as a pilot lesson to test new AQM education resources and how well 30 Year 1 students engaged with the subject of Air Pollution and its effects on Heathland habitats.

The topic was successfully incorporated into the Observing Nature education session, and the students engaged enthusiastically with the learning activities. The lichen hunt with basic identification was particularly successful.



Figure 1 Extract from Activity Handout



Figure 2 Extract from Activity Handout ID sheet

6. Infrastructure Projects (delivered/ in progress)

The Dorset Heathlands are Site of Special Scientific Interest (SSSI), RAMSAR, Special Area of Conservation (SAC) and Special Protection Area (SPA) which indicates it is an internationally important site for numerous wildlife species.

Data from air quality monitoring carried out over the past 2 years identified locations of heath where road traffic emissions are the dominant source for nitrogen deposition within a 200m of the roadside boundaries.

The Dorset Heathlands Interim Air Quality Strategy sets out that where there is evidence of air pollution, then opportunities for remediation or mitigation should be taken through additional or increased management practices.

To counteract air pollution from vehicles within 200 metres of a road, measures include focussed grazing or stripping back of nutrient enriched soil / vegetation within these areas.

6.1 Avon Heath and Matchams View Air Quality Mitigation Projects 2026

Project Information	Value
Project area	4.8 Hectares
Cost	£50,000 +VAT
Traffic emissions source	A31 & A338

The Avon Heath and Matcham's View Air Quality Mitigation Projects 2026 involved the removal of remaining invasive scrub (bramble, bracken, gorse) followed by large scale soil scraping to remove the nutrients that had built up in the soils; nitrogen-based air pollution contributes to the enrichment of the soil when it falls to the ground. This will give the low nutrient loving heathland plants a better chance to re-establish and enhance resilience to future nitrogen deposition.

Islands of good heath were left untouched creating a mosaic of age structures, assisting the natural regeneration of heathland plants and supporting the wildlife present on the heath.



Figure 1 Avon Heath, scrape1



Figure 2 Avon Heath, scrape 2



Figure 3 Avon Heath, scrape 3



Figure 4 Matcham's View, scrape 1

6.2 Upton Heath Pollution Mitigation Projects 2025-26

Project Information	Value
Project area	1 Hectares
Cost	£11,640 +VAT
Traffic emissions source	A35

At Upton Heath, smaller scale projects were carried out to remove blocks of vegetation and create six areas of bare ground. By cutting back and clearing invasive scrub, nutrients locked in the vegetative biomass are removed from the heath, which helps to slow down the nutrient cycle and also gives the heathland plants a better chance to grow. The soil scrapes created areas of bare ground where further nutrients were removed, adding to the mosaic of age structures on the heath.



Figure 5 Upton Heath, scrape 1



Figure 6 Upton Heath, scrape 2



Figure 7 Upton Heath, scrape 3



Figure 8 Upton Heath, scrape 4



Figure 9 Upton Heath, scrape 5



Figure 10 Upton Heath, scrape 6

7. Monitoring

7.1 Dorset Heathland Air Quality Sampling Report 2025: (For full report see appendix 9.3)

Project Information	Value
Project area	14 Heathland sites
Cost	£9,700 +VAT
Traffic emissions source	Various

Air quality sampling was carried out at 14 Dorset Heathland SAC (Special Areas of Conservation) and SPA (Special Protection Areas) between August 2025 and January 2026. This was a continuation of air quality monitoring carried out in 2024 to gather baseline data on the condition of Dorset Heaths protected habitats and the potential impact of nitrogen-based pollution caused by road traffic emissions

An initial desktop evaluation of the sites using APIS mapping tool suggested that all 14 sites exceeded minimum critical nitrogen loads, and 12 out of the 14 sites exceeded critical levels for ammonia. The APIS data provides modelled information for a 1km grid

average, and therefore investigation at the roadside level was required for a more detailed understanding of the impact of road traffic pollution.



Figure 11 Volunteers setting up sampling equipment



Figure 12 Air Sampling diffusion tubes

The air quality sampling results identify where road traffic emissions appear to be the dominant source of pollution contributing to nitrogen deposition.

All of the sites experienced NO₂ levels that reduced to varying degrees, with distance from the main road. Ten of the sites experienced NO₂ levels higher than modelled NO_x averages, which would suggest that road traffic emissions were the major contributor of the NO_x subtypes. None of the sites were in exceedance of the nitrogen critical level of 30 µg/m³/yr.

All the sample sites experienced NH₃ levels that exceed the critical Ammonia level of 1 µg/m³, suggesting lichen and bryophyte populations are at risk of damage. The roadside sample point at Alder Hills (Alder Road) recorded 3 µg/m³/yr the critical Ammonia level for higher plants.

In conclusion, the air quality sampling results imply that road traffic emissions could contribute to nitrogen deposition at the roadside of at least 12 out of 14 sites, but that some of the heathlands are protected either by distance from the road or a buffer of trees and shrubs. The data suggests that road traffic emissions are most likely to be the dominant source of nitrogen deposition on heathland habitats at Alder Hills, Holton Heath, Sandford Heath, Sopley Common, Stoborough Heath East and Week Common.

Through the analysis of the air monitoring data gathered since 2024 it is possible to identify which heaths are most at risk from road traffic pollution and to map the priority areas to deliver mitigation projects.

Initially, the data identifies that established woodland, heathland with a significant buffer between the heath and road, and heathland that is only just within 200m of the road can be excluded.

This leaves 35 heaths that are potentially vulnerable to road traffic emissions.

Using air sampling data, traffic volumes and habitat condition the heaths are categorised as being at high, medium or low risk from road traffic pollution. This process gives the foundations of a framework to prioritise mitigation project spending, and to risk assess the impact of traffic generated by new development.

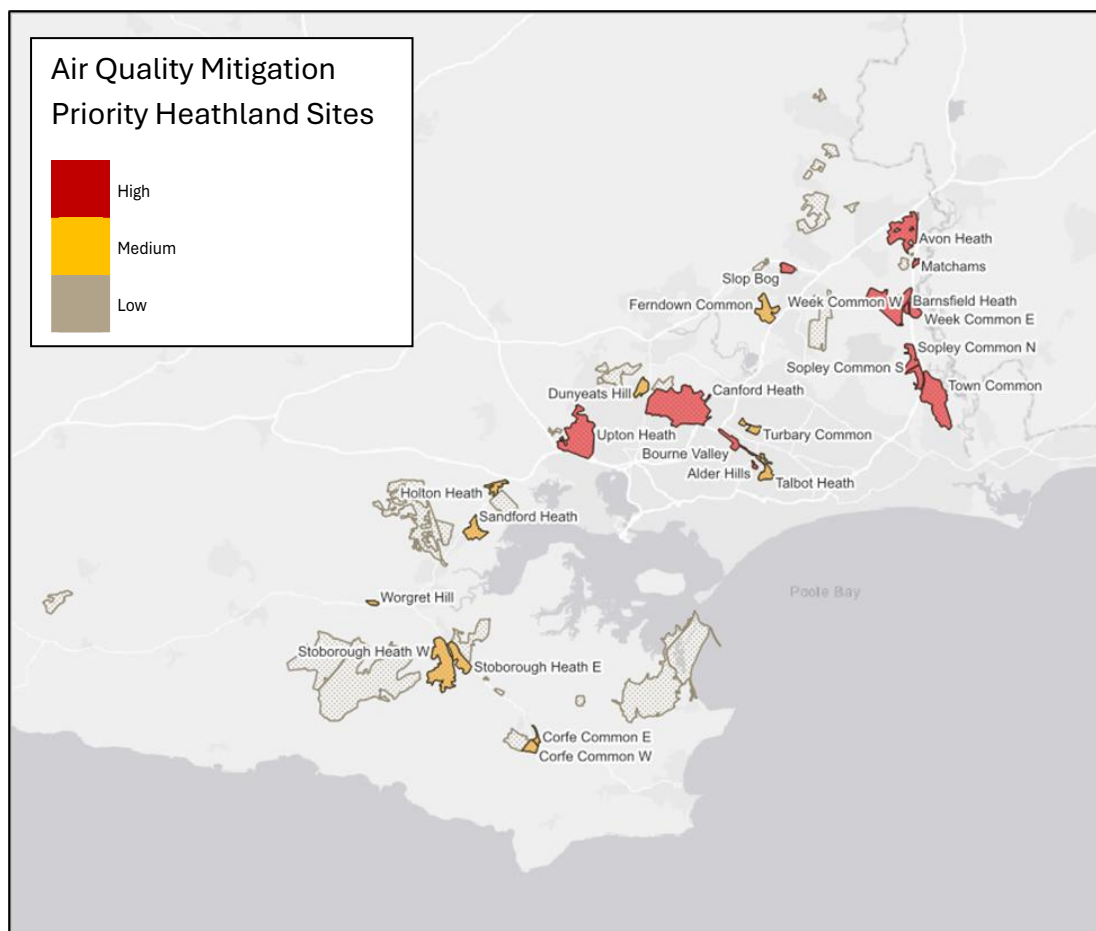


Figure 13 Priority Heathland Sites

7.2 Heathland Air Pollution Sites Vegetation Survey Report 2026:

Project Information	Value
Project area	180 Hectares
Cost	£7,320 +VAT
Traffic emissions source	Various

Lowland heathland is a rare habitat, both in Britain and globally, and the Dorset Heaths Special Area of Conservation (SAC) includes much of the remaining heathland in the county. Heath vegetation develops on soils that are naturally acidic and extremely nutrient poor. Traditional management maintains the vegetation by removing nutrients in the form of grazing and scrub management.

Today the heathland blocks are fragmented, and many areas are close to roads, a known source of pollution that can have a negative effect on the vegetation.

Phase 1 of the air monitoring was successful in attributing road traffic emissions to areas of heathland where the requirement for improvement was identified.

This survey is a continuation of data gathering and provides baseline information for the current habitat present within a 200 metre strip adjacent to busy roads for a further 14 heathland sites.

The general findings of the report were that the heathland vegetation was found to comprise species typical of the very acidic and nutrient-poor soils. Plants that indicate enriched soils are generally restricted to non-heath scrub and secondary woodland vegetation along the heathland margins.

The epiphytic lichens show low level enrichment at all sites with species tolerant of Nitrogen compounds present on the sample trees. However, lichens observed during the survey were in good health.

Species highly intolerant of even low levels of Nitrogen and Ammonia compounds and typically found on bark of Oak, Birch and Willow were scarce on Oak trees at most sites. They were still present on the naturally acidic bark of Birch and Scot's Pine.

At several sites Western Gorse was noticeably tall and growing in dominant dense stands. The 'vigour' of the Western Gorse could be due to deposition having a localised fertilizing effect on the vegetation.

Bare ground is generally restricted to well-used paths and tracks that are generally compacted.

More provision of bare ground would be desirable at most other sites, the report recommends that this could be achieved by clearance of Gorse scrub or Bracken and then scraping off the litter and any enriched topsoil to expose the sandy soils.

For each site visited, the report makes management recommendations for improvements to the heathland condition.

8. Future Project Planning 2026/27

8.1 Canford Heath Air Quality Mitigation Project (Project development stage)

The southern area of Canford Heath bounded by Canford Heath Road and Canford Heath Way (A3049). It is an area of the heath where there is the potential to remove nutrients and invasive species (Bracken and Gorse) from the soil and create areas of bare ground.

The Canford Heath Air Quality Mitigation Projects 2026 will focus on nutrient rich areas; removing vegetation and inverting or scraping away soil to create pioneer heathland and bare ground habitats to enhance the resilience to nitrogen deposition. The projects will provide additional benefits for reptiles and invertebrates and improve firebreak management and public access pressures.

The aim of a soil inversion is to destroy existing undesirable vegetation and bury unwanted seed banks. The mixing in of soil horizons is a fairly common practice in many experimental, pre-restoration ground preparation in the UK.

8.2 Other Heathland Mitigation Projects – TBC

During the first half of 2026 the Air Quality Mitigation Officer will work with site managers to identify projects that can be delivered with the budget allocated for this financial year.

8.3 Air Quality Education Resources and Sessions

The positive engagement from students at Hillside First School suggests that there may be an opportunity to develop educational resources that could be delivered to other schools across Dorset.

The objective would be to raise awareness of the impact of air pollution on protected habitats, in particular road traffic emissions, and encourage younger generations to make lifestyle changes to improve air quality or protect themselves and the environment from polluted air.

9. Appendix

9.1 Finance top sheet

Expenditure Summary

Total Cost (100% Shared Cost)

Category	Cost (£)
Travel	1,242.70
Sundries	143.62
Projects	78,426.20
Staff Costs	47,413.00
Total	127,225.52

BCP Contribution (75%)

Category	Cost (£)
Travel	–
Sundries	107.72
Projects	58,819.65
Staff Costs	35,559.75
Total	94,487.12

Dorset Council Contribution (25%)

Category	Cost (£)
Travel	–
Sundries	35.91
Projects	19,606.55
Staff Costs	11,853.25
Total	31,495.71

9.2 Dorset Heathland Air Quality Sampling Report 2025

[Dorset Heathland Air Quality Sampling Report 2025](#)