



Working in Partnership



Dorset Heathlands Interim Air Quality Strategy

.....
A Strategy to help achieve the conservation objectives
of the Dorset Heathlands designated sites

Phase 2 – Interim Measures for 2020-2025

Adopted 2nd March 2021
Dorset Council

Executive Summary

The aim of this strategy is to address the adverse effect of airborne nitrogen upon the Dorset Heathlands designated sites by contributing to the achievement of the conservation objectives for air quality and in doing so, facilitate the delivery of planned development.

This document is part of an agreed strategic approach by Bournemouth, Christchurch and Poole Council (BCP Council), Dorset Council and Natural England to address sources of airborne nitrogen based pollution generated in the vicinity of the Dorset Heathlands.

Airborne nitrogen-based pollutants from multiple sources including agriculture and vehicle emissions settle on heathlands, enriching the soil. This favours faster growing plants and the spread of species not normally found on heathlands which outcompete and inhibit the recovery of the heathland habitats. Ammonia and nitrogen oxides also have direct toxic effects on plant communities.

Article 6(2) of the Habitats Directive requires member states to take appropriate steps to avoid deterioration of designated sites. When preparing a local plan or granting planning permission for development, Councils are also required under Article 6(3) of the Habitats Directive, through a habitats regulations assessment, to conclude no significant adverse effects on the integrity of designated sites, such as those which comprise the Dorset Heathlands.

Vehicle emissions cause nutrient deposition and direct toxicity effects, principally within 200 metres of roads. Additional vehicle trips generated by new development, in-combination with all planned development across South East Dorset, is likely to have a significant adverse effect upon the integrity of Dorset Heathlands SAC. The Councils can partially address this pollution by using developer contributions to fund targeted management of heathland but measures to actively reduce emissions are also required. This element forms part of the overall strategy to deliver the reductions in pollution necessary to help achieve the conservation objectives of the Dorset Heathlands.

The Councils have already implemented, or are already implementing, projects that will improve air quality on heathlands. The strategy envisages a phased approach to the delivery of further projects and measures to contribute to the recovery the Dorset Heathlands towards favourable conservation status with regard to air quality:

- *Phase 1: - Measures already in place 2015-2020* – Projects implemented for other reasons which have air quality benefits to the protected heathland nearby.
- *Phase 2: Interim approach from 2020-2025* - Projects to deliver benefits ahead of the preparation of formal local plan policy.
- *Phase 3: Local plan approach from 2025 onwards* - Projects aligned to new policies set out in the BCP Council Local Plan and the Dorset Council Local Plan.

This document constitutes Phase 2. It is the first documented phase of the overall strategy and will deliver projects from 2020-2025. Phase 3 of the strategy will be prepared through the BCP Council and Dorset Council local plans process. This strategy can then become a supplementary planning document (SPD) setting out the detail to implement local plan policies. By 2030, or when government policy on vehicle emissions will trigger an increasing shift to zero emission vehicles, the measures set out in this strategy should become embedded. The measures will be needed until air pollution levels return to an acceptable level and the conservation objectives of the Dorset Heathlands are achieved in respect of air quality.

Types of measures include direct measures targeting vehicle emissions adjacent to heathland. These include projects to encourage modal shift to other forms of transport, reduce vehicle speeds adjacent to heathlands, encourage the use of zero emission vehicles and through heathland management alongside roads. The strategy also addresses wider measures to reduce nitrogen deposition from agricultural land near to heathlands, or the re-siting / cleaning up of certain operations that generate emissions.

By taking a holistic approach with other mitigation measures and initiatives, this strategy will drive an improving trend in air quality which is targeted to the sources which make the greater contribution to current exceedances. This improving trend might then be taken into account by the Councils when considering whether to grant planning permissions in accordance with regulation 63 of the Habitats Regulations.

The Councils will produce and regularly update an Implementation Plan. A projects coordinator will be appointed to bring forward projects and establish a monitoring strategy to assess vegetation changes and transport emissions data over the timeframe of this strategy. A budget of £750,000 will be set aside from Community Infrastructure Levy, split between the Councils on the basis of planned development (75% BCP Council and 25% Dorset Council).

As projects are implemented and landowners are engaged within the process, the strategy will not only play its part in avoiding adverse effects to site integrity from proposed development but will also actively contribute to achieving the conservation objectives in respect of air quality for the Dorset Heathlands designated sites.

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1. Legislative and Policy Background

Designations

- 1.1 The lowland heaths in South East Dorset are covered by several international, European and national designations:
- Dorset Heathlands Special Protection Area (SPA);
 - Dorset Heathlands Ramsar Site;
 - Dorset Heaths Special Area of Conservation (SAC); and
 - Dorset Heaths (Purbeck and Wareham) and Studland Dunes SAC.
- 1.2 Collectively these designations are referred to as the Dorset Heathlands and cover an extensive area of South East Dorset fragmented by urban development, forestry, agriculture and other land uses. The sites include lowland dry heath, wet heath and mire, in particular air pollution affects the lower plant and lichen communities, as well as functional aspects of the habitats such as the structure. Examples of species negatively impacted by nitrogen include common heather, reindeer lichen, cross leaved heath and sundew in wet heathland and Sphagnum mosses, liverworts, Utricularia (bladderwort) species and bog asphodel in the Rhynchosporion community.
- 1.3 The Site Improvement Plan (SIP) for the Dorset Heathlands provides a high-level overview of the issues (both current and predicted) affecting the condition of features on the site and outlines the priority measures required to improve the condition of those features. The following extract is from the Dorset Heathlands SIP (2014):

Plan Summary				
This table shows the prioritised issues for the site(s), the features they affect, the proposed measures to address the issues and the delivery bodies whose involvement is required to deliver the measures. The list of delivery bodies will include those who have agreed to the actions as well as those where discussions over their role in delivering the actions is on-going				
Priority & Issue	Pressure or threat	Features affected	Measure	Delivery Bodies
11 Air Pollution: impact of atmospheric nitrogen deposition	Pressure	H4010 Northern Atlantic wet heaths with Erica tetralix; H4030 European dry heaths; H7150 Depressions on peat substrates of the Rhynchosporion	Reduce atmospheric nitrogen deposition	Natural England

- 1.4 The SIP also identified ‘actions’ against the issues and the extract in respect of air pollution is as follows. The need for the control, reduction and amelioration of atmospheric nitrogen impacts has therefore been recognised within the SIP.

11 Air Pollution: impact of atmospheric nitrogen deposition							
Air pollution impacts on the site's vegetation diversity. As with most lowland heathlands and mires in England N deposition is close to, and in some cases exceeds critical loads (e.g. fFor Rhynchosporion							
Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
11A	Control, reduce and ameliorate atmospheric nitrogen impacts.	Not yet determined	2014-20	Site Nitrogen Action Plan	Not yet determined	Natural England	Not yet determined

The Habitats and Birds Directives

- 1.5 The European Commission Habitats Directive (1992) contributes towards securing biodiversity through the conservation of natural habitats and species. Both the Dorset Heaths SAC and the Dorset Heaths (Purbeck and Wareham) and Studland Dunes SAC are designated in accordance with the Habitats Directive.
- 1.6 The European Commission Wild Birds Directive (2009) concerns the conservation of all species of wild birds. The Dorset Heathlands SPA is classified under the Birds Directive.

- 1.7 Following the exit from the European Union, the United Kingdom is no longer a ‘Member State’. However, the Conservation of Habitats and Species Amendment (EU Exit) Regulations 2019 came into force on 31 December 2020. Regulation 3A covers interpretation of the Directives, where it sets out that all references to ‘Member States’ include the United Kingdom. The requirements of the Habitats and Birds Directives therefore continue to have effect. Furthermore, regulation 16A sets out new duties to manage the national site network with a view to contributing to the achievement of its management objectives. The management objectives are to maintain or restore habitats and species to a favourable conservation status and to contribute to ensuring the survival and reproduction of Annex 1 bird species as well as regularly occurring migratory species of birds.
- 1.8 Article 6(1) of the Habitats Directive requires Member States [*including the United Kingdom*] to establish the necessary conservation measures which correspond to the ecological requirements of the habitats and species. Article 6(2) of the Habitats Directive requires Member States [*including the United Kingdom*] to take appropriate steps to avoid the deterioration of designated SACs. In addition, regulation 10 of the Habitats Regulations sets out similar duties in respect of wild bird habitat where designated as part of an SPA, and UK National Planning Policy Framework (2019) affords Ramsar sites (known as International Sites) the same protection as SACs and SPAs (known as European sites). SPAs, SACs and Ramsar sites are collectively known as the Natura 2000 network across Europe and this, following the exit from the European Union, is now known as the National Sites Network in the UK.
- 1.9 Article 6(3) of the Habitats Directive, regarding the need for appropriate assessment of a plan or project which has a likely significant effect (either alone or in combination with other plans and projects), is transposed into UK law through Regulation 63 of the ‘Habitats Regulations’.

The Habitats Regulations

- 1.10 European sites are protected by the European Commission Birds and Habitats Directives, specific provisions of which are applied in the UK by the Conservation of Habitats and Species Regulations 2017 (as amended). The regulations are more commonly referred to as the Habitats Regulations. They place responsibilities on a decision maker (referred to as the ‘competent authority’) in relation to such sites. The Councils when determining planning applications take on the role of the competent authorities under the Habitats Regulations and are advised by Natural England on how to fulfil these duties.
- 1.11 Regulation 63 of the Habitats Regulations requires that any application for development or strategic plan or policy which is likely to significantly affect a European site is subject to an appropriate assessment of the implications of the proposal in view of the site’s conservation objectives. The planning authority must ascertain that the plan or project will not have an adverse effect on the integrity of the site, either alone or in combination with other plans or projects, either directly or indirectly, taking account of any conditions or restrictions that would help ensure no adverse effect, before granting permission or adopting a plan or policy.
- 1.12 Regulation 9(3) places a general duty upon a competent authority, in exercising any of its functions, to have regard to the requirements of the Directives so far as they may be affected by the exercise of those functions.

Legal Judgements

- 1.13 When preparing a local plan or granting planning permission for development, Councils are required, through appropriate assessment, to conclude no significant adverse effects on the integrity of designated sites, such as the Dorset Heathlands.
- 1.14 In 2017, the High Court ruled in the case of *Wealden District Council v Secretary of State*¹ that the failure to take account of proposed housing development in combination with other plans and

¹ Wealden DC v SoS and Lewes DC [2017] EWHC 351 (Admin)

projects had brought about a clear breach of the Habitats Directive. The Court explicitly recognised that *'if it is known that specific impacts are very low indeed, or are likely to be such, these can properly be ignored'* (emphasis added) but the failure to take account of in combination effects could not be supported (under the circumstances) on logical and empirical grounds.

National Planning Policy Framework

- 1.15 The National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG) outline the procedure set out by the government that should be followed in deciding whether to approve a proposal (a plan or project) that will potentially affect a protected habitats site.
- 1.16 The NPPF recognises the value of our natural environment stating that the *'planning system should contribute to and enhance the natural and local environment'*², for example by protecting and enhancing valued landscapes such as heathland, establishing coherent and resilient ecological networks and providing net gains for biodiversity. Importantly the presumption in favour of sustainable development does not apply where development requiring appropriate assessment under the Birds or Habitats Directives or Ramsar convention is being considered, planned or determined.³

Development Plans

- 1.17 The two Councils have adopted legacy Local Plans which contain similarly worded policies to address the adverse effects on the Dorset Heathlands of pressures arising from population growth:
- Bournemouth Core Strategy (2012) - Policy CS33 Heathland.
 - Christchurch and East Dorset Local Plan Part 1 (2014) - Policy ME2 Protection of the Dorset Heathlands.
 - The Poole Local Plan (2018) - Policy PP32 Part (1) Poole's nationally, European and internationally important protected sites.
 - The North Dorset Local Plan Part 1 (2016) – Policy 4 Natural Environment.
 - The Purbeck Local Plan Part 1 (2012) Policy DH Dorset Heaths International Designations and Swanage Local Plan (2017). A new Purbeck Local Plan is currently at examination and will replace the 2012 Plan with a replacement heathland policy (Policy E8).
 - The West Dorset, Weymouth & Portland Local Plan (2015) – Policy ENV2 Wildlife and Habitats.
- 1.18 The strategy to implement these policies is set out in The Dorset Heathlands Planning Framework 2020-2025 SPD. The SPD identifies air pollution as an issue for the heathlands, but the strategy is focussed upon the recreational impacts of development, so does not deal directly with the additional airborne emissions associated with the developments.
- 1.19 The local plans are accompanied by habitats regulations assessments which set out the measures that need to be provided to enable development to be delivered. Together the habitats regulations assessments provide a consistent record of the approach to avoidance and mitigation and in varying levels of detail, the type and nature of projects required.
- 1.20 In addition to the local plans, there may be relevant policies in neighbourhood plans which will provide local context and support for the strategy.

² NPPF para 170

³ NPPF para 176,177

2. Evidence

2.1 The evidence section is broken down into 3 parts:

- Evidence of air pollution effects;
- Evidence of traffic patterns; and
- Evidence of air pollution remediation/mitigation opportunities.

Evidence of air pollution effects

Nitrogen deposition

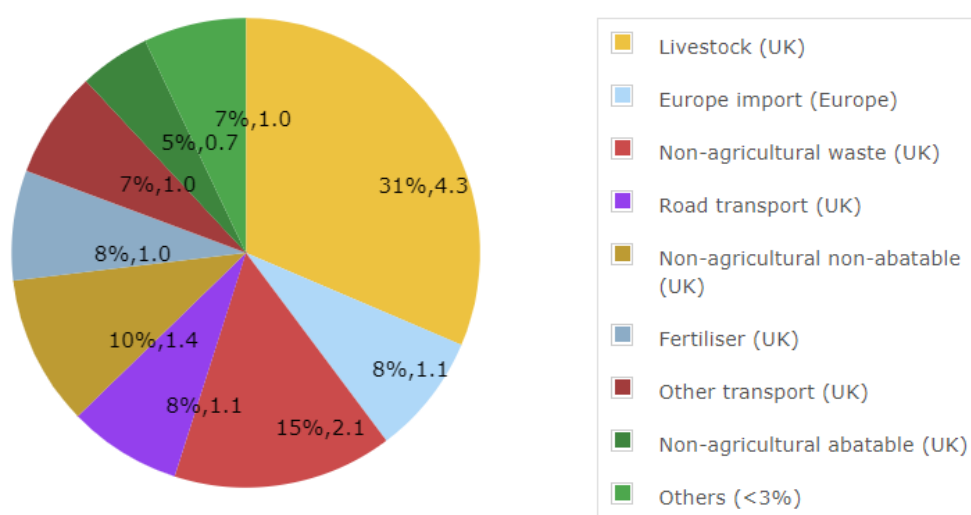
2.2 It is important to acknowledge that nitrogen deposition on to the heathlands comes from several sources. The main sources of atmospheric nitrogen deposition are nitrogen oxides (NOx) from vehicles, industry and electricity generation and ammonia (NH3), mainly from agricultural sources. Some local sources will make larger contributions when they lie close to the heathlands, such as road transport, airports, waste sites and agricultural activities.

2.3 Figure 1 below produced by the UK Air Pollution Information System (APIS) provides an indication of the contributions of different sources to total nitrogen deposition on the Dorset Heaths SAC. It represents the contributions averaged over a 5x5km square for the year 2012. It does not include the contribution from ammonia within the transport sector as this is an emerging area of research⁴ into how commercially available fuel additives, e.g. Adblue (used to control NOx emissions in diesel exhaust gasses) lead to elevated ammonia emissions which may require consideration at the local level - hence it is only indicative.

2.4 There are some activities which can't be influenced at a local level such as deposition coming from abroad (Europe import) or aeroplanes and shipping (Other transport). Activities that can be influenced include agriculture (Livestock, Fertilisers) which accounts for 39% of deposition and vehicles (Road Transport) which accounts for 8%.

Figure 1 – Indicative proportions of nitrogen deposition on the Dorset Heaths SAC from different activities

■ Pie Chart: Local contributions to Nitrogen deposition (Kg N/ha/yr) from sources (UK)

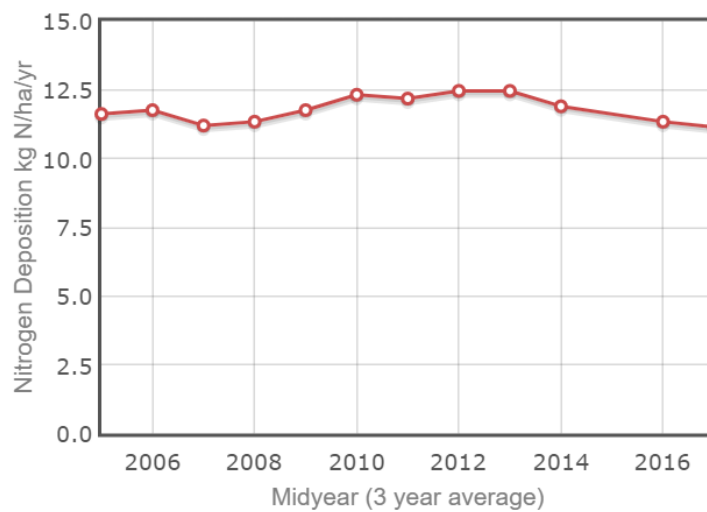


Source: <http://www.apis.ac.uk/src/source-attribution?submit=Source+Attribution&sitetype=SAC&sitecode=UK0019857&sitename=Dorset+Heaths>

⁴ A Guide to the assessment of air quality impacts on designated nature conservation sites. Institute of Air Quality Management, May 2020

2.5 Figure 2, also from APIS, shows the trend in nitrogen deposition to short vegetation within Dorset Heaths SAC over the period 2004 to 2018. This shows little change over the 14 year period.

Figure 2 – Trend in total nitrogen deposition to short vegetation on the Dorset Heaths SAC, 2004 to 2018.

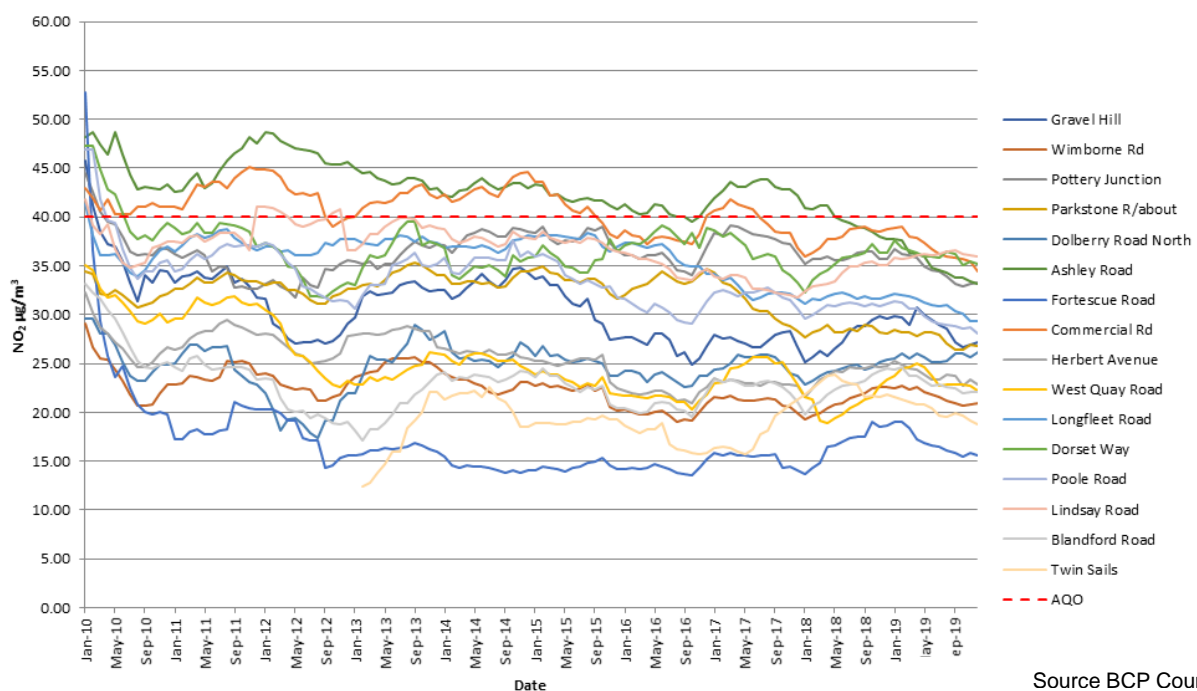


Source <http://www.apis.ac.uk/src/select-a-feature?site=UK0019857&SiteType=SAC&submit=Next>

Ammonia and Nitrogen Oxides

- 2.6 Ammonia and nitrogen oxides have toxic effects in their gaseous form, as well as contributing to nitrogen deposition. Key sources of ammonia are from agricultural activities with a further contribution from road vehicle emissions associated with the technologies being used to control the nitrogen oxides emissions. Lichens and mosses are particularly sensitive to toxic effects from ammonia.
- 2.7 Nitrogen oxides come from combustion sources, with road traffic being the key source. Emissions of nitrogen oxides from road traffic have been declining over the last decade, due to the introduction of legal controls on vehicle emissions. This is reflected in the roadside monitoring results for nitrogen dioxide from the former Borough of Poole over the period 2010 to 2019, as set out in Figure 3; there has been an overall decline over this period. This is due to both a reduction in regional emissions of nitrogen oxides and more directly to declining emissions from the road traffic close to the monitoring site from improving vehicle engine performance.

Figure 3: Reduction in nitrogen oxides from vehicle emissions in Poole from 2010-2019



Source BCP Council

The effect of nitrogen deposition

2.8 This nitrogen deposition affects the vegetation of lowland dry heath, wet heath and mire, in particular, the lower plant and lichen communities as well as functional aspects of the habitats. The likely effects of nutrient deposition are:

- Heath vegetation becomes "lusher" and so more prone to adverse effects such as heather beetle, fungal attacks etc. The growth rate of some species is accelerated e.g. European and dwarf gorses;
- The vegetation responds with increased grass dominance and especially non-typical grasses and herbs responding to higher levels of available nutrients;
- Nitrogen levels in heathland soils build up when there is increased aerial pollution and standard management measures such as cutting are less effective at removing nitrogen than more aggressive approaches such as humus removal;
- The wetter habitats show increased vigorous purple moor grass cover due to increased nutrient availability;
- Bare ground and open habitats used by SPA birds and features such as sand scrapes, which are important habitats for sand lizards, become vegetated over more rapidly and require more frequent management;
- Site restoration measures are inhibited, e.g. succession pathway towards a bracken, birch seedling, grassland phase is facilitated rather than to heathland;
- Non-native invasive species such as Gaultheria spp, rhododendron, Amelanchia spp and laurel are able to grow and spread more effectively; and
- More vegetation growth can lead to an increased fire risk due to the higher fuel load produced and increased management costs and considerations.

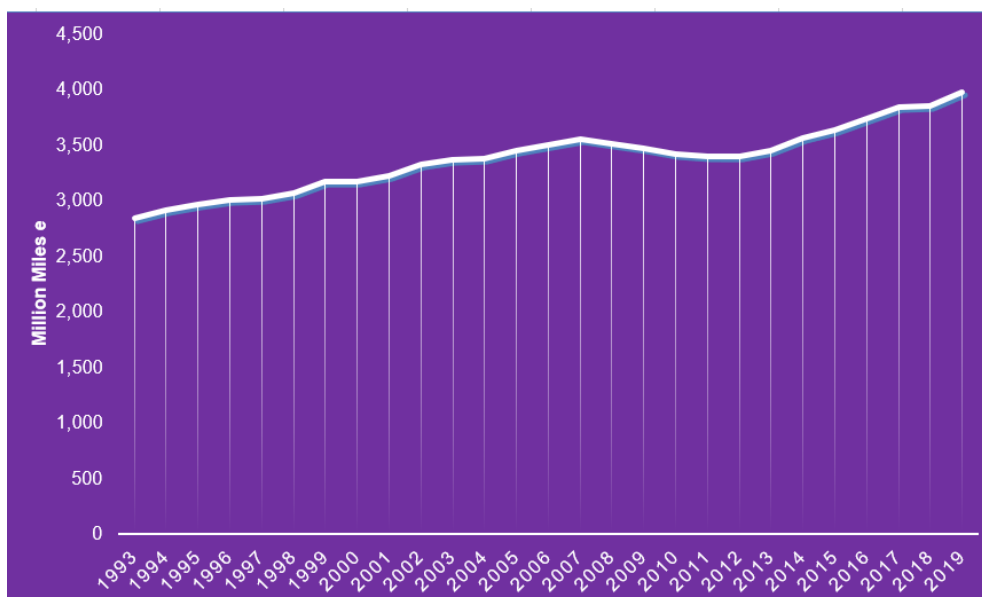
The air quality impact of combustion engine vehicles and how this affects the Dorset Heathlands

2.9 As highlighted above by APIS, combustion engine vehicles (motor vehicles) make an overall contribution of around 8% of the nitrogen deposition upon the heathlands. However, Natural England advice to competent authorities is that this contribution will be higher within around 200 metres of the roadside⁵. The amount deposited on the vegetation declines rapidly away from the road.

2.10 Vehicle trips in the BCP Council and Dorset Council areas are rising as shown in Figure 4, and the Department for Transport projects this to continue. Traffic volume increased by 4% from 2001-2018. This trend makes it harder to reduce nitrogen deposition to the heathlands in order to meet the conservation objectives.

⁵ [Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations](#)

Figure 4: Car Trips in Dorset and BCP Council Areas (million miles)



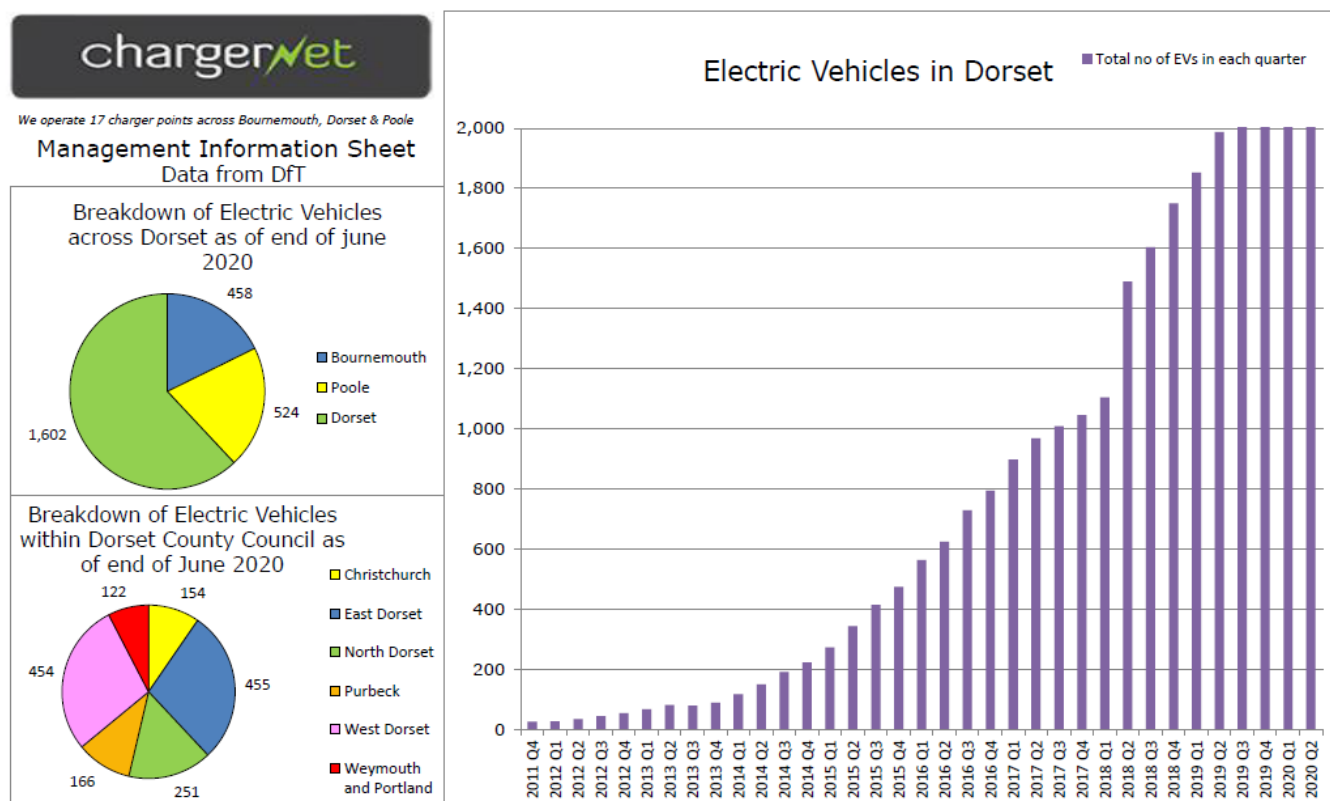
Source DfT: <https://www.gov.uk/government/statistical-data-sets/road-traffic-statistics-tra#traffic-by-local-authority-tra89>

Evidence of traffic patterns

The transition to zero emission vehicles

- 2.11 Government through *'The Ten Point Plan for a Green Industrial Revolution'* (November 2020) is planning to ban the sale of new purely petrol and diesel-powered cars and vans by 2030 and the sale of new internal combustion engines (including hybrids) by 2035. Government intends to invest in electric-vehicle charge points. The Ten Point Plan states that cars and vans make up nearly a fifth of emissions.
- 2.12 As car manufacturing responds to this challenge, the current expectation is that by around 2030 the shift to zero emission cars and vans should result in air pollution levels returning to an acceptable level, helping to achieve the conservation objectives of the Dorset Heathlands in respect of air quality. Measures are therefore required in the period between now and when wider government measures take effect and vehicle emissions reduce.
- 2.13 The two Councils are facilitating the transition to electric vehicles through the provision of publicly accessible electric charging points and by encouraging developers to make electric charging points available in new homes and businesses. Figure 5 shows the rapid growth in electric vehicles across BCP Council and Dorset Council areas.

Figure 5: Increase in electric vehicle ownership across BCP Council and Dorset Council areas



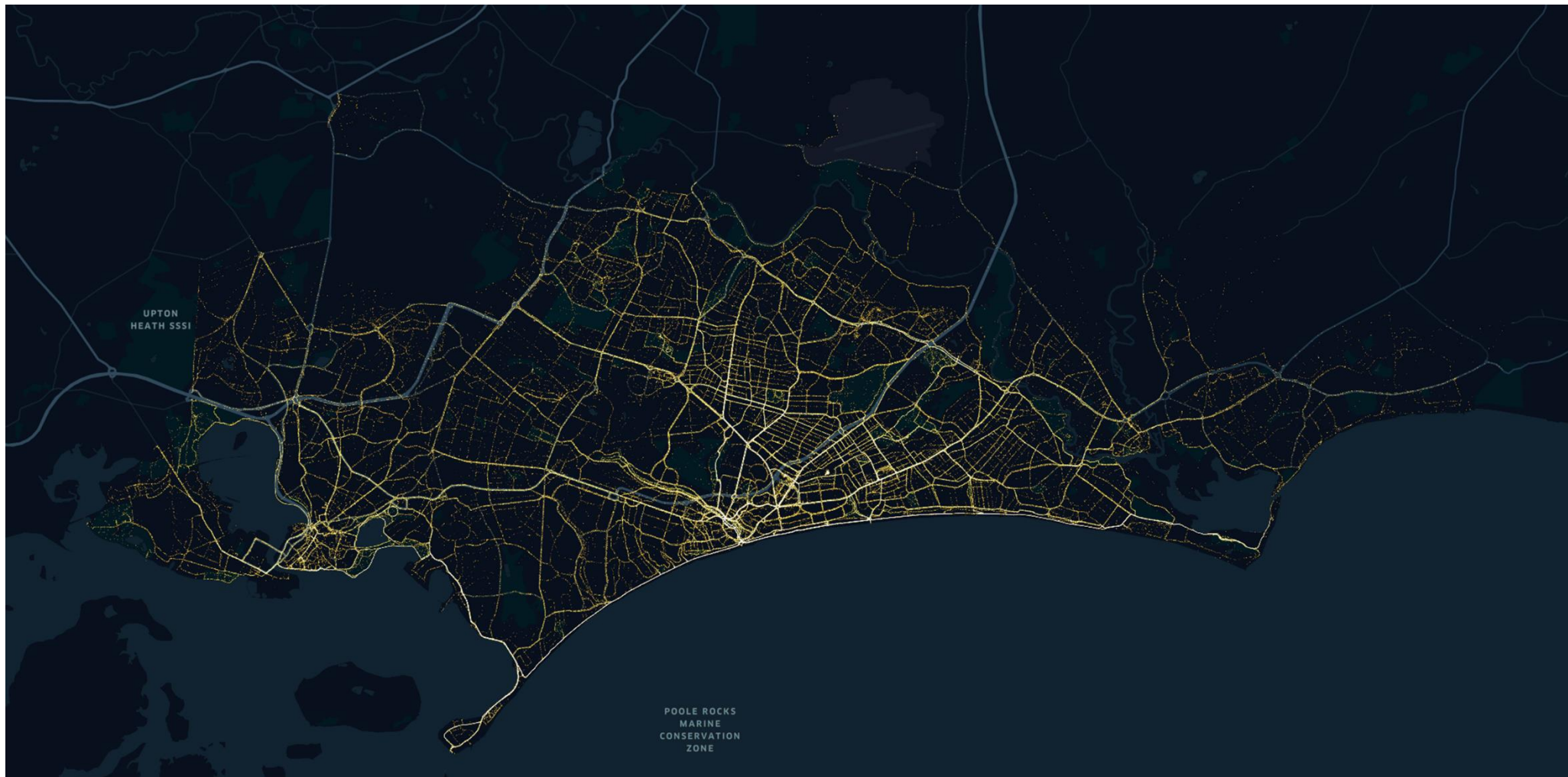
Source DfT, <https://www.gov.uk/government/statistical-data-sets/road-traffic-statistics-tra#traffic-volume-in-miles-tra01>

Transforming Travel

- 2.14 The Government’s ten-point plan also includes proposals for significant further investment in public transport, cycling and walking. Government had already awarded BCP Council and Dorset Council £100m plus from the Transforming Cities Fund to make a step-change in local sustainable transport options. The local initiative called ‘*Transforming Travel*’⁶ will be the largest sustainable transport infrastructure improvement programme ever seen in the area.
- 2.15 The Councils are already actively promoting sustainable transport options. These strategies aim to improve accessibility and reduce reliance upon private motor vehicles for trips. BCP Council introduced a bike hire system in June 2019, with 235,000 journeys by bike in the first year. Survey data from riders indicates that 18% of riders used a hire bike instead of a private car, taking 42,300 car journeys off the road. Figure 6 provides a heatmap of all journeys since the launch.

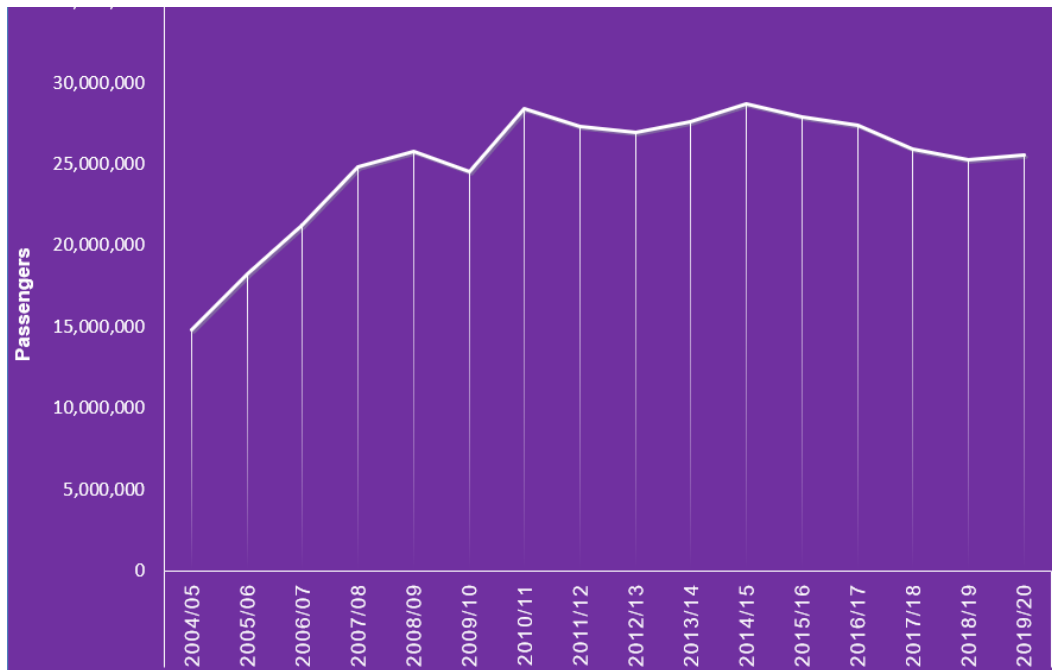
⁶ <https://www.bcpCouncil.gov.uk/News/News-Features/Transforming-Travel/Transforming-Cities-Fund.aspx>

Figure 6: Heatmap showing trips made by hire bikes since June 2019



2.16 The provision of bus services including high speed routes across the conurbation saw a large increase in bus patronage to 2010 after which usage has levelled off as illustrated in Figure 7

Figure 7 - Passengers using local bus services in Bournemouth and Poole



Source: BCP Council

2.17 Moving forward the two Councils are committed to Transforming Travel and as the project progresses over the next few years, will encourage an increasing of proportion of all trips to be made by public transport, cycling and walking.

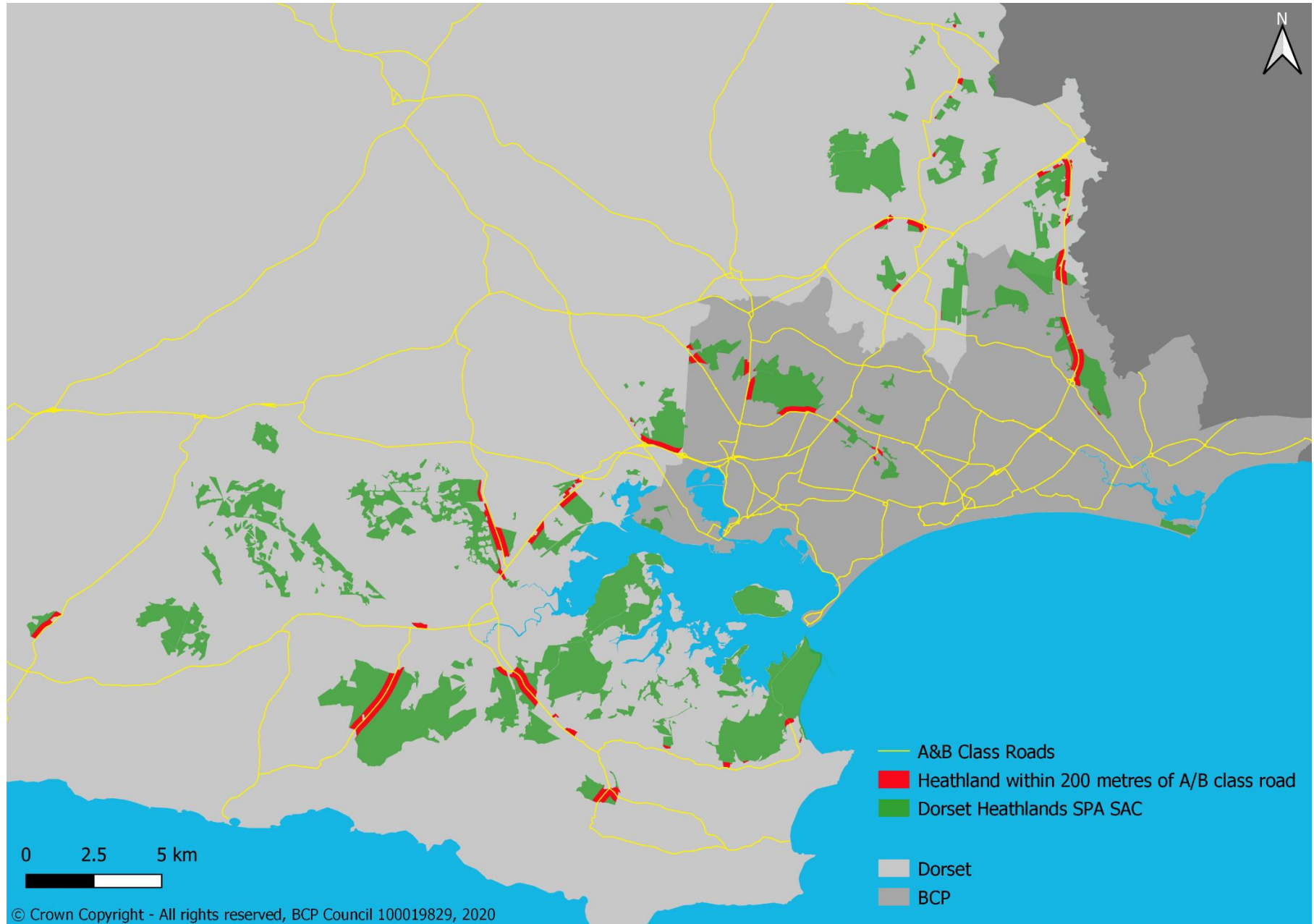
Evidence of air pollution remediation/mitigation opportunities

Additional management practices on heathlands

2.18 As evidenced above, heathland management can counteract the harmful effects from air pollution. To counteract air pollution from vehicles within 200 metres of a road, measures could include focussed grazing or stripping back of nutrient enriched soil / vegetation within these areas. These methods are consistent with current heathland management practices but carried out in a more focussed manner. This management will help facilitate native heathland species to recover. Currently landowners can secure countryside stewardship payments to maintain lowland heath at £274 per hectare per year. In the absence of detailed and costed management plans for the individual heathland sites, this cost is considered an established figure which should over the duration of the strategy ensure enough resources are available to counteract the identified harmful processes.

2.19 Using the road centre line for A and B class roads and measuring 200 metres in either direction identifies 638 hectares of heathland that are likely to be affected by vehicle emissions, as coloured red in Figure 8. Only some of this area will be suited to measures, as for example some heathland will be established broadleaved woodland, or landowners may not be interested in introducing measures.

Figure 8: A and B class roads passing heathland sites in South East Dorset



2.20 To counter the effects of vehicle emissions, increased land management practices can prevent areas remaining in an unfavourable condition, including:

- Heather sward cut or burnt more frequently;
- Increased grazing stock rate/more mixed grazing;
- Focussed small grazing units to tackle specific problem areas;
- Litter stripping with the creation of banks;
- Soil stripping of affected soil humus and enhanced control of invasive non-native plants;
- Increased frequency of bracken and gorse control to direct regeneration to heathland;
- Creation of bare ground; and
- Change of use of adjacent agricultural land to support conservation measures, e.g. Heathland Support Area.

Nitrogen Futures

2.21 The DEFRA Nitrogen Futures project⁷ aims to compare current and possible future emission reduction policies to help maximise the benefits to ecosystems and the people that live near them.

2.22 The project has quantified the benefits from a range of potential emission mitigation options and develop different scenarios. The scenarios explore the location for mitigation measures to maximise benefits to ecosystems and protected areas. The project results will be used as evidence to inform policy development at UK, country and local scale. It is not yet clear what the effect of the project on nitrogen deposition will be or the time scales involved.

Identification of Potential Remedies for Air Pollution (nitrogen) Impacts on Designated Sites (RAPIDS)

2.23 The 2015 RAPIDS study⁸ sets out potential measures and delivery mechanisms to reduce nitrogen deposition on heathland. Some of the suggested measures are set out below in Figure 9 for both agriculture and vehicle emissions, with an indication of the potential mitigation effect.

Figure 9: A selection of potential mitigation measures identified by RAPIDS

Method	Mitigation effect
Agricultural emissions	
Convert intensive agricultural land (arable and grass) to unfertilised grassland or semi-natural land cover (inc. woodland) around designated sites	90%
Reduce mineral fertiliser application rates	20%
Tree belt next to designated site	20%
Improvements to manure spreading, e.g. slurry injection	70-90%
Improved manure storage, e.g. a floating cover on slurry pits	50%
In planning applications for new sites, local protection of a designated site may be much improved by landscape-planning, i.e. siting the development further away.	Unspecified
Vehicle emissions	
Installation of bunds/screens alongside roads	Unspecified
Introduction of demand management technique, e.g. low emission zones (LEZs).	12%
Real time traffic information e.g. optimising traffic flows, re-routing of traffic	Unspecified
Promote greener technologies e.g. financial incentives to take up electric vehicles	Unspecified

⁷ <https://jncc.gov.uk/our-work/nitrogen-futures/>

⁸ https://uk-air.defra.gov.uk/library/reports?report_id=865

3. The Dorset Heathlands air quality strategy

Aim of the strategy

3.1 The aim of this strategy is to address the adverse effect of airborne nitrogen upon the Dorset Heathlands designated sites by contributing to the achievement of the conservation objectives for air quality and in doing so, facilitate the delivery of planned development.

Objectives of the strategy

3.2 The objectives are:

- Contributing to the achievement of the conservation objectives of the Dorset Heathlands;
- Facilitating the delivery of planned development;
- Encouraging modal shift to reduce the number of trips by combustion engine vehicles;
- Accelerating the shift to zero emission vehicles;
- Working pro-actively with the agricultural sector to implement measures; and
- Multi-layering projects to provide other benefits to include:
 - improved air quality for public health;
 - net gain in biodiversity; and
 - helping towards achievement of the Council's climate and ecological emergencies.

Types of Mitigation Measures

3.3 Figure 1 illustrates the range of air pollution sources affecting the Dorset Heaths SAC and highlights the need for the Councils to work with multiple agencies and landowners on a variety of different types of mitigation projects in order to help achieve the conservation objectives in respect of air quality.

3.4 Many of the sources require a national or even international approach to mitigate the harm. The RAPIDS study notes that *'While locally targeted remedies may be particularly effective for a number of designated sites, this is not a substitute for overall national and international efforts to reduce emissions, which are necessary to reduce large-scale regionally elevated background N concentrations and deposition.'* As mentioned above, a key national approach is the current government's aim to only allow sales of zero emission cars and vans by 2030 and all vehicles by 2035. Combustion engine vehicle use may be assumed to substantially decline thereafter.

3.5 This strategy is therefore limited to local measures that the two Councils can influence. As highlighted by the RAPIDS study there are some options that can be achieved locally. For instance, the two Councils can:

- As local planning authority prepare local plans for waste and for the location of development;
- As local planning authority gather developer contributions as set out in the relevant local plans and supporting documents and use this funding to implement a range of management measures either on or adjacent to designated heathland;
- As local highway authority encourage a modal shift from private cars to public transport, cycling and walking; manage transport and facilitate electric vehicle charging;
- As landowners deliver projects within the Council owned estate; and
- Continue working with landowners and the farming community, as with other habitats regulations mitigation projects, in particular on the emerging Poole Harbour Nutrient

Management Scheme, which provides a useful platform to identify air quality improvement projects.

3.6 Measures fall into two types; Category 1 and Category 2:

Category 1 measures - to mitigate the direct impact of development

3.7 These measures will directly mitigate the impact of development by increasing the resilience of heathland habitats within 200m of the road. Measures will allow the heathland to recover as traffic emissions continue to decline as a result of modal shift and a greater take up of zero emission vehicles. These projects will be focussed around transport corridors with the aim of tackling vehicle emissions.

Category 2 measures - to improve air quality across the whole of the Dorset Heathlands

3.8 Category 1 measures alone may not be sufficient to avoid adverse effects to integrity of the Dorset Heathlands if other sources are anticipated to increase or if the current exceedances of critical nitrogen loads/levels are predicted to persist into the long term. Therefore Category 2 measures will aim to address air pollution across the entire heathland site (beyond 200 metres from a road). Category 2 measures are essential to ensuring that Category 1 measures are not undermined and that the conservation objectives in relation to air quality are achieved. These projects will be carried out at locations around the heathland area and focussed on reducing emission from agriculture.

3.9 By taking a holistic approach in which category 1 measures are delivered in parallel with other category 2 mitigation measures and initiatives, this strategy will drive an improving trend in air quality which is targeted to the sources which make the greatest contribution to current exceedances. This improving trend might then be taken into account by the Councils when considering whether to grant planning permissions in accordance with Article 6(3) of the Habitats Directive.

A phased approach to the strategy

3.10 The strategy has 3 phases, each phase of which will combine Category 1 and Category 2 measures:

- *Phase 1: - Measures already in place 2015-2020* – Projects implemented for other reasons which also have air quality benefits for the protected heathland nearby.
- *Phase 2: Interim approach from 2020-2025* - Projects to deliver benefits ahead of the preparation of formal local plan policy.
- *Phase 3: Local plan approach from 2025 onwards* - Projects aligned to new policies set out in the BCP Council Local Plan and the Dorset Council Local Plan.

3.11 This document constitutes Phase 2, the Interim approach from 2020-2025 and is the first documented phase of the strategy. It will act as the Site Nitrogen Action Plan as set out in the SIP. Phase 3 of the strategy will be prepared through the formal BCP Council and Dorset Council local plan processes. This strategy will then be integrated into each Council's local plan policy, with an expectation that this document will become a supplementary planning document (SPD), setting out the strategy to implement local plan policies.

3.12 By 2030, or when government policy on vehicle emissions drives a shift to other transport modes such as zero emission vehicles, the measures set out in this strategy should become embedded. The measures will be needed either until air pollution levels return to an acceptable level and favourable conservation status of the Dorset Heathlands, in respect of air pollution, is achieved or it is shown that vehicle emissions no longer contribute towards this issue

3.13 The next section focusses on the types of project considered at each phase of the strategy.

4. Phase 1 - Measures already in place 2015-2020

- 4.1 When preparing Phase 2 of this strategy, it has become evident that the Councils have already been delivering projects for other reasons, which have the incidental benefit of also reducing air pollution on the heaths. These projects have been captured below as a record of how this strategy is ongoing:

Category 1 measures:

- Traffic management to reduce vehicle speeds:
 - From 50mph to 40mph on Gravel Hill alongside Canford Heath (2016); and
 - From 70mph to 50mph using average speed cameras along the Wessex Way (2019) alongside Town Common / St Catherine's Hill; Sopley / Ramsdown heaths (2019).
- Encouraging modal shift away from private motor vehicles:
 - South East Dorset Urban Mobility Strategy (SEDUMS) and the Transforming Travel strategy - implement sustainable transport measures across South East Dorset and avoid reliance upon private car travel; and
 - Local Transport Plan and Local Plan transport mitigation strategies.
- Encouraging the switch to zero emission vehicles:
 - Provision of publicly available electric vehicle charging points; and
 - Requirement to provide electric charging points in new homes to encourage the switch to electric cars.

- 4.2 The air quality benefits of these transport measures have not been quantified, although the Implementation Plan will attempt to do so. However, these measures provide some context as to how wider initiatives can help to tackle traffic emissions and contribute towards achieving the conservation objectives in respect of air quality on the Dorset Heathlands.

Category 2 measures:

- Changing the management of agricultural land around heathlands to low nitrate use through mitigation measures under the Dorset Heathlands SPD and Nitrogen Reduction in Poole Harbour SPD:
 - Upton Park Farm to create a 30-hectare Suitable Alternative Natural Greenspace alongside Upton Heath (2015-2020);
 - Agreement with tenant farmer of Upton Park Farm for low intensity nitrate usage for a further 30 hectares of fields adjacent to Upton Heath (2015); and
 - Soldiers Road to revert use of 6 hectares of horse paddocks to heathland and incorporate into the adjacent Stoborough Heath National Nature Reserve (2017).

- 4.3 It should be possible to calculate the benefits of these measures and this will be carried out as part of the Implementation Plan. The RAPIDS study indicates that these changes of use can be up to 90% effective in tackling nitrogen deposition on nearby heathland.

5. Phase 2 Interim approach from 2020-2025

Planned development

- 5.1 Paras 4.12-15 of the Dorset Heathland Planning Framework 2020-2025 SPD identify the number of homes expected to come forward in each Council area within 5km of heathland over the 5 year period 2020/21-2024/25. This is 11,290 homes in the BCP Council area and 3,716 in the Dorset Council area, a total of 15,006 homes (rounded to 15,000).
- 5.2 This quantum of growth is likely to generate more vehicular trips on the road network and therefore contribute to nitrogen deposition on the Dorset Heathlands. However, current adopted local plans and habitats regulations assessments do not contain measures to ensure that new developments do not, alone or in combination, have an adverse effect upon heathland sites from increased air pollution. Because of recent legal judgements elsewhere in the UK and in the Dutch Nitrogen Case the issue has become critical for the Councils to address.
- 5.3 This leaves a policy vacuum for any new planning permissions until such time as the new local plans are adopted. The two Councils need to grant planning permissions and enabling housing growth during this time. To facilitate this, this strategy is intended to front load the implementation of projects to create a buffer through the delivery of measures. The two Councils can then take account of the mitigation provided through the delivery of such measures when completing habitats regulations assessments for new planning permissions.

Projects budget

- 5.4 Phase 2 will have an initial budget of £750,000 over 5 years, or £150,000 per year. This is based upon allocating £50 per dwelling from CIL paid by developers. Due to the need for mitigation to be provided early in Phase 2 and before harm is caused, this budget should be set aside from CIL from the outset (i.e. front loaded before CIL is paid by developers). In line with the proportion of development in each area the budget will be split 75% BCP Council (£562,500) and 25% Dorset Council (£187,500). This budget will include funding a projects coordinator, monitoring work and implementation of projects.
- 5.5 Mitigation will be funded from Community Infrastructure Levy (CIL) or planning obligations. As with other strategies the Councils will ensure that the mitigation measures for designated sites remain the top priority for funding from the CIL.
- 5.6 Where housing proposals do not contribute CIL, there may be a requirement to provide a bespoke contribution towards the strategy through a planning obligation. By doing so the Councils will be able to conclude that the proposed development can satisfy Habitats Regulations Assessment.
- 5.7 There are other uses which do not contribute CIL, such as commercial uses that can generate vehicular trips. However, in practice, calculating the air quality impact of a specific proposal is both onerous for the applicant and uncertain in the longer term due to potential changes in occupancy. Any resulting bespoke mitigation package will inevitably contribute to the same measures as housing growth (i.e. using the same roads and impacting upon the same heathlands). Therefore, for simplicity, in terms of calculating air quality impacts, this strategy assumes that outward or inward commuting is balanced. Therefore, on the basis that people live and work in the area then any growth in commercial or other trip generating uses will be covered by the air quality mitigation necessary to mitigate housing growth. The Councils will use funds from the overall CIL fund to ensure these impacts are mitigated. There may be exceptions where major proposals are clearly going to have measurable impacts and these will be dealt with on a case by case basis with advice from Natural England.

Projects coordinator

- 5.8 To implement the Phase 2 measures (2020-2025) a projects coordinator will be appointed early in the five year period to:
- Prepare and regularly update the Implementation Plan to document the measures;
 - Establish an air quality monitoring programme and implement it early in the five year period;
 - Work with landowners of heathland to identify areas within 200 metres of roads where management change is necessary;
 - Contact owners of land around heathland to identify opportunities to change the management of the land;
 - Coordinate the efforts across Council departments including environment, transport and estates teams;
 - Input evidence into the preparation of the local plans and formalisation of Phase 3 elements of policy approach; and
 - Maintain a register of measures against which development can be released.
- 5.9 The possible types of measures are listed below. This is not an exhaustive list and the two Councils will work positively with local partners to investigate other proposals as they arise.

Category 1 measures:

- Work with the landowners of heathland sites (including Council owned sites) to implement new and additional management practices within 200 metres of roads;
- Actively encourage modal shift by improving public transport, cycling and walking and through positive communications strategy with public awareness campaigns;
- Ensuring that opportunities to facilitate zero emission vehicles e.g. through national government grants are taken;
- Actively incentivise the switch to zero emission vehicles through the delivery of a vehicle scrappage scheme that provides financial grants to households living within a defined distance of the Dorset Heathlands; and
- Require all new houses to install electric vehicle charging points through the Bournemouth, Christchurch and Poole Parking Standards Supplementary Planning Document (2021).

Category 2 measures:

- Decommission Poole's crematorium alongside Canford Heath (Completed April 2020);
 - Install nitrogen oxides abatement equipment at Bournemouth crematorium; and
 - Work with landowners and the farming community to change the management of agricultural land around heathlands to non-agricultural or low nitrate use.
- 5.10 The cost of measures is not yet known, and if the budget identified above is insufficient to mitigate planned growth, the projects coordinator can apply for further CIL funding.

Habitats regulations assessments of planning applications during Phase 2

- 5.11 Applicants seeking planning permission for trip generating uses will need to consider the impacts of air quality arising from the proposed development. Most applicants will be able to conclude through shadow appropriate assessment that the respective development will be contributing towards the Council's strategic approach where the proposal:
- (i) Encourages modal shift;
 - (ii) Facilitates the use of zero emission vehicles, and/or

(iii) Contributes CIL towards mitigation measures.

- 5.12 Subject to exceptional circumstances, where a bespoke approach may be required, it is anticipated that where development proposals satisfy the criteria above, it would be possible for the Council to conclude that air quality impacts from the proposed development will not have an adverse effect on the integrity of the Dorset Heathlands, either alone or in combination with other developments. Regular monitoring will be essential to ensuring that mitigation measures keep pace with development.
- 5.13 For proposals that don't involve housing, applicants can conclude that the Councils will implement the necessary measures from the overall CIL fund.
- 5.14 The Council after completing the Habitats Regulations Assessment for the proposed development will publish it alongside the determination of the planning application. The two Councils' application of the Habitats Regulations is in accordance with recent case law, e.g. *People over wind*⁹, *Holohan*¹⁰ and *Dutch nitrogen*¹¹, which all reinforce the need for a rigorous approach.

⁹ [People over wind case, Sweetman vs Coillte Teoranta \(ref: C-323/17\)](#)

¹⁰ [Holohan and Others \(C 461/17\)](#)

¹¹ [Dutch nitrogen case, Coöperatie Mobilisation for the Environment and Vereniging Leefmilieu \(C-293/17\)](#)

6. Phase 3 - Local plan approach from 2025 onwards

- 6.1 This strategy will be developed and formalised as policy in the BCP Council Local Plan and the Dorset Council Local Plan to ensure that new development does not have an adverse effect upon heathland. The Local Plans will be subject to a rigorous Habitats Regulations Assessment to ensure the development proposals have no significant adverse effect from new development upon the Dorset Heathlands. The Local Plans could include policies to address:
- The siting of new development by focussing growth in the urban area where there is better access to facilities and services and thereby minimising the need for additional car trips past heathland sites;
 - The siting and design of new agricultural buildings that create pollutants, e.g. stocking sheds, slurry pits, etc.;
 - The change of use of agricultural land near heathland to lower nitrogen inputs;
 - Ensuring that any major development proposals in the countryside near heathland include measures to reduce impacts elsewhere in the wider land ownership;
 - Look to identify multiple use benefits in the siting of Heathland Infrastructure Projects (HIPs), Poole Harbour Infrastructure Projects (PHIPs) and nitrogen offsetting projects on sites adjacent to heathland; and
 - Help implement the outcomes of the government's Nitrogen Futures project.
- 6.2 It is expected that this interim strategy document will be updated to reflect local plan policy and be formalised as a supplementary planning document (SPD). The SPD would set out the detailed strategy to implement local plan policies.
- 6.3 Government policy decisions based upon the Nitrogen Futures Project, modal shift and the move to zero emission cars and vans by 2030 should further contribute to support the local measures provided by the Councils. Since work commenced on this strategy Government commitments have tightened due to the climate change emergency and are likely to further strengthen over the duration of the strategy.

7. Implementation Plan

- 7.1 An Implementation Plan will be published early in the five-year period to 2025. The implementation plan will set out the monitoring strategy and the specific mitigation measures (projects) and timeline in which these measures will be delivered. The Implementation Plan will require regular updating to ensure that mitigation measures are delivered in pace with development.
- 7.2 An important part of the Implementation Plan will be quantifying the effectiveness of the delivered measures. It should be possible to calculate the benefits of the mitigation measures, starting with Phase 1 and looking ahead to Phase 2.
- 7.3 It is crucial that any grant payments towards management work secured by the Councils is over and above any existing funded management that takes place. It will therefore be important to ensure any agreements with landowners take this into account.

Monitoring Strategy

- 7.4 The monitoring strategy will need to be set up early in Phase 2 to enable the Councils to document the benefits of planned mitigation measures. The monitoring strategy will:
- Collect botanical data on heathland sites; and
 - Collect air quality data (ammonia and nitrogen dioxide) to monitor changes in air quality on heathland sites in relation to traffic levels.
- 7.5 The botanical surveyor would be required to visit all the relevant sites to establish a baseline condition. Survey information will include, where appropriate, lower plants and lichens and identification of specific monitoring trees as well as quadrat locations. The surveyor will identify possible measures to counteract the adverse effects from the available options. The Councils will then be in a position to approach land managers to discuss implementing such measures. When these measures are carried out the surveyor will revisit the site to confirm the actions and monitor the impacts. Based on 5 yearly monitoring cycle, the sites will need to be resurveyed prior to adoption of Phase 3 and twice up to 2030 or 2035. This will provide a minimum of three visits.
- 7.6 Air quality would need to be monitored continuously at various locations where busy roads run alongside the heathland, as well as at control sites away from roads. This will capture trend data on vehicle emissions directly affecting the adjacent heathland sites.

Timeline for Phase 2

- 7.7 Following adoption of this interim strategy the Councils will need to make swift progress with implementation. A timeline for implementation of Phase 2 is set out in Appendix A.

Appendix A: Timeline for Implementation

