Chichester Local Plan Review

Air Quality Assessment

On behalf of **Chichester District Council**

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1 Introduction

1.1 Overview

1.1.1 Stantec have been commissioned by Chichester District Council (CDC) to provide support to understand the potential impact on Air Quality (at both human and ecological receptors) of future housing and employment growth and the resultant changes in traffic flows on the highway network associated with the Local Plan. The outputs from the assessment will be used by CDC as part of the evidence base to support the preparation of the Local Plan Review (LPR).

1.1.2 Currently CDC is undertaking a review of the adopted development plan policy. At present, both the Core Strategy and the Local Plan look forward to 2029. The LPR will put in place the spatial strategy and planning policies until 2039.

1.1.3 This Air Quality Assessment presents the methodology used to assess the air quality impacts associated with the LPR. The subsequent results help to understand the impacts of the emissions resulting from growth and identify mitigation measures if required.

1.2 Report Structure

1.2.1 The remainder of this report is structured as follows:

- Section 2 provides a summary of the relevant regulations and guidance
- Section 3 provides an overview of the LPR growth scenario
- Section 4 provides a summary of the applied modelling methodology
- Section 5 presents the predicted result at human receptors
- Section 6 presents the predicted results at ecological receptors
- Section 7 summarises and concludes this report.

2 Relevant Legislation, Policy and Guidance

2.1 Air Quality Regulations

2.1.1 The Air Quality (England) Regulations 2000 (AQR) defined National Air Quality Objectives (NAQOs, a combination of concentration-based thresholds, averaging periods and compliance dates) for a limited range of pollutants. Subsequent amendments were made to the AQR in 2001 and 2002 to incorporate 'limit values' and 'target values' for a wider range of pollutants as defined in European Union (EU) Directives.

2.1.2 These amendments were consolidated by the Air Quality Standards Regulations 2010 (AQSR) (with subsequent amendments most notably in 2016 and for the devolved administrations), which transposed the EU's Directive on ambient air quality and cleaner air for Europe (2008/50/EC).

2.1.3 Following the Transition Period after the UK's departure from the EU in January 2020, the Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019 (and subsequent amendments for the devolved administrations) have amended the AQ Standards Regulations 2010 to reflect the fact that the UK has left the EU, but do not change the pollutants assessed or the numerical thresholds. The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020 amended the $PM_{2.5}$ limit value in the AQSR to 20µg/m^3.

2.1.4 The relevant AQOs for this assessment are shown in **Table 2-1**.

Table 2-1 Relevant Air Quality Objectives / Limit Values

Pollutant	Time Period	Objectives	Source
NO_2	1-hour mean	200 µg/m^3 not to be exceeded more than 18 times a year	NAQO and AQSR limit value
	Annual mean	40 µg/m^3	NAQO and AQSR limit value
PM_{10}	24-hour mean	50 µg/m^3 not to be exceeded more than 35 times a year	NAQO and AQSR limit value
	Annual mean	40 µg/m^3	NAQO and AQSR limit value
$PM_{2.5}$	Annual mean	20 µg/m^3	AQSR limit value

2.1.5 The NAQO's for NO_2 and PM_{10} were to have been achieved by 2005 and 2004 respectively, but also continue to apply in all future years thereafter.

2.1.6 The 2019 Clean Air Strategy includes a commitment to set a "*new, ambitious, long-term target to reduce people's exposure to $PM_{2.5}$*" which the Environment Act 2021 commits the Secretary of State to setting (by the end of October 2022).

2.2 Air Quality Management

The Air Quality Strategy

2.2.1 Part IV of the Environment Act 1995 (Environment Act, 1995) required the Secretary of State to prepare and publish a 'strategy' regarding air quality.

2.2.2 The Air Quality Strategy (2007) establishes the policy framework for ambient air quality management and assessment in the UK (DEFRA, 2007). The primary objective of the Air Quality Strategy is to ensure that everyone can enjoy a level of ambient air quality which poses no significant risk to health or quality of life. The Air Quality Strategy sets out the NAQOs and Government policy on achieving these.

The Clean Air Strategy

2.2.3 The Clean Air Strategy (2019) aims to lower national emissions of pollutants, thereby reducing background pollution and minimising human exposure to harmful concentrations of pollution. The Strategy aims to create a stronger and more coherent framework for action to tackle air pollution (DEFRA, 2019a).

Local Air Quality Management

2.2.4 Part IV of the Environment Act 1995 (Environment Act, 1995) introduced a system of Local Air Quality Management (LAQM) which requires local authorities to regularly and systematically review and assess air quality within their boundary and appraise development and transport plans against these assessments.

2.2.5 Where a NAQO is unlikely to be met, the local authority must designate an Air Quality Management Area (AQMA) and draw up an Air Quality Action Plan (AQAP) setting out the measures it intends to introduce in pursuit of the NAQO's within its AQMA.

2.2.6 The Local Air Quality Management Technical Guidance 2022 (LAQM.TG(22); DEFRA, 2022), issued by the Department for Environment, Food and Rural Affairs (DEFRA) for Local Authorities provides advice on where the NAQOs apply. These include outdoor locations where members of the public are likely to be regularly present for the averaging period of the objective (which vary from 15 minutes to a year) as summarised in **Table 2-2**.

Table 2-2 Relevant Public Exposure

Averaging Period	NAQOs should apply at:	NAQOs don't apply at:
Annual mean	All locations where members of the public might be regularly exposed For example: Building façades of residential properties, schools, hospitals, care homes etc	Façades of offices or other places of work where members of the public do not have regular access Hotels, unless people live there as their permanent residence Gardens of residences Kerbside sites Any other location where public exposure is expected to be short term
24-hour mean and 8-hour mean	All locations where the annual mean NAQO would apply, together with hotels and gardens of residences	Kerbside sites Any other location where public exposure is expected to be short term
1-hour mean	All locations where the annual mean and 24 and 8-hour mean NAQOs apply as well as: Kerbside sites	Kerbside locations where the public would not be expected to have regular access

Averaging Period	NAQOs should apply at:	NAQOs don't apply at:
	Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more. Any outdoor locations where members of the public might reasonably be expected to spend one hour or longer.	

National Air Quality Plan for NO_2 in the UK

2.2.7 The National Air Quality Plan for NO_2 (DEFRA, 2018) sets out how the Government plans to deliver reductions in NO_2 throughout the UK, with a focus on reducing concentrations to below the EU Limit Values (which are now AQSR limit values) throughout the UK within the 'shortest possible time'.

2.2.8 The plan requires all Local Authorities (LAs) in England which DEFRA identified as having exceedances of the Limit Values in their areas past 2020 to develop local plans to improve air quality and identify measures to deliver reduced emissions, with the aim of meeting the Limit Values within their area within "*the shortest time possible*". Potential measures include changing road layouts, encouraging public and private ultra-low emission vehicle (ULEV) uptake, the use of retrofitting technologies and new fuels and encouraging public transport. In cases where these measures are not sufficient to bring about the required change within 'the shortest time possible' then LAs may consider implementing access restrictions on more polluting vehicles (e.g. Clean Air Zones (CAZs)).

2.3 Protection of Habitats

2.3.1 As well as their potential to impact on human health, some air pollutants have long been acknowledged to have effects on vegetation and freshwater systems. Whilst direct impacts of air pollutants on fauna are less common, any such effect on the health of vegetation or freshwater systems can then affect animal species that are dependent on the vegetation.

2.3.2 Biodiversity 2020 is the latest biodiversity strategy for the UK (DEFRA, 2020) and aims to "*halt biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks…".* The Strategy recognises air pollution as a direct environmental pressure on biodiversity and planning and development as one of the sectors with the greatest potential for direct influence.

2.3.3 The Conservation of Habitats and Species Regulations 2017 (Statutory Instrument, 2017) (the 'Habitats Regulations'), transposed the Habitats Directive (European Council Directive 92/43/EEC) in England and Wales. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (Statutory Instrument, 2019) amends the 2017 Habitats Regulations to reflect the UK's departure from the EU and came into force following the end of the Transition Period in December 2020.

2.3.4 The Habitats Regulations require the UK Government to introduce a range of measures for the protection of habitats and species. Special Areas of Conservation (SACs) are designated under these regulations, as are Special Protection Areas (SPAs). These sites form a network termed 'Natura 2000' and collectively these sites are known as European Sites, or the 'national site network'.

2.3.5 Designated Wetlands of International Importance (known as Ramsar sites) do not form part of the national site network. Many Ramsar sites overlap with SACs and SPAs and may be designated for the same or different species and habitats. All Ramsar sites remain protected in the same way as SACs and SPAs.

2.3.6 The Habitats Regulations primarily provide measures for the protection of European Sites and European Protected Species, but also require local planning authorities to encourage the management of other features that are of major importance for wild flora and fauna.

2.3.7 The Habitats Regulations require the competent authority firstly to evaluate whether a project of plan has the potential to give rise to a "*likely significant effect*" (LSE) and where this is the case, an "*appropriate assessment*" (AA) is required to determine whether the development will adversely affect the integrity of the site.

Critical Levels

2.3.8 Critical levels are a quantitative estimate of exposure to one or more airborne pollutants in gaseous form, below which significant harmful effects on sensitive elements of the environment do not occur, according to present knowledge

2.3.9 Critical levels for NOx for the protection of vegetation and ecosystems have been set by the UK Government within the AQSR as summarised in **Table 2-3** and are the same as the EU limit values and Natural England (NE) applies the objective to all internationally designated conservation Sites and SSSIs.

Table 2-3 Vegetation and Ecosystem Objectives

Pollutant	Time Period	Objective
Oxides of nitrogen (expressed as NO_2)	Annual mean	30 µg/m^3
	24-hour mean	75 µg/m^3
Ammonia (NH_3)	Annual mean	3 µg/m^3 (unless lichens or bryophytes are present, then 1 µg/m^3)

Critical Loads

2.3.10 Critical loads for nitrogen deposition onto sensitive ecosystems have been identified by the United Nations Economic Commission for Europe (UNECE). They are defined as the amount of pollutant deposited to a given area over a year, below which significant harmful effects on sensitive elements of the environment do not occur, according to present knowledge.

2.3.11 In relation to combustion emissions, critical loads for eutrophication and acidification are relevant which can occur via both wet and dry deposition; however, on a local scale only dry (direct deposition) is considered significant.

2.3.12 Empirical critical loads for eutrophication (derived from a range of experimental studies) are assigned based for different habitats, including grassland ecosystems, mire, bog and fen habitats, freshwaters, heathland ecosystems, coastal and marine habitats, and forest habitats and can be obtained from the UK Air Pollution Information System (APIS) website (APIS, 2022)

2.3.13 Critical loads for acidification have been set in the UK using an empirical approach for non-woodland habitats on a 1km grid square based upon the mineralogy and chemistry of the dominant soil series present in the grid square, and the simple mass balance (SMB) equation for both managed and unmanaged woodland habitats.

2.4 Planning Policy

National Planning Policy

2.4.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how they are expected to be applied (Ministry of Housing, Communities & Local Government, 2021). The following paragraphs are considered relevant from and air quality perspective.

2.4.2 Paragraph 174 on conserving and enhancing the natural environment states:

"Planning policies and decisions should contribute to and enhance the natural and local environment by: …

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land stability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans, and…"

2.4.3 Paragraph 180 within habitats and biodiversity states:

"When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate".

2.4.4 Paragraph 185 within ground conditions and pollution states:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development."

2.4.5 Paragraph 186 states that:

"Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified,

such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

National Planning Practice Guidance

2.4.6 The Government maintains a series of online Planning Practice Guidance which supplements the NPPF. Paragraph 002 Reference ID: 32-002-20191101 (revision date 01.11.2019), of the PPG: Air Quality provides guidance on the role of plan-making with regard to air quality as follows:

"All development plans can influence air quality in a number of ways, for example through what development is proposed and where, and the provision made for sustainable transport. Consideration of air quality issues at the plan-making stage can ensure a strategic approach to air quality and help secure net improvements in overall air quality where possible.

It is important to take into account air quality management areas, Clean Air Zones and other areas including sensitive habitats or designated sites of importance for biodiversity where there could be specific requirements or limitations on new development because of air quality. Air quality is also an important consideration in habitats assessment, strategic environmental assessment and sustainability appraisal which can be used to shape an appropriate strategy, including through establishing the 'baseline', appropriate objectives for the assessment of impacts and proposed monitoring.

Drawing on the review of air quality carried out for the local air quality management regime, plans may need to consider:

- *what are the observed trends shown by recent air quality monitoring data and what would happen to these trends in light of proposed development and / or allocations;*
- *the impact of point sources of air pollution (pollution that originates from one place);*
- *the potential cumulative impact of a number of smaller developments on air quality as well as the effect of more substantial developments, including their implications for vehicle emissions;*
- *ways in which new development could be made appropriate in locations where air quality is or is likely to be a concern, and not give rise to unacceptable risks from pollution. This could, for example, entail identifying measures for offsetting the impact on air quality arising from new development including supporting measures in an air quality action plan or low emissions strategy where applicable; and*
- *opportunities to improve air quality or mitigate impacts, such as through traffic and travel management and green infrastructure provision and enhancement.*

As part of the strategic environmental assessment or sustainability appraisal of a plan, consideration will need to be given to potential trends in air quality in the presence and absence of development, as well as any impacts and mitigation / improvement opportunities arising from the plan's proposals."

2.4.7 Paragraph 008, Reference 32-008-20140306 (revision date 01.11.2019), of the PPG provides guidance on how an impact on air quality can be mitigated:

"Mitigation options will need to be locationally specific, will depend on the proposed development and need to be proportionate to the likely impact. It is important that local planning authorities work with applicants to consider appropriate mitigation so as to ensure new

development is appropriate for its location and unacceptable risks are prevented. Planning conditions and obligations can be used to secure mitigation where the relevant tests are met.

Examples of mitigation include:

- *Maintaining adequate separation distances between sources of air pollution and receptors;*
- *Using green infrastructure, trees, where this can create a barrier or maintain separation between sources of pollution and receptors;*
- *Appropriate means of filtration and ventilation;*
- *Including infrastructure to promote modes of transport with a low impact on air quality (such as electric vehicle charging points);*
- *Controlling dust and emissions from construction, operation and demolition; and*
- *Contributing funding to measures, including those identified in air quality action plans and low emission strategies, designed to offset the impact on air quality arising from new development."*

2.5 Assessment Guidance

2.5.1 The primary guidance documents used in undertaking this assessment are detailed in the section below.

Relevant Local Guidance

DEFRA 'Local Air Quality Management Technical Guidance (LAQM.TG (22))'

2.5.2 DEFRA LAQM.TG (22) was published for use by local authorities in their LAQM review and assessment work (DEFRA, 2022). The document provides key guidance on aspects of air quality assessment, including screening, use of monitoring data, and use of background data that are applicable to all air quality assessments.

IAQM 'Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites'

2.5.3 The IAQM has published guidance on the assessment of air quality impacts on designated nature conservation sites (IAQM, 2019) which adopts a similar procedure to that detailed in Natural England guidance on the assessment of road traffic emissions (Natural England, 2018) and identifies that exhaust pipe emission of ammonia is an additional relevant pollutant when assessing nitrogen deposition to sensitive ecological features.

JNCC 'Guidance on Decision-making Thresholds for Air Pollution'

2.5.4 The JNCC has published guidance (Chapman & Kite, 2021) on decision making thresholds (DMT) to help inform the assessment of the impacts of air quality on designated nature conservation sites.

2.5.5 These DMTs have been derived through an assessment which aims to consider the cumulative effects of plans and projects which might be excluded from further assessment. These DMT are intended to be applied to individual developments (as opposed to a Local Plan) to identify which are below a relevant threshold can properly be discounted on the basis that their contribution to an overall combined effect will not undermine the achievement of the conservation objectives or make a meaningful contribution to a significant effect.

2.5.6 In relation to local plans, the JNCC guidance identifies that a 'zone of influence' of 10km from the 'plan' boundary is appropriate recognising that the effects of growth from development beyond 10km will have been accounted for in the Nitrogen Futures business as usual scenario.

3 Local Plan Review Growth Scenario

3.1 Overview

3.1.1 The 2039 Local Plan Review development quanta (as applied in the Transport Assessment (Stantec, 2022)) is summarised in **Table 3-1**.

3.1.2 Some locations have development in both the Reference Case and the Local Plan Review Growth Scenario models. In these cases, **Table 3-1** shows the assumed development quanta for Reference Case and the additional Local Plan Review quanta and the Total quanta.

Table 3-1 2039 Local Plan Review Development Quanta

Group.	Area	Land use	Reference Case Quanta	Additional LPR Quanta	Total Quanta
North	Plaistow	Residential		15	15
	Kirdford	Residential		70	70
	Loxwood	Residential		125	125
	Wisborough	Residential		40	40
	Total Residential (Dwellings)		**0**	**250**	**250**
	Total Employment (ha)		**0**	**0**	**0**
Western Corridor	Westbourne	Residential		30	30
	Southbourne	Residential		1,052	1,0 52
	Childham	Residential		300	300
	Highgrove Farm, Bosham	Residential	50	200	200
	Fishbourne	Residential		30	30
	Total Residential (Dwellings)		**50**	**1,612**	**1,6 62**
	Total Employment (ha)		**0**	**0**	**0**
Chichester and Eastern Corridor	Land at Maudlin Farm, Westhampnett	Residential		270	270
	Land east of Rolls Royce	Employment		7 (ha)	7 (ha)
	Boxgrove	Residential		50	50
	Chichester City	Residential		300	300
	West of Chichester	Residential	1,600	0	1,600
	Tangmere SDL	Residential	1,000	300	1,300
	Land East of Drayton Lane, Oving	Residential		0	0
	Land East of Chichester, Oving	Residential		600	600
	Southern Gateway, Chichester	Residential		270	270
	Land South of Bognor Road, North Mundham	Employment		15 (ha)	15 (ha)

	Total Residential (Dwellings)		**2,600**	**1,790**	**4,390**
	Total Employment (ha)			**22**	**22**
Manhood Peninsula	Apuldram (SW Chichester)	Residential		0	0
	Birdham	Residential		50	50
	West Wittering	Residential		0	0
	East Wittering	Residential		0	0
	North of Park Farm, Selsey	Residential		250	250
	Hunston	Residential		150	150
	North Mundham	Residential		50	50
	Total Residential (Dwellings)			**500**	**500**
	Total Employment (ha)			**0**	**0**
HDA	Runcton (glasshouse)	Employment		30 (ha)	30 (ha)
	Runcton (class E/B8)	Employment		7 (ha)	7 (ha)
	Tangmere (glasshouse)	Employment		7 (ha)	7 (ha)
	Total Residential (Dwellings)			**0**	**0**
	Total Employment (ha)			**44**	**44**
	Total Residential (dwellings)		**2,650**	**4,152**	**6,802**
	Total Employment (ha)		**0**	**66**	**66**

3.1.3 This Air Quality Assessment is informed by data relating to vehicle flows, type (% HDV) and speeds extracted from Transport Modelling undertaken using the Chichester Area Transport Model (CATM) for the 2039 forecast year for both the 'Reference' and 'LPR' scenarios.

3.2 Reference Case

3.2.1 The Reference Case model will be used as the basis of comparison with the LPR scenario and therefore includes all committed growth which results from development in neighbouring authorities (Havant and Arun) and growth within Chichester District. The Reference Case therefore presents a picture of air quality conditions, prior to the addition of the potential growth scenario with LPR.

3.2.2 The overall traffic growth outside of Chichester Borough for neighbouring authority traffic (apart from Havant and Arun) is set to NTEM forecasts. The schemes included in the Reference Case Model are outlined in **Table 3-1**. In addition, the Southern Gateway development allocation has been included, but the highway mitigation scheme has not been included in the Reference Case.

3.3 Local Plan Review Scenario

3.3.1 The LPR scenario builds upon the Reference case model by adding the preferred Local Plan development information provided by CDC (as detailed in **Table 3-1**) and associated infrastructure.

4 Assessment Methodology

4.1.1 The assessment methodology detailed in the following sections has been applied to ascertain the potential impacts of emissions to air associated with growth scenarios in order to identify whether or not additional mitigation is required.

4.2 Impacts at Human Receptors

Identification of Receptors

4.2.1 Relevant sensitive human receptor locations are places where members of the public might be expected to be regularly present over the averaging period of the NAQOs. The NO_2, PM_{10} and $PM_{2.5}$ annual mean and 1-hour mean NAQO sensitive locations include largely residential dwellings. When identifying the receptors, particular attention has been paid to assessing impacts close to junctions, traffic lights and roundabouts where traffic may become congested, where there is a combined effect of several road links and routes along which substantial volumes of traffic generated will travel. In some cases, traffic arising from the growth scenarios result in a redistribution of traffic on the local network.

4.2.2 Based on these criteria, 110 existing (and 72 proposed) sensitive receptors have been identified for the assessment. These locations are shown in **Figure 4-1 to 4-13, Appendix F** Concentrations of pollutants (NO_2, PM_{10} and $PM_{2.5}$) have been predicted at sensitive existing properties and within the LPR sites to allow comparison with the NAQOs.

4.2.3 Concentrations have also been predicted at one automatic monitoring station and eight diffusion tube monitoring sites within Chichester in order to verify the modelled results. Paragraphs 4.2.14 – 4.2.16 and **Appendix C** provide further details on the verification method.

Modelling Approach

4.2.4 The following scenarios have been modelled:

- 2019 Air Quality Model Verification;
- 2039 Reference Case (excluding potential LPR growth but including committed developments);
- 2039 Local Plan Review Scenario (including forecast growth on the local network and the implementation of identified traffic mitigation measures).

4.2.5 The assessment for human health has considered all roads within the CDC administrative area that the CATM is considered able to reliably predict changes in flows greater than 1,000 AADT, and roads on the model network up to 300m from the borough boundary to capture impacts of roads beyond the boundary on sensitive receptors.

4.2.6 Emissions from road vehicles and their resultant impact at receptor locations have been predicted using the ADMS-Roads dispersion model (v5.0.1.3). The model requires the user to provide various input data, including traffic flows (in AADT format), vehicle composition (i.e. the proportion of Heavy Duty Vehicles (HDVs)), road characteristics (including road width, gradient and street canyon dimensions, where applicable), and average vehicle speed.

4.2.7 AADT flows, speeds and the proportions of HDVs, for roads within the study area have been provided by the Project's transport consultants, Stantec, extracted from CATM. The road geometry and widths have been derived from OS MasterMap data.

4.2.8 Road vehicular emissions are primarily associated with the exhaust emissions but also include particles generated from abrasion (of tyres, brakes and road). The EFT allows users to calculate road vehicle pollutant emission rates for NOx, PM_{10} and $PM_{2.5}$ (exhaust and brake, tyre and road wear) for a specified year, road type, vehicle speed and vehicle fleet composition. Traffic emissions have been calculated using the Emission Factor Toolkit (EFT) v11 (DEFRA, 2020c), which utilises NOx emission factors taken from the European Environment Agency (EEA) COPERT 5.3 emission tool. The traffic data were entered into the EFT to provide emission rates for each of the road links within the traffic model.

4.2.9 The EFT provides pollutant emission rates for 2018 through to 2030 (and 2050 in EFTv11) and takes into consideration bespoke vehicle fleet information as well as the following information available from the National Atmospheric Emissions Inventory (NAEI):

- fleet composition data for motorways, urban and rural roads in the UK (excluding London);
- fleet composition based on European emission standards from pre-Euro I to Euro6/VI (including Euro 6 subcategories);
- scaling factors reflecting improvements in the quality of fuel and some degree of retrofitting; and
- technology conversions in the national fleet.

4.2.10 As a result of this the road vehicle exhaust emissions of NOx are projected to decrease year-on-year due to technological advances and improvements to the fleet mix i.e. penetration of Euro VI HDVs, which recent research suggests are performing well and are considered reasonably certain to continue to be delivered. Whilst there has been uncertainty over NOx emissions from vehicle exhausts (particularly from Euro 5 and 6 LDVs) it is important to note the EFT is not based on the Euro emission standards. Specifically, the latest version of the EFT (v11) includes updated NOx and PM speed emission coefficient equations for Euro 5 and 6 vehicles taken from the EEA COPERT 5.3 emission calculation tool, reflecting emerging evidence on the real-world emission performance of these vehicles.

4.2.11 Whilst the EFT (v11) provides pollutant emission rates up to 2035, beyond 2030 these are primarily provided to inform climate assessments and air pollutant emissions are subject to significant uncertainty; therefore 2030 emission factors were applied in the 2039 LPR growth scenario.

4.2.12 Background pollutant concentrations for the study area have been taken from DEFRA’s national maps, which are provided on a 1km x 1km grid with ‘sector removal’ for modelled road types. An interpolation exercise has been undertaken to reduce any step changes that may occur as a result of DEFRA’s maps resolution.

4.2.13 The model also requires meteorological data and has been run using 2019 meteorological data from the Southampton Airport meteorological station, which is considered appropriate for the model domain considering the location of most receptors away from coastal areas and the meteorological site has similar elevations to the study area. There are several meteorological sites closer to the study area, however these were all coastal sites and therefore not considered appropriate. To account for differing locations within the study area and best represent the dispersion in the receptor location, the Urban Canopy flow option in ADMS-Roads has been used. **Appendix B** provides further details on the model inputs.

Model Verification

4.2.14 A comparison of NOx modelled results with monitoring results within the study area has been undertaken using the approach recommended in DEFRA’s Local Air Quality Management Technical Guidance (TG22).

4.2.15 The verification factor used for both NOx and $PM_{2.5}$ at human health receptors was 3.1066 which is considered typical. Details of the verification factor calculations and the monitoring sites included in the verification process are presented in **Appendix C**.

Processing of Modelled Results

4.2.16 In accordance with LAQM.TG (22), all modelled road-based concentrations of NOx were converted to annual mean NO_2 using the NOx to NO_2 calculator (DEFRA, 2022).

4.2.17 Once processed, the predicted concentrations were compared against the relevant NAQOs for NO_2, PM_{10} and $PM_{2.5}$.

4.3 Impacts at Ecological Receptors

4.3.1 In order to inform the assessment of the impact of traffic emission associated with the LPR growth scenario, the following scenarios have been investigated:

- 2019 Baseline (for verification);
- 2039 Do Nothing (DN) – a theoretical future baseline with no traffic growth between the baseline and 2039, but with anticipated reduction in emissions from traffic and background concentrations;
- 2039 Do Minimum (DM) – the 'Reference Case' traffic model scenario excluding potential Local Plan Review growth, but includes committed developments and anticipated future reductions in emissions from traffic and background concentrations; and
- 2039 Do Something (DS) – the 'Local Plan Review Scenario' includes forecast growth on the local network with mitigation and with anticipated future reductions in emissions from traffic and background concentrations.

4.3.2 The results for the Do-Minimum and Do-Something scenarios have been compared to show the impacts of the LPR growth scenario 'in isolation'.

4.3.3 The results of the Do-Nothing and Do-Something scenarios have been compared to identify the potential 'in-combination' impacts associated with the growth scenario, other projects and plans.

Identification of Relevant Roads and Receptors

4.3.4 In relation to ecological receptors, guidance (NE, 2018 and IAQM, 2020) indicates that a detailed (quantitative) air quality assessment of impacts is required where there are sensitive habitats (within designated sites) within 200 m of a road with a 'potentially significant change'. If there are no designated sites containing sensitive habitats within 200 m of an affected road, then no further assessment is required as research shows (NE, 2018) that there is no credible risk of a significant effect beyond 200m from a road which might undermine a site's conservation objectives.

4.3.5 The 'potentially significant change' could be associated with carriageway realignment (i.e. increased proximity to receptors), changes to speed (>10 kph) or traffic flow. The applied screening criteria for changes in road traffic flows is a change of LDV flows of more than 1,000 AADT (or HDV flows of more than 100 AADT).

4.3.6 This change in traffic flows has been shown (NE, 2018) to not have the potential to result in changes to annual NOx in excess of 0.3 µg/m3 1% of the critical level) within a few meters of roadside. Changes in traffic flows below the 1,000 AADT (or HDV flows of less than 100 AADT) criteria are therefore not considered to have the potential to result in a significant effect which might undermine a site's conservation objectives.

4.3.7 To account for potential 'in-combination' effects at Habitat Regulations Sites, the threshold of 1,000 AADT is applied to the change in 'in-combination' traffic flows and to enable a proportionate assessment, a lower screening criterion of 50 AADT has been applied to development traffic. JNCC research[1] (Air Quality Consultants Ltd, 2021) indicates that such changes in traffic flows are unlikely to lead to impacts in excess of 0.5% of the annual average critical level for NOx or critical load for N-deposition at 1m from road edge are therefore not considered to have the potential to result in a significant effect which might undermine a site's conservation objectives.

Modelling Approach

4.3.8 In order to quantify the potential impact of air pollutants from traffic on ecological receptors, the EFT has been applied (with a 2030 emission year for the LPR growth scenario) to quantify NOx emissions and emissions of ammonia (NH_3) have been calculated using the Calculator for Road Emissions of Ammonia (CREAM) tool (with a 2030 emission year for the LPR scenarios) (Air Quality Consultants,2020b).

4.3.9 The ADMS Roads has been used to calculate concentrations of NOx and NH_3 at a range of transects at increasing distances from the adjacent road (at site boundary, 2m from the road and 5m increments for first 25m from the road, then 25m until 200m from the road). The resultant nitrogen (and acid) deposition rates have been calculated using deposition velocities for grassland habitats of 1.5mm/s for NO_2 and 20mm/s for NH_3, and for taller vegetation such as trees of 3mm/s for NO_2 and 30mm/s for NH_3.

4.3.10 For these receptors, existing critical levels and critical loads for habitats within the study area were collated from the Air Pollution Information System website (APIS, 2022) and advice from the Ecologist undertaking the Habitat Regulations Assessment (HRA).

Model Verification

4.3.11 The model verification details are summarised in **Appendix C** and a factor of 3.1066 was applied to modelled road-NOx concentrations.

4.3.12 Model results of ammonia have not been verified as the emission factors are derived from roadside measurement and therefore verification is not required.

Assessment of Impacts

4.3.13 In terms of the impact of road traffic emissions on ecological receptors, an impact of less than 1% of the critical level or load is accepted to be a pragmatic threshold for determining no likely significant effects (Natural England, 2018).

4.3.14 It should be noted that an impact of more than 1% is not, per se, an indication that a significant effect exists, only the possibility of one which would trigger the need for further, more detailed assessment of the ecological sensitivity and value of the habitat.

4.3.15 Where the predicted impact exceeds 1%, consideration needs to be given to the overall critical level or load (within the HRA) to ascertain the potential significant of the impact and resultant effects.

4.4 Assumptions and Limitations

4.4.1 There are many components that contribute to the uncertainty in predicted concentrations. The model used in this assessment is dependent upon the traffic that have been input which will

[1] Table 12 & 13 of the JNCC research tabulates the AADT change that could result in a 1% change of critical level or load at 1m from road edge, this exceeds 100 AADT for a majority of habitats and is based on 2019 emission factors.

have inherent uncertainties associated with them. There is then additional uncertainty as the model is required to simplify real-world conditions into a series of algorithms.

4.4.2 It should be noted that the CATM representation to the northern areas of Chichester is less granular due to the rural character and doesn't include detailed junction simulations and less detailed speed flow relationships are used. Consequently, the model calibration and validation in the northern areas of Chichester is limited and therefore air quality modelling has not assessed impacts to the north of (and within) Midhurst.

4.4.3 There has been an acknowledged disparity between national road transport emissions projections and measured annual mean concentrations of nitrogen oxides (NOx) and NO_2 for many years. Recent monitoring has shown that reductions in concentrations are now being measured in many parts of the country (Air Quality Consultants Ltd., 2020a), however, there is still some uncertainty regarding the rate at which emissions will reduce in the future and therefore some consideration must be given to the accuracy of any projection and to appropriately respond to this.

4.4.4 To account for this uncertainty, the growth scenario appraisal has been based on 2030 emission factors and background concentrations, whilst utilising traffic flows for 2039. This is considered to provide an appropriately conservative assessment taking into account the uncertainties regarding future vehicle emission factors.

5 Predicted Impacts on Human Receptors

5.1 Baseline Air Quality

5.1.1 The study area does not contain any predicted or measured exceedances of an EU Limit Values either in the current year or the future year. The study area is not within a zone where DEFRA have reported an exceedance of an EU Limit Values in future years.

LAQM

5.1.2 CDC has investigated air quality within its administrative area as part of its responsibilities under the Local Air Quality Management (LAQM) regime. CDC has declared four Air Quality Management Areas (AQMAs) as follows (as show in **Figure 5-1 to 5-4**):

- Stockbridge Roundabout AQMA - an area encompassing the Stockbridge Roundabout at the junction of the Chichester bypass (A27) and Stockbridge Road (A286);
- Orchard Street AQMA – an area along Orchard Street, Chichester at the eastern end of the street where it meets Northgate;
- St Pancras AQMA – an area along St Pancras, Chichester between Eastgate Square and New Park Road. It is noted that St Pancras AQMA forms a street canyon in this section;
- Rumbolds Hill AQMA - an area along Rumbolds Hill, Midhurst between the A272 at its southern end and the junction of North Street (A286) and Knockhundred Row at its northern end.

5.1.3 All AQMAs were declared due to exceedances of the annual mean nitrogen dioxide (NO_2) NAQO.

5.1.4 In 2019, CDC undertook automatic continuous monitoring of NO_2 concentrations at three sites, and passive monitoring using diffusion tubes at 18 locations. At present, CDC does not undertake PM_{10} or $PM_{2.5}$ monitoring within the district.

5.1.5 Concentrations of NO_2 measured within CDC administrative area are provided in **Table 5-1** below, and their locations in relation to the AQMA's are shown in **Figure 5-1 to Figure 5-4**. Where there have been exceedances of the NAQO these are highlighted in bold. 2020 monitoring results have not been included in Table 5-1, as these are not considered to be representative of longer-term trends due to COVID-19 restrictions in place during 2020.

5.1.6 The data shows that in 2019 the NAQO for annual mean NO_2 was generally met at most monitoring locations, with the exception of diffusion tubes 10a and 10b located in St Pancras AQMA and diffusion tubes 13a and 13b located in Rumbolds Hill AQMA, where the annual mean was slightly exceeded in recent years. All mean concentrations were less than 60 $\mu g/m^3$, which indicates no exceedances of the 1-hour NO_2 objective.

5.1.7 Overall, the diffusion tube sites NO_2 levels in Chichester have shown a decreasing trend in NO_2 since 2016, reflecting the nationwide trend (AQC, 2020a).

Table 5-1 Measured Annual Mean NO_2 Concentrations 2015 – 2019

Site ID	Site Name	Site Type	Within AQMA	Annual Mean (µg/m³)				
				2015	2016	2017	2018	2019
Automatic Site								
CI1	Stockbridge	Suburban	N	34.0	34.0	33.0	29.0	28.0
CI4	Orchard Street	Roadside	Y	-	29.0	23.0	22.0	21.0
CI5*	Westhampnett Road	Roadside	N	-	-	-	-	27.0
Diffusion Tubes								
1*	Kings Ave/ Southbank Jct	Roadside	Y	30.0	33.0	29.0	27.0	25.0
2a, 2b*	Claremont Court	Roadside	Y	**42.0**	**42.0**	39.0	33.0	33.0
3, 4, 5	Cabin	Suburban	N	34.0	34.0	33.0	29.0	28.0
6*	Stockbridge Road South	Roadside	N	**41.0**	**43.0**	36.0	34.0	33.0
7	Cleveland Rd	Urban Background	N	17.0	18.0	16.0	15.0	14.0[a]
8*	Westhampnett Road	Roadside	N	30.0	31.0	30.0	29.0	27.0
9a, 9b*	Hornet	Roadside	N	**40.0**	**41.0**	38.0	36.0	34.0
10a, 10b*	St Pancras	Roadside	Y	**46.0**	**51.0**	**44.0**	**45.0**	**42.0**
11	Arthur Purchase	Urban Background	N	18.0	20.0	18.0	17.0	17.0
12a, 12b*	174 Orchard St	Roadside	Y	33.0	38.0	33.0	33.0	30.0
13a, 13b*	Rumbolds Hill	Roadside	Y	48.0	**51.0**	**49.0**	**42.0**	**40.0**
14	Sussex Cleaners	Roadside	N	-	-	-	32.0	31.0
15*	Nag's Head	Roadside	Y	-	-	-	38.0	37.0
16	Orchard St Cabin	Roadside	Y	-	-	-	22.0	20.0
17*	Midhurst Stationery	Roadside	Y	-	-	-	28.0	26.0
18*	Nat West Bank	Roadside	Y	-	-	-	37.0	37.0
19*	Nationwide	Roadside	Y	-	-	-	38.0	33.0
20*	British Heart Foundation	Roadside	N	-	-	-	27.0	24.0
NAQO			40					

2015 – 2019 data taken from the CDC Air Quality Annual Status Report for 2020 (CDC, 2021).
[a] Low data capture.
* Used for model verification.

5.2 Reference Case

5.2.1 The Reference Case includes all committed growth which results from development in neighbouring authorities and growth within Chichester Borough, excluding likely growth associated with the LPR. The Reference Case therefore presents a picture of air quality conditions, prior to the addition of the potential LPR developments.

5.2.2 Predicted concentrations of NO_2, PM_{10} and $PM_{2.5}$ at the ten receptor locations with the highest concentrations are presented in **Table 5-2** to **Table 5-4** below.

Table 5-2 Highest Ten Predicted Annual Average Concentrations of NO_2 (µg/m³)

Receptor	Reference Case Annual Average NO_2 (µg/m³)
R7	24.5
R5	24.0
R99	22.2
R6	21.6
R11	21.2
R98	21.0
R23	20.6
R28	20.4
R92	20.3
R29	20.0
Air Quality Objective (AQO)	**40**

Table 5-3 Highest Ten Predicted Annual Average Concentrations of PM_{10} (µg/m³)

Receptor	Reference Case Annual Average PM_{10} (µg/m³)
R98	20.0
R99	20.0
R5	19.7
R102	19.6
R20	19.5
R7	19.4
R100	19.2
R2	19.2
R6	19.2
R83	19.2
Air Quality Objective (AQO)	**40**

Table 5-4 Highest Ten Predicted Annual Average Concentrations of $PM_{2.5}$ (µg/m³)

Receptor	Reference Case Annual Average $PM_{2.5}$ (µg/m³)
R99	12.9
R98	12.9
R102	12.7
R20	12.6
R5	12.5
R2	12.5

Receptor	Reference Case Annual Average $PM_{2.5}$ (µg/m^3)
R83	12.5
R7	12.4
R23	12.4
R100	12.3
Air Quality Objective (AQO)	**20**

5.2.3 The predicted NO_2, PM_{10} and $PM_{2.5}$ Reference Case concentrations are below the relevant NAQOs at all existing receptors. Furthermore, predicted annual mean NO_2 concentrations are below 60µg/m^3 at all receptors, indicating that exceedances of the 1-hour mean NO_2 NAQO are not likely, and the predicted annual mean PM_{10} concentrations are below 32 µg/m^3 at all receptors, indicating that exceedances of the 24-hour mean PM_{10} NAQO are not likely.

5.3 LPR Growth Scenario

5.3.1 LPR Growth Scenario includes the forecast growth on the local network as a result of the LPR allocations, with associated traffic mitigation measures.

5.3.2 Predicted concentrations of NO_2, PM_{10} and $PM_{2.5}$ at the ten receptor locations with the highest concentrations are presented in **Table 5-5** to **Table 5-7**.

Table 5-5 Highest Ten Predicted Annual Average Concentrations of NO_2 (µg/m³) at Receptors

Receptor	LPR Scenario Annual Average NO_2 (µg/m^3)
PR62	36.4
R99	23.8
R100	23.2
R107	22.4
R11	22.2
R21	21.5
R23	21.5
R83	21.4
R20	21.0
R28	21.0
Air Quality Objective (AQO)	**40**

Table 5-6 Highest Ten Predicted Annual Average Concentrations of PM_{10} (µg/m³) at each Receptor

Receptor	LPR Scenario Annual Average PM_{10} (µg/m^3)
PR62	21.1
R99	20.8
R83	20.0
R20	19.8
R23	19.4
R100	19.4
R28	19.2

Receptor	LPR Scenario Annual Average PM_{10} (µg/m^3)
R25	19.1
R40	19.0
R107	18.9
Air Quality Objective (AQO)	**40**

Table 5-7 Highest Ten Predicted Annual Average Concentrations of $PM_{2.5}$ (µg/m³) at each Receptor

Receptor	LPR Scenario Annual Average $PM_{2.5}$ (µg/m^3)
PR62	14.2
R99	13.4
R83	12.9
R20	12.8
R25	12.6
R23	12.6
R100	12.5
R107	12.4
R26	12.3
R103	12.3
Air Quality Objective (AQO)	**20**

5.3.3 The highest predicted concentrations for NO_2, PM_{10} and $PM_{2.5}$ are at PR62. This receptor is considered worst-case scenario at the edge of potential development site in close proximity to the A27 and an appropriate setback would be considered in further detail as part of any future planning application.

5.3.4 The predicted NO_2, PM_{10} and $PM_{2.5}$ concentrations with LPR Scenario are below the relevant NAQOs at all existing receptors. Furthermore, predicted annual mean NO_2 concentrations are below 60µg/m^3 at all receptors, indicating that exceedances of the 1-hour mean NO_2 NAQO are not likely, and the predicted annual mean PM_{10} concentrations are below 32 µg/m^3 at all receptors, indicating that exceedances of the 24-hour mean PM_{10} NAQO are not likely.

5.3.5 The receptors with the largest change in pollutant concentrations in relation to the reference case are shown in **Table 5-8** to **Table 5-10.**

Table 5-8 Highest Ten Changes in Predicted Annual Average Concentrations of NO_2 (µg/m³) at Receptors

Receptor	Reference Case	LPR Scenario	Change (µg/m^3)	Change as % of AQO
R107	17.2	22.4	5.2	13%
R21	17.6	21.5	3.9	10%
PR35	11.4	15.0	3.6	9%
R100	19.6	23.2	3.6	9%
R26	14.1	17.2	3.0	8%
R111	13.6	16.3	2.7	7%
R14	14.0	16.7	2.6	7%
R13	14.7	17.2	2.5	6%
R93	11.3	13.4	2.1	5%

Receptor	Reference Case	LPR Scenario	Change (µg/m^3)	Change as % of AQO
R110	13.6	15.7	2.1	5%
AQO	**40**			

Table 5-9: Highest Ten Changes in Predicted Annual Average Concentrations of PM_{10} (µg/m^3) at Receptors

Receptor	Reference Case	LPR Scenario	Change(µg/m^3)	Change as % of AQO
R107	16.7	18.9	2.2	5%
R26	17.2	18.5	1.3	3%
R93	16.1	17.3	1.2	3%
R111	15.4	16.5	1.0	3%
R13	15.9	16.8	1.0	2%
R14	16.4	17.4	0.9	2%
R8	15.5	16.4	0.9	2%
R22	17.3	18.1	0.9	2%
R83	19.2	20.0	0.8	2%
R82	16.7	17.5	0.8	2%
AQO	**40**			

Table 5-10 Highest Ten Changes in Predicted Annual Average Concentrations of $PM_{2.5}$ (µg/m^3) at Receptors

Receptor	Reference Case	LPR Scenario	Change (µg/m^3)	Change as % of AQO
R107	11.1	12.4	1.3	7%
R26	11.6	12.3	0.7	4%
R93	10.3	10.9	0.6	3%
R111	9.9	10.5	0.6	3%
R13	10.5	11.1	0.6	3%
R14	11.2	11.8	0.6	3%
R8	10.4	10.9	0.5	2%
R112	9.6	10.1	0.5	2%
R22	11.2	11.7	0.5	2%
R83	12.5	12.9	0.5	2%
AQO	**20**			

5.3.6 The largest changes in annual mean NO_2 concentrations are 5.2 µg/m^3 at R107 and 3.9 µg/m^3 at R21. The largest changes in annual mean PM_{10} concentrations are 2.2 µg/m^3 at R107 and 1.3 µg/m^3 at R26. With regards to $PM_{2.5}$ concentrations, the largest concentration changes are 1.3 µg/m^3 at R107 and 0.7 µg/m^3 at R26.

5.4 Summary

5.4.1 The predicted NO_2, PM_{10} and $PM_{2.5}$ concentrations with the LPR Scenario are below the relevant NAQOs at all existing receptors. Furthermore, predicted annual mean NO_2 concentrations are below 60µg/m^3 at all receptors, indicating that exceedances of the 1-hour mean NO_2 NAQO are not likely, and the predicted annual mean PM_{10} concentrations are below 32 µg/m^3 at all receptors, indicating that exceedances of the 24-hour mean PM_{10} NAQO are not likely.

5.4.2 Therefore, it can be concluded that the LPR Growth Scenario does not result unacceptable risks from air pollution and is therefore in accordance with the requirements of the NPPG.

6 Impacts at Ecological Receptors

6.1 Identified Ecological Receptors

6.1.1 The potential impact of traffic related emissions associated with the LPR Growth Scenario have been assessed for the following Habitat Regulation Sites (i.e those within 200m of an 'affected road') as shown on **Figure 6-0 to 6-24. Table 6-1** details the Habitat Regulation Sites considered in the assessment, the habitat types within each site, and the critical levels/ load used for each habitat types.

Table 6-1 Identified Ecological Receptor's (Habitat Regulation Sites)

Habitat Regulations Site	Receptors	Applied Critical Levels/ Load				
		NOx Annual (μg/m^3)	NOx 24 hour (μg/m^3)	NH_3 annual (μg/m^3)	Nitrogen Deposition (kgN/ha/yr)	Acid Deposition (keq/ha/yr)
Solent Maritime SAC and Chichester Langstone Harbours SPA [(a)]	CLSM1_1 to CLSM1_14 CLSM2_1 to CLSM2_14 CLSM3_1 to CLSM3_14	30	75	3	20	1.1
Solent Maritime SAC	SOME1 to 14	30	75	3	20	1.3
Kingley Vale SAC	KGVE1 to 14	30	75	1	10	4.9
Pagham Habour SPA	PGHR1_1 to PGHR1_14 PGHR2_1 to PGHR2_14	30	75	3	20	4.6
Duncton to Bignor Escarpment SAC	DNBG1 to 14	30	75	3	10	2.1
Singleton and Cocking Tunnels SAC	SACT1 to 7	30	75	3	10	11.4
Portsmouth Harbour SPA	SLDR1 to 10	30	75	3	20	0
Butser Hill SAC	BSHL1 to 14	30	75	1	5	11.4
The Mens SAC	MENS1_1 to MENS1_14 MENS2_1 to MENS2_14	30	75	3	10	3.2
Ebernoe Common SAC	EBCM1 to EBCM14	30	75	3	10	3.1

(a) Where an ecological receptor has two separate designations, or where two designated sites overlap, the receptor has been assessed using the criteria associated with the most sensitive designated site.

6.1.2 Where changes in traffic flows within the limitation of the CTAM (alone or in-combination) associated with the LPR scenario exceed the screening criteria (defined in paragraphs 4.3.4 to **Error! Reference source not found.**), modelling has been undertaken to quantify the changes in concentration of air pollutants and associated nitrogen (and acid) deposition.

6.2 LPR Growth Scenario

6.2.1 Full results of the ecological receptors for each scenario are presented in Appendix D and an overview is presented below.

6.2.2 Further analysis of these results will be provided by an ecologist to inform the assessment of Likely Significant Effect (LSE) and any required Habitat Regulation Assessment (HRA) of the LPR Growth scenario.

Annual NOx Impacts

6.2.3 The predicted in-isolation annual NOx contributions associated with LPR Growth Scenario are more than 1% of the critical level at the majority of the ecological receptors (6 of the 14 modelled receptor transects). However, there is a reduction in annual NOx associated with LPR Growth Scenario at Ebernoe Common.

6.2.4 The in-combination annual NOx contributions exceed 1% of the critical level at most modelled receptors (12 of the 14 modelled receptor transects).

6.2.5 The overall annual NOx concentrations do not exceed the critical level (defined in Table 6-1) at a majority of modelled ecological receptors for both in-isolation and in-combination, except for except for CLSM1_1 and transects within Portsmouth Harbour and Butser Hill.

24-hour NOx Impacts

6.2.6 The predicted in-isolation 24-hour NOx contributions associated with LPR Growth Scenario are in excess of 1% of the critical level at the majority of the ecological receptors (7 of the 14 modelled receptor transects). However, there is a reduction in 24-hour NOx associated with LPR Growth Scenario at Ebernoe Common.

6.2.7 Where predicted in-isolation 24-hour NOx contributions are more than 1% of the critical level, the overall concentration does not exceed the critical level (as defined in Table 6-1) at most habitat regulations sites, except for the receptor CLSM1 and transects within Pagham Harbour, Portsmouth Harbour and Butser Hill.

6.2.8 The in-combination 24-hour NOx contributions exceed 1% of the critical level at all of the modelled receptors.

6.2.9 Where predicted in-isolation 24-hour NOx contributions are more than 1% of the critical level, the overall concentration does not exceed the critical level (as defined in Table 6-1) at most habitat regulations sites, except for receptor CLSM1 and transects within Pagham Harbour, Portsmouth Harbour and Butser Hill.

Annual NH_3 Impact

6.2.10 The predicted in-isolation annual NH_3 contributions associated with LPR Growth Scenario are above 1% of the critical level at 6 ecological receptor transects. However, there is a reduction in annual NH_3 associated with LPR Growth Scenario at Ebernoe Common.

6.2.11 The in-combination annual NH_3 contributions exceed 1% of the critical level at all the modelled receptors, excluding the following receptors CLSM2 and Singleton and Cocking Tunnels.

6.2.12 For both in-isolation and in-combination, the overall annual NH_3 concentrations do not exceed the critical level (defined in Table 6-1) at all ecological receptors, apart from transects within Butser Hill.

Annual Nitrogen Deposition Impacts

6.2.13 The predicted in-isolation nitrogen deposition contributions associated with LPR Growth Scenario are above 1% of the critical load at 8 of the 14 modelled receptor transects. However, there is a reduction in annual nitrogen deposition associated with LPR Growth Scenario at Ebernoe Common.

6.2.14 The in-combination contribution to nitrogen deposition rates exceeds 1% of the critical load at all of the modelled receptors, excluding CLSM2.

6.2.15 For both in-isolation and in-combination, the overall annual nitrogen deposition concentrations exceed the critical load (defined in Table 6-1) at all ecological receptors, except for transects within Solent Maritime, Chichester and Langstone Harbour, Pagham Harbour, Portsmouth Harbour.

Annual Acid Deposition Impacts

6.2.16 Portsmouth Harbour has been excluded from the annual acid deposition results as this ecological receptor is not sensitive to acidity (APIS, 2022).

6.2.17 The predicted in-isolation acid deposition contributions associated with LPR Growth Scenario are above 1% of the critical load at 5 of the 13 modelled receptor transects. However, there is a reduction in annual acid deposition associated with LPR Growth Scenario at Ebernoe Common.

6.2.18 The in-combination contribution to acid deposition rates exceeds 1% of the critical load at 10 of the modelled ecological receptor transects.

6.2.19 For both in-isolation and in-combination, the overall annual acid deposition concentrations do not exceed the critical load (defined in Table 6-1) at all ecological receptors, except for transects within CLSM1 and Duncton to Bignor Escarpment.

6.3 Summary

6.3.1 The predicted annual NOx, 24-hour NOx, annual NH_3 concentrations, nitrogen deposition and acid deposition have been modelled.

6.3.2 In-isolation the LPR Growth scenario results in the increases in annual NOx, 24-hour NOx, annual NH_3 concentrations, nitrogen deposition and acid deposition rates of greater than 1% of the critical level or critical load at most of the ecological modelled receptors.

6.3.3 In-combination with other projects and plans the 1% threshold for NOx (annual and 24-hour), annual NH_3, nitrogen deposition and acid deposition are exceeded at many of the modelled ecological receptors for the LPR Growth Scenario.

6.3.4 Based on these results, impacts from road traffic emissions on existing sensitive ecological receptors cannot be screened out in line with IAQM guidance (IAQM, 2020) and further assessment and the determination of significance will be undertaken.

7 Summary and Conclusions

7.1.1 Stantec have undertaken an assessment to understand the impact on air quality (at both human and ecological receptors) of future housing and employment growth and the resultant changes in traffic flows on the highway network. The outputs from the assessment will be used as part of the evidence base to support the preparation of the LPR.

7.1.2 The predicted NO_2, PM_{10} and $PM_{2.5}$ concentrations without the potential growth under the LPR are below the relevant NAQOs at all existing receptors. Furthermore, predicted annual mean NO_2 concentrations are below 60µg/m^3 at all receptors, indicating that exceedances of the 1-hour mean NO_2 NAQO are not likely, and the predicted annual mean PM_{10} concentrations are below 32 µg/m^3 at all receptors, indicating that exceedances of the 24-hour mean PM_{10} NAQO are not likely.

7.1.3 The predicted NO_2, PM_{10} and $PM_{2.5}$ concentrations with LPR Scenario are below the relevant NAQOs at all existing receptors. Furthermore, predicted annual mean NO_2 concentrations are below 60µg/m^3 at all receptors, indicating that exceedances of the 1-hour mean NO_2 NAQO are not likely, and the predicted annual mean PM_{10} concentrations are below 32 µg/m^3 at all receptors, indicating that exceedances of the 24-hour mean PM_{10} NAQO are not likely.

7.1.4 NOx (annual and 24-hour) and NH_3 annual impacts associated with LPR Scenario result in increases more than 1% of the critical level at the many ecological receptors.

7.1.5 Nitrogen deposition rates at all locations remain in exceedance of the critical loads in all assessment years, excluding Portsmouth Harbour. Nitrogen deposition associated with LPR Scenario results in increases more than 1% of the critical load for the majority of the modelled ecological receptors.

7.1.6 Further analysis of the impacts of these contributions, both alone and in-combination will be undertaken as part the Habitat Regulation Assessment (HRA) to determine whether the predicted impact will result in a Likely Significant Effect (LSE).

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Appendix A Glossary

Abbreviations	Meaning
AADT	Annual Average Daily Traffic
APIS	Air Pollution Information System
AQMA	Air Quality Management Area
CATM	Chichester Area Transport Model
CDC	Chichester District Council
DEFRA	Department for Environment, Food and Rural Affairs
DN	Do Nothing
DM	Do Minimum
DS	Do Something
Diffusion Tube	A passive sampler used for collecting NO_2 in the air
EEA	European Environment Agency
EFT	Emission Factor Toolkit
EPUK	Environmental Protection UK
HRA	Habitat Regulation Assessment
HDV	Heavy Duty Vehicle; a vehicle with a gross vehicle weight greater than 3.5 tonnes. Includes Heavy Goods Vehicles and buses
IAQM	Institute of Air Quality Management
LPR	Local Plan Review
NAEI	National Atmospheric Emission Inventory
NE	Natural England
NAQO	National Air Quality Objective as set out in the Air Quality Strategy and the Air Quality Regulations
NO_2	Nitrogen Dioxide
NOx	Oxides of nitrogen generally considered to be nitric oxide and NO_2. Its main source is from combustion of fossil fuels, including petrol and diesel used in road vehicles
NPPF	National Planning Policy Framework
NTEM	National Trip End Model
$PM_{10}/PM_{2.5}$	Small airborne particles less than 10/2.5 µm in diameter
PPG	Planning Practice Guidance
Receptor	A location where the effects of pollution may occur
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Scientific Special Interest
UNECE	United Nations Economic Commission for Europe

Appendix B Model Inputs and Results Processing

Summary of Model Inputs

Meteorological Data	2019 hourly meteorological data from Southampton station has been used in the model.
ADMS	Version 5.0.1.3
Time Varying Emission Factors	Based on Department for Transport statistics. Table TRA0307. Motor vehicle traffic distribution by time of day and day of the week on all roads, Great Britain: 2019
Latitude	51°
Minimum Monin-Obukhov length	A value of 30 for ‘mixed urban/industrial’ was used to represent the modelled area and the meteorological station site.
Urban Canopy	ADMS Urban Canopy flow model option was used to calculate the changes in vertical profiles of velocity and turbulence caused by the presence of buildings in the area. Building heights were obtained from OS MasterMap.
Emission Factor Toolkit (EFT)	V11 (DEFRA, 2021a)
NOx to NO_2 Conversion	NOx to NO_2 calculator version 8.1, August 2020 (DEFRA, 2020c)
Background Maps	2018 reference year background maps (DEFRA, 2020b)

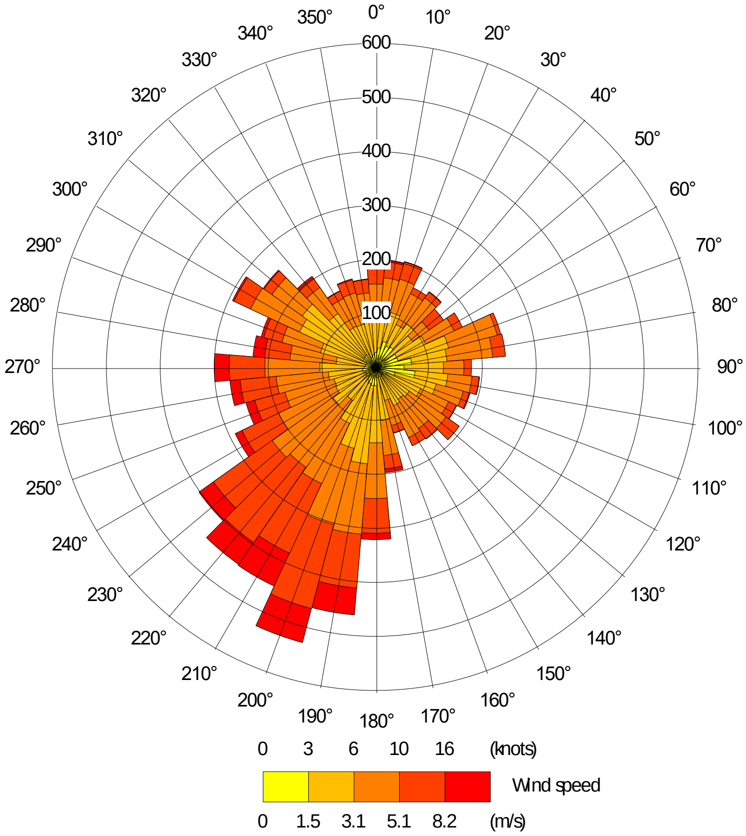

Figure C-1: Windrose for Southampton (2019)

Appendix C Model Verification

NO_2

Most NO_2 is produced in the atmosphere by the reaction of nitric oxide (NO) with ozone. It is therefore most appropriate to verify the model in terms of primary pollutant emission of nitrogen oxides (NOx = NO + NO_2). The model has been run to predict the 2019 annual mean road-NOx contribution at the monitoring locations identified in Paragraph **4.2.14** and shown in **Figure 5-1**.

A primary adjustment factor of **3.1066** has been determined as the slope of the best fit line between the modelled road NOx contribution and the 'measured' road-NO_x (which is calculated from the measured and background NO_2 concentrations within DEFRA's NO_x from NO_2 calculator (DEFRA, 2019e)), forced through zero (**Figure C-1**). This factor has then been applied to the raw modelled road-NO_x concentration to provide adjusted modelled road-NO_x concentrations.

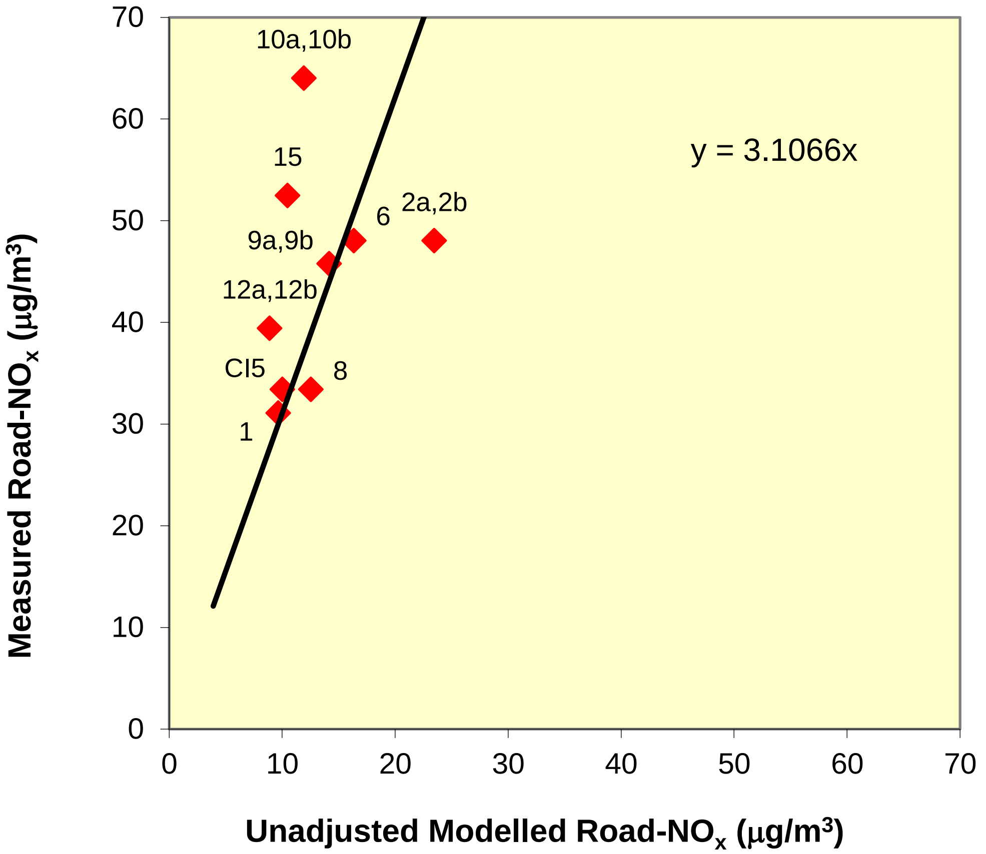

Figure C-1 Measured and Unadjusted Road-NO_x Comparison

The total NO_2 concentrations have then been determined by combining the adjusted modelled road-NO_x concentrations with the background NO_2 concentration within DEFRA's NO_x from NO_2 calculator (DEFRA, 2019e). A secondary adjustment factor of **1.0274** has then been calculated as the slope of the best fit line applied to the adjusted data and forced through zero (**Figure C-2**).

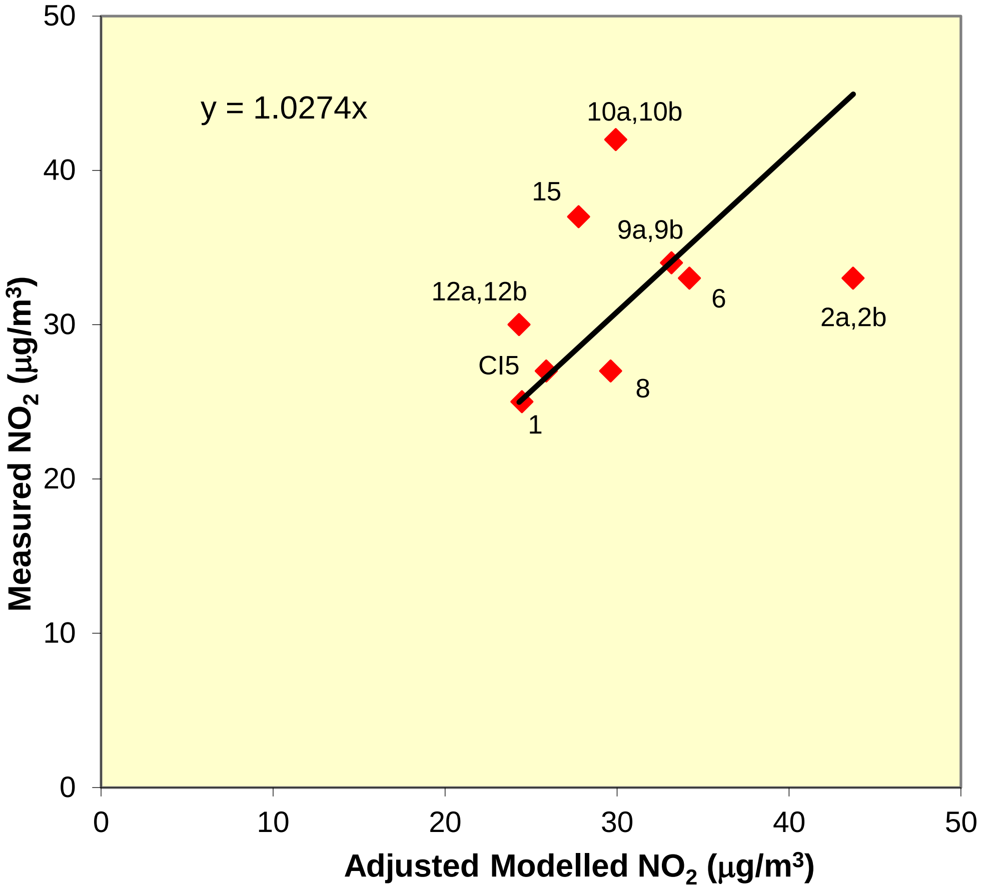

Figure C-2 Measured and Primary Adjusted Modelled NO2 Comparison

Figure C-3 compares final adjusted modelled total NO_2 at each of the monitoring sites, to measured total NOx and shows the 1:1 relationship, as well as ±10% and ±25% of the 1:1 line.

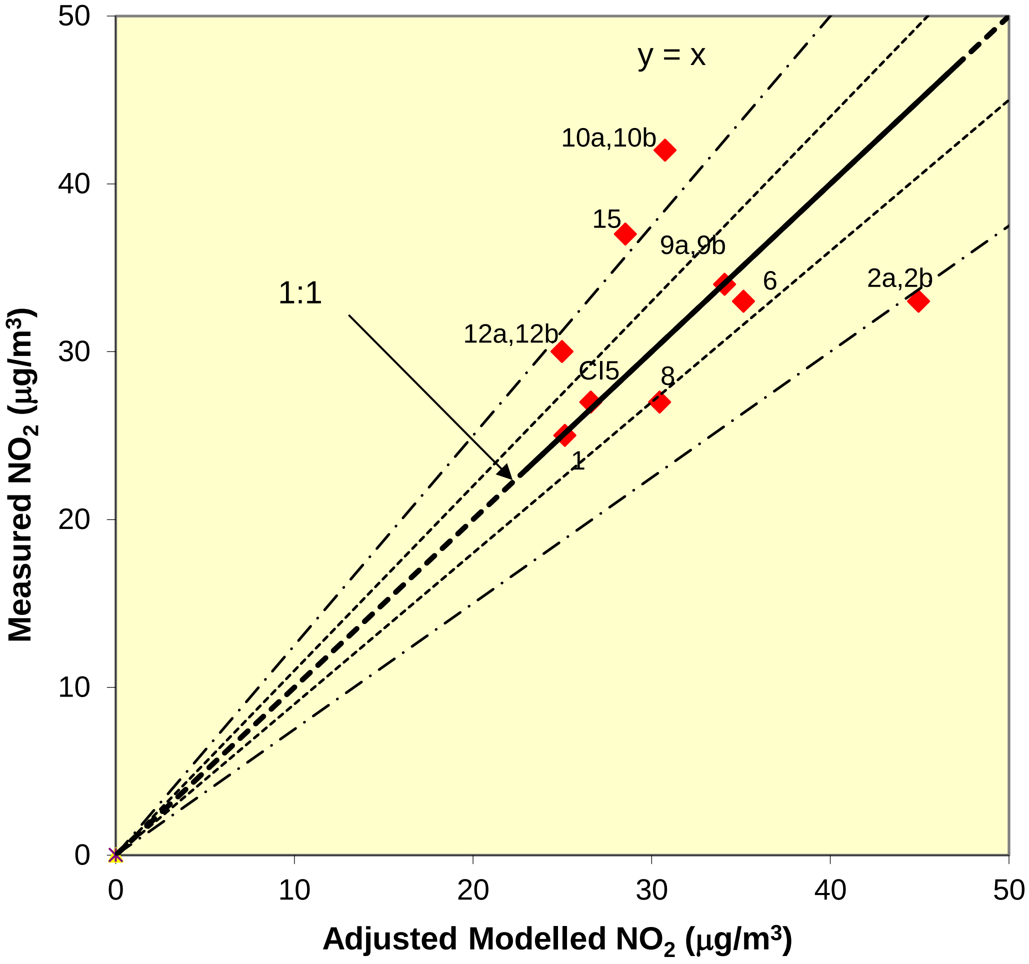

Figure C-3 Measured and Final Adjusted Modelled NO_2 Comparison

The calculated adjustment factors imply that overall, the model has under-predicted the road-NO_x contribution. This is a common experience with this and most other models. The calculated Root Mean Square Error (RMSE) for this verification (6.5 µg/m^3) lies within the range considered to be acceptable by DEFRA (DEFRA, 2018a) (4 – 10).

Appendix D Ecological Receptor Results

Table E-1: Predicted 'in-isolation' Annual Mean NOx at Modelled Ecological Receptors (change >1% of critical load))

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DM	Future year DS
CLSM1_1	30	0.2	0.6%	**77.0**	**30.7**	**30.8**
CLSM1_2	30	0.2	0.5%	**73.8**	29.7	29.9
CLSM1_3	30	0.1	0.5%	**69.7**	28.5	28.7
CLSM1_4	30	0.1	0.4%	**64.1**	26.9	27.0
CLSM1_5	30	0.1	0.4%	**59.6**	25.6	25.7
CLSM1_6	30	0.1	0.3%	**56.0**	24.5	24.6
CLSM1_7	30	0.1	0.3%	**52.9**	23.6	23.7
CLSM1_8	30	0.1	0.2%	**43.0**	20.7	20.8
CLSM1_9	30	0.0	0.1%	**37.5**	19.1	19.1
CLSM1_10	30	0.0	0.1%	**33.9**	18.0	18.1
CLSM1_11	30	0.0	0.1%	**31.4**	17.3	17.3
CLSM1_12	30	0.0	0.0%	29.6	16.8	16.8
CLSM1_13	30	0.0	0.0%	28.1	16.3	16.3
CLSM1_14	30	0.0	0.0%	27.0	16.0	16.0
CLSM2_1	30	0.0	0.1%	13.4	9.9	9.9
CLSM2_2	30	0.0	0.1%	13.3	9.9	9.9
CLSM2_3	30	0.0	0.1%	13.3	9.9	9.9
CLSM2_4	30	0.0	0.1%	13.3	9.9	9.9
CLSM2_5	30	0.0	0.1%	13.3	9.9	9.9
CLSM2_6	30	0.0	0.1%	13.2	9.9	9.9
CLSM2_7	30	0.0	0.1%	13.2	9.8	9.9
CLSM2_8	30	0.0	0.1%	13.1	9.8	9.8
CLSM2_9	30	0.0	0.1%	13.1	9.8	9.8
CLSM2_10	30	0.0	0.1%	13.0	9.7	9.8
CLSM2_11	30	0.0	0.0%	12.9	9.7	9.7
CLSM2_12	30	0.0	0.0%	12.9	9.7	9.7
CLSM2_13	30	0.0	0.0%	12.9	9.7	9.7
CLSM2_14	30	0.0	0.0%	12.8	9.7	9.7
CLSM3_1	30	0.6	**1.9%**	24.9	14.2	14.8
CLSM3_2	30	0.5	**1.7%**	24.1	13.9	14.4
CLSM3_3	30	0.4	**1.5%**	23.0	13.4	13.8
CLSM3_4	30	0.3	**1.1%**	21.5	12.8	13.1
CLSM3_5	30	0.3	0.9%	20.4	12.3	12.5
CLSM3_6	30	0.2	0.7%	19.5	11.9	12.1
CLSM3_7	30	0.2	0.6%	18.7	11.6	11.7
CLSM3_8	30	0.1	0.2%	16.5	10.6	10.7
CLSM3_9	30	0.0	0.0%	15.3	10.1	10.1
CLSM3_10	30	0.0	0.0%	14.6	9.8	9.8
CLSM3_11	30	0.0	0.0%	14.1	9.5	9.5
CLSM3_12	30	0.0	-0.1%	13.8	9.4	9.4
CLSM3_13	30	0.0	-0.1%	13.5	9.3	9.2
CLSM3_14	30	0.0	-0.1%	13.3	9.2	9.2
SOME1	30	0.9	**2.8%**	25.6	14.9	15.7
SOME2	30	0.8	**2.6%**	24.3	14.3	15.0
SOME3	30	0.7	**2.2%**	22.7	13.6	14.3
SOME4	30	0.6	**1.8%**	20.7	12.7	13.3
SOME5	30	0.5	**1.6%**	19.3	12.1	12.6

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DM	Future year DS
SOME6	30	0.4	**1.3%**	18.3	11.7	12.1
SOME7	30	0.4	**1.2%**	17.4	11.3	11.7
SOME8	30	0.2	0.7%	15.2	10.3	10.5
SOME9	30	0.1	0.5%	14.1	9.9	10.0
SOME10	30	0.1	0.4%	13.5	9.6	9.7
SOME11	30	0.1	0.3%	13.2	9.5	9.6
SOME12	30	0.1	0.2%	12.9	9.4	9.4
SOME13	30	0.1	0.2%	12.7	9.3	9.3
SOME14	30	0.1	0.2%	12.6	9.2	9.3
KGVE1	30	0.0	0.1%	10.6	7.9	7.9
KGVE2	30	0.0	0.1%	10.5	7.9	7.9
KGVE3	30	0.0	0.1%	10.5	7.9	7.9
KGVE4	30	0.0	0.1%	10.5	7.9	7.9
KGVE5	30	0.0	0.1%	10.5	7.8	7.9
KGVE6	30	0.0	0.1%	10.5	7.8	7.9
KGVE7	30	0.0	0.1%	10.4	7.8	7.8
KGVE8	30	0.0	0.1%	10.3	7.8	7.8
KGVE9	30	0.0	0.1%	10.3	7.7	7.8
KGVE10	30	0.0	0.1%	10.2	7.7	7.7
KGVE11	30	0.0	0.0%	10.2	7.7	7.7
KGVE12	30	0.0	0.0%	10.1	7.7	7.7
KGVE13	30	0.0	0.0%	10.1	7.6	7.7
KGVE14	30	0.0	0.0%	10.1	7.6	7.6
PGHR1_1	30	1.5	**5.2%**	**52.1**	25.5	27.1
PGHR1_2	30	1.4	**4.6%**	**47.5**	23.6	25.0
PGHR1_3	30	1.2	**4.0%**	**43.1**	21.8	23.0
PGHR1_4	30	1.0	**3.4%**	**38.1**	19.7	20.7
PGHR1_5	30	0.9	**2.9%**	**34.5**	18.2	19.1
PGHR1_6	30	0.8	**2.6%**	**31.7**	17.0	17.8
PGHR1_7	30	0.7	**2.3%**	29.4	16.1	16.8
PGHR1_8	30	0.4	**1.5%**	22.6	13.4	13.8
PGHR1_9	30	0.3	1.0%	19.3	12.0	12.3
PGHR1_10	30	0.2	0.8%	17.5	11.3	11.5
PGHR1_11	30	0.2	0.6%	16.3	10.8	11.0
PGHR1_12	30	0.2	0.5%	15.5	10.4	10.6
PGHR1_13	30	0.1	0.5%	14.9	10.2	10.3
PGHR1_14	30	0.1	0.4%	14.5	10.0	10.1
PGHR2_1	30	1.3	**4.4%**	**46.4**	23.0	24.4
PGHR2_2	30	1.1	**3.8%**	**41.4**	21.0	22.1
PGHR2_3	30	1.0	**3.2%**	**37.0**	19.2	20.2
PGHR2_4	30	0.8	**2.6%**	**32.1**	17.2	18.0
PGHR2_5	30	0.7	**2.2%**	28.9	15.9	16.5
PGHR2_6	30	0.6	**1.9%**	26.4	14.9	15.5
PGHR2_7	30	0.5	**1.7%**	24.5	14.1	14.6
PGHR2_8	30	0.3	1.0%	19.2	11.9	12.2
PGHR2_9	30	0.2	0.7%	16.8	11.0	11.2
PGHR2_10	30	0.2	0.5%	15.5	10.4	10.6
PGHR2_11	30	0.1	0.4%	14.6	10.1	10.2
PGHR2_12	30	0.1	0.4%	14.0	9.8	9.9
PGHR2_13	30	0.1	0.3%	13.6	9.7	9.8
PGHR2_14	30	0.1	0.3%	13.3	9.5	9.6
DNBG1	30	0.4	**1.3%**	17.9	12.4	12.8

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DM	Future year DS
DNBG2	30	0.4	**1.2%**	17.2	12.0	12.4
DNBG3	30	0.3	**1.1%**	16.4	11.5	11.8
DNBG4	30	0.3	1.0%	15.5	10.9	11.2
DNBG5	30	0.3	0.9%	14.7	10.4	10.7
DNBG6	30	0.2	0.8%	14.1	10.1	10.3
DNBG7	30	0.2	0.7%	13.6	9.8	10.0
DNBG8	30	0.1	0.5%	12.0	8.8	8.9
DNBG9	30	0.1	0.4%	11.2	8.3	8.4
DNBG10	30	0.1	0.3%	10.7	7.9	8.0
DNBG11	30	0.1	0.2%	10.4	7.7	7.8
DNBG12	30	0.1	0.2%	10.2	7.6	7.7
DNBG13	30	0.1	0.2%	10.0	7.5	7.5
DNBG14	30	0.1	0.2%	9.9	7.4	7.5
SACT1	30	0.1	0.2%	10.8	7.9	8.0
SACT2	30	0.1	0.2%	10.7	7.9	8.0
SACT3	30	0.1	0.2%	10.7	7.9	8.0
SACT4	30	0.1	0.2%	10.7	7.9	8.0
SACT5	30	0.1	0.2%	10.6	7.9	7.9
SACT6	30	0.1	0.2%	10.6	7.9	7.9
SACT7	30	0.1	0.2%	10.6	7.8	7.9
SLDR1	30	0.2	0.6%	**77.3**	**33.9**	**34.1**
SLDR2	30	0.2	0.6%	**74.6**	**33.1**	**33.3**
SLDR3	30	0.2	0.6%	**71.1**	**32.0**	**32.2**
SLDR4	30	0.1	0.5%	**66.2**	**30.6**	**30.7**
SLDR5	30	0.1	0.4%	**62.1**	29.4	29.5
SLDR6	30	0.1	0.4%	**58.8**	28.4	28.5
SLDR7	30	0.1	0.4%	**56.0**	27.5	27.7
SLDR8	30	0.1	0.3%	**46.5**	24.8	24.8
SLDR9	30	0.1	0.2%	**41.2**	23.2	23.3
SLDR10	30	0.1	0.2%	**37.7**	22.2	22.2
BSHL1	30	1.1	**3.7%**	**303.8**	**187.8**	**188.9**
BSHL2	30	1.1	**3.5%**	**290.7**	**179.7**	**180.8**
BSHL3	30	1.0	**3.3%**	**273.3**	**168.9**	**169.9**
BSHL4	30	0.9	**3.0%**	**248.4**	**153.6**	**154.5**
BSHL5	30	0.8	**2.7%**	**227.5**	**140.7**	**141.5**
BSHL6	30	0.8	**2.5%**	**210.0**	**129.9**	**130.7**
BSHL7	30	0.7	**2.3%**	**194.9**	**120.7**	**121.4**
BSHL8	30	0.5	**1.7%**	**142.6**	**88.6**	**89.1**
BSHL9	30	0.4	**1.3%**	**111.9**	**69.8**	**70.1**
BSHL10	30	0.3	1.0%	**91.8**	**57.5**	**57.8**
BSHL11	30	0.3	0.9%	**77.6**	**48.9**	**49.2**
BSHL12	30	0.2	0.7%	**67.1**	**42.5**	**42.8**
BSHL13	30	0.2	0.6%	**59.2**	**37.7**	**37.9**
BSHL14	30	0.2	0.5%	**52.9**	**33.8**	**34.0**
MENS1_1	30	0.2	0.7%	13.0	9.8	10.0
MENS1_2	30	0.2	0.6%	12.6	9.5	9.7
MENS1_3	30	0.2	0.5%	12.2	9.2	9.4
MENS1_4	30	0.1	0.5%	11.6	8.8	8.9
MENS1_5	30	0.1	0.4%	11.2	8.5	8.6
MENS1_6	30	0.1	0.4%	10.9	8.2	8.3
MENS1_7	30	0.1	0.3%	10.6	8.1	8.2
MENS1_8	30	0.1	0.2%	9.9	7.5	7.6

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DM	Future year DS
MENS1_9	30	0.0	0.2%	9.5	7.2	7.3
MENS1_10	30	0.0	0.1%	9.3	7.1	7.1
MENS1_11	30	0.0	0.1%	9.2	7.0	7.0
MENS1_12	30	0.0	0.1%	9.1	6.9	6.9
MENS1_13	30	0.0	0.1%	9.0	6.9	6.9
MENS1_14	30	0.0	0.1%	8.9	6.8	6.8
MENS2_1	30	0.2	0.6%	12.8	9.7	9.9
MENS2_2	30	0.2	0.6%	12.4	9.4	9.6
MENS2_3	30	0.2	0.5%	12.0	9.1	9.2
MENS2_4	30	0.1	0.4%	11.4	8.7	8.8
MENS2_5	30	0.1	0.4%	11.0	8.4	8.5
MENS2_6	30	0.1	0.3%	10.7	8.1	8.2
MENS2_7	30	0.1	0.3%	10.4	7.9	8.0
MENS2_8	30	0.1	0.2%	9.7	7.4	7.4
MENS2_9	30	0.0	0.1%	9.4	7.1	7.2
MENS2_10	30	0.0	0.1%	9.2	7.0	7.0
MENS2_11	30	0.0	0.1%	9.0	6.9	6.9
MENS2_12	30	0.0	0.1%	9.0	6.8	6.8
MENS2_13	30	0.0	0.1%	8.9	6.8	6.8
MENS2_14	30	0.0	0.1%	8.8	6.7	6.8
EBCM1	30	-0.2	-0.8%	22.3	13.0	12.8
EBCM2	30	-0.2	-0.7%	20.3	12.2	12.0
EBCM3	30	-0.2	-0.6%	18.9	11.5	11.3
EBCM4	30	-0.2	-0.5%	17.3	10.7	10.5
EBCM5	30	-0.1	-0.5%	16.3	10.2	10.0
EBCM6	30	-0.1	-0.4%	15.4	9.8	9.7
EBCM7	30	-0.1	-0.4%	14.8	9.5	9.4
EBCM8	30	-0.1	-0.2%	12.7	8.5	8.4
EBCM9	30	-0.1	-0.2%	11.6	7.9	7.9
EBCM10	30	0.0	-0.1%	10.9	7.6	7.5
EBCM11	30	0.0	-0.1%	10.4	7.4	7.3
EBCM12	30	0.0	-0.1%	10.1	7.2	7.2
EBCM13	30	0.0	-0.1%	9.8	7.1	7.1
EBCM14	30	0.0	-0.1%	9.7	7.0	7.0

Table E-2: Predicted 'in-combination' Annual Mean NOx at Modelled Ecological Receptors (change >1% of critical load)

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DN	Future year DS
CLSM1_1	30	0.3	**1.1%**	**77.0**	**30.5**	**30.8**
CLSM1_2	30	0.3	1.0%	**73.8**	29.6	29.9
CLSM1_3	30	0.3	1.0%	**69.7**	28.4	28.7
CLSM1_4	30	0.3	0.9%	**64.1**	26.7	27.0
CLSM1_5	30	0.2	0.8%	**59.6**	25.4	25.7
CLSM1_6	30	0.2	0.7%	**56.0**	24.4	24.6
CLSM1_7	30	0.2	0.7%	**52.9**	23.5	23.7
CLSM1_8	30	0.1	0.5%	**43.0**	20.6	20.8
CLSM1_9	30	0.1	0.4%	**37.5**	19.0	19.1
CLSM1_10	30	0.1	0.3%	**33.9**	18.0	18.1
CLSM1_11	30	0.1	0.3%	**31.4**	17.2	17.3
CLSM1_12	30	0.1	0.3%	29.6	16.7	16.8
CLSM1_13	30	0.1	0.2%	28.1	16.3	16.3
CLSM1_14	30	0.1	0.2%	27.0	15.9	16.0
CLSM2_1	30	0.2	0.7%	13.4	9.7	9.9
CLSM2_2	30	0.2	0.7%	13.3	9.7	9.9
CLSM2_3	30	0.2	0.7%	13.3	9.7	9.9
CLSM2_4	30	0.2	0.7%	13.3	9.7	9.9
CLSM2_5	30	0.2	0.7%	13.3	9.7	9.9
CLSM2_6	30	0.2	0.6%	13.2	9.7	9.9
CLSM2_7	30	0.2	0.6%	13.2	9.7	9.9
CLSM2_8	30	0.2	0.6%	13.1	9.7	9.8
CLSM2_9	30	0.2	0.5%	13.1	9.6	9.8
CLSM2_10	30	0.1	0.5%	13.0	9.6	9.8
CLSM2_11	30	0.1	0.4%	12.9	9.6	9.7
CLSM2_12	30	0.1	0.4%	12.9	9.6	9.7
CLSM2_13	30	0.1	0.4%	12.9	9.6	9.7
CLSM2_14	30	0.1	0.4%	12.8	9.6	9.7
CLSM3_1	30	2.1	**7.1%**	24.9	12.7	14.8
CLSM3_2	30	2.0	**6.6%**	24.1	12.4	14.4
CLSM3_3	30	1.8	**6.0%**	23.0	12.0	13.8
CLSM3_4	30	1.5	**5.1%**	21.5	11.6	13.1
CLSM3_5	30	1.3	**4.5%**	20.4	11.2	12.5
CLSM3_6	30	1.2	**4.0%**	19.5	10.9	12.1
CLSM3_7	30	1.1	**3.6%**	18.7	10.7	11.7
CLSM3_8	30	0.7	**2.3%**	16.5	10.0	10.7
CLSM3_9	30	0.5	**1.7%**	15.3	9.6	10.1
CLSM3_10	30	0.4	**1.4%**	14.6	9.4	9.8
CLSM3_11	30	0.3	**1.1%**	14.1	9.2	9.5
CLSM3_12	30	0.3	1.0%	13.8	9.1	9.4
CLSM3_13	30	0.3	0.8%	13.5	9.0	9.2
CLSM3_14	30	0.2	0.7%	13.3	8.9	9.2
SOME1	30	2.5	**8.3%**	25.6	13.2	15.7
SOME2	30	2.3	**7.5%**	24.3	12.8	15.0
SOME3	30	2.0	**6.6%**	22.7	12.3	14.3
SOME4	30	1.6	**5.4%**	20.7	11.7	13.3
SOME5	30	1.4	**4.6%**	19.3	11.2	12.6
SOME6	30	1.2	**4.0%**	18.3	10.9	12.1
SOME7	30	1.1	**3.5%**	17.4	10.6	11.7
SOME8	30	0.6	**2.2%**	15.2	9.9	10.5
SOME9	30	0.5	**1.6%**	14.1	9.6	10.0

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DN	Future year DS
SOME10	30	0.4	**1.2%**	13.5	9.4	9.7
SOME11	30	0.3	1.0%	13.2	9.3	9.6
SOME12	30	0.3	0.8%	12.9	9.2	9.4
SOME13	30	0.2	0.7%	12.7	9.1	9.3
SOME14	30	0.2	0.7%	12.6	9.1	9.3
KGVE1	30	0.3	0.9%	10.6	7.6	7.9
KGVE2	30	0.3	0.9%	10.5	7.6	7.9
KGVE3	30	0.3	0.9%	10.5	7.6	7.9
KGVE4	30	0.3	0.9%	10.5	7.6	7.9
KGVE5	30	0.3	0.9%	10.5	7.6	7.9
KGVE6	30	0.3	0.8%	10.5	7.6	7.9
KGVE7	30	0.2	0.8%	10.4	7.6	7.8
KGVE8	30	0.2	0.8%	10.3	7.6	7.8
KGVE9	30	0.2	0.7%	10.3	7.5	7.8
KGVE10	30	0.2	0.7%	10.2	7.5	7.7
KGVE11	30	0.2	0.6%	10.2	7.5	7.7
KGVE12	30	0.2	0.6%	10.1	7.5	7.7
KGVE13	30	0.2	0.6%	10.1	7.5	7.7
KGVE14	30	0.2	0.5%	10.1	7.5	7.6
PGHR1_1	30	5.5	**18.2%**	**52.1**	21.6	27.1
PGHR1_2	30	4.9	**16.2%**	**47.5**	20.1	25.0
PGHR1_3	30	4.2	**14.1%**	**43.1**	18.7	23.0
PGHR1_4	30	3.6	**11.9%**	**38.1**	17.1	20.7
PGHR1_5	30	3.1	**10.3%**	**34.5**	16.0	19.1
PGHR1_6	30	2.7	**9.0%**	**31.7**	15.1	17.8
PGHR1_7	30	2.4	**8.0%**	29.4	14.4	16.8
PGHR1_8	30	1.5	**5.1%**	22.6	12.3	13.8
PGHR1_9	30	1.1	**3.7%**	19.3	11.2	12.3
PGHR1_10	30	0.8	**2.8%**	17.5	10.7	11.5
PGHR1_11	30	0.7	**2.2%**	16.3	10.3	11.0
PGHR1_12	30	0.6	**1.8%**	15.5	10.0	10.6
PGHR1_13	30	0.5	**1.6%**	14.9	9.8	10.3
PGHR1_14	30	0.4	**1.4%**	14.5	9.7	10.1
PGHR2_1	30	4.6	**15.4%**	**46.4**	19.7	24.4
PGHR2_2	30	4.0	**13.2%**	**41.4**	18.2	22.1
PGHR2_3	30	3.4	**11.3%**	**37.0**	16.8	20.2
PGHR2_4	30	2.8	**9.2%**	**32.1**	15.3	18.0
PGHR2_5	30	2.3	**7.7%**	28.9	14.2	16.5
PGHR2_6	30	2.0	**6.7%**	26.4	13.5	15.5
PGHR2_7	30	1.8	**5.8%**	24.5	12.9	14.6
PGHR2_8	30	1.0	**3.5%**	19.2	11.2	12.2
PGHR2_9	30	0.7	**2.4%**	16.8	10.4	11.2
PGHR2_10	30	0.6	**1.9%**	15.5	10.0	10.6
PGHR2_11	30	0.4	**1.5%**	14.6	9.8	10.2
PGHR2_12	30	0.4	**1.2%**	14.0	9.6	9.9
PGHR2_13	30	0.3	**1.1%**	13.6	9.4	9.8
PGHR2_14	30	0.3	0.9%	13.3	9.3	9.6
DNBG1	30	3.2	**10.6%**	17.9	9.6	12.8
DNBG2	30	3.0	**9.9%**	17.2	9.4	12.4
DNBG3	30	2.7	**9.0%**	16.4	9.1	11.8
DNBG4	30	2.4	**7.9%**	15.5	8.8	11.2
DNBG5	30	2.1	**7.1%**	14.7	8.6	10.7

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DN	Future year DS
DNBG6	30	1.9	**6.4%**	14.1	8.4	10.3
DNBG7	30	1.7	**5.8%**	13.6	8.2	10.0
DNBG8	30	1.2	**4.0%**	12.0	7.7	8.9
DNBG9	30	0.9	**3.0%**	11.2	7.5	8.4
DNBG10	30	0.7	**2.4%**	10.7	7.3	8.0
DNBG11	30	0.6	**2.0%**	10.4	7.2	7.8
DNBG12	30	0.5	**1.8%**	10.2	7.1	7.7
DNBG13	30	0.5	**1.6%**	10.0	7.1	7.5
DNBG14	30	0.4	**1.4%**	9.9	7.0	7.5
SACT1	30	0.4	**1.3%**	10.8	7.6	8.0
SACT2	30	0.4	**1.3%**	10.7	7.6	8.0
SACT3	30	0.4	**1.3%**	10.7	7.6	8.0
SACT4	30	0.4	**1.3%**	10.7	7.6	8.0
SACT5	30	0.4	**1.2%**	10.6	7.6	7.9
SACT6	30	0.4	**1.2%**	10.6	7.6	7.9
SACT7	30	0.3	**1.2%**	10.6	7.6	7.9
SLDR1	30	0.4	**1.3%**	**77.3**	**33.7**	**34.1**
SLDR2	30	0.4	**1.2%**	**74.6**	**32.9**	**33.3**
SLDR3	30	0.3	**1.1%**	**71.1**	**31.9**	**32.2**
SLDR4	30	0.3	0.9%	**66.2**	**30.4**	**30.7**
SLDR5	30	0.2	0.8%	**62.1**	29.3	29.5
SLDR6	30	0.2	0.7%	**58.8**	28.3	28.5
SLDR7	30	0.2	0.7%	**56.0**	27.5	27.7
SLDR8	30	0.1	0.4%	**46.5**	24.7	24.8
SLDR9	30	0.1	0.3%	**41.2**	23.1	23.3
SLDR10	30	0.1	0.3%	**37.7**	22.1	22.2
BSHL1	30	55.1	**183.8%**	**303.8**	**133.8**	**188.9**
BSHL2	30	52.7	**175.7%**	**290.7**	**128.1**	**180.8**
BSHL3	30	49.4	**164.7%**	**273.3**	**120.5**	**169.9**
BSHL4	30	44.7	**149.2%**	**248.4**	**109.7**	**154.5**
BSHL5	30	40.8	**136.2%**	**227.5**	**100.7**	**141.5**
BSHL6	30	37.5	**125.2%**	**210.0**	**93.1**	**130.7**
BSHL7	30	34.7	**115.8%**	**194.9**	**86.7**	**121.4**
BSHL8	30	24.9	**83.1%**	**142.6**	**64.2**	**89.1**
BSHL9	30	19.2	**63.9%**	**111.9**	**51.0**	**70.1**
BSHL10	30	15.4	**51.3%**	**91.8**	**42.4**	**57.8**
BSHL11	30	12.8	**42.6%**	**77.6**	**36.4**	**49.2**
BSHL12	30	10.9	**36.2%**	**67.1**	**31.9**	**42.8**
BSHL13	30	9.4	**31.2%**	**59.2**	28.5	**37.9**
BSHL14	30	8.2	**27.2%**	**52.9**	25.9	**34.0**
MENS1_1	30	2.2	**7.2%**	13.0	7.9	10.0
MENS1_2	30	2.0	**6.6%**	12.6	7.8	9.7
MENS1_3	30	1.8	**5.9%**	12.2	7.6	9.4
MENS1_4	30	1.5	**5.0%**	11.6	7.4	8.9
MENS1_5	30	1.3	**4.3%**	11.2	7.3	8.6
MENS1_6	30	1.1	**3.8%**	10.9	7.2	8.3
MENS1_7	30	1.0	**3.4%**	10.6	7.1	8.2
MENS1_8	30	0.7	**2.3%**	9.9	6.9	7.6
MENS1_9	30	0.5	**1.7%**	9.5	6.8	7.3
MENS1_10	30	0.4	**1.4%**	9.3	6.7	7.1
MENS1_11	30	0.4	**1.2%**	9.2	6.7	7.0
MENS1_12	30	0.3	1.0%	9.1	6.6	6.9

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DN	Future year DS
MENS1_13	30	0.3	0.9%	9.0	6.6	6.9
MENS1_14	30	0.2	0.8%	8.9	6.6	6.8
MENS2_1	30	2.1	**6.9%**	12.8	7.8	9.9
MENS2_2	30	1.9	**6.3%**	12.4	7.7	9.6
MENS2_3	30	1.7	**5.6%**	12.0	7.6	9.2
MENS2_4	30	1.4	**4.7%**	11.4	7.4	8.8
MENS2_5	30	1.2	**4.1%**	11.0	7.3	8.5
MENS2_6	30	1.1	**3.6%**	10.7	7.2	8.2
MENS2_7	30	0.9	**3.2%**	10.4	7.1	8.0
MENS2_8	30	0.6	**2.0%**	9.7	6.8	7.4
MENS2_9	30	0.4	**1.5%**	9.4	6.7	7.2
MENS2_10	30	0.3	**1.2%**	9.2	6.7	7.0
MENS2_11	30	0.3	1.0%	9.0	6.6	6.9
MENS2_12	30	0.2	0.8%	9.0	6.6	6.8
MENS2_13	30	0.2	0.7%	8.9	6.6	6.8
MENS2_14	30	0.2	0.6%	8.8	6.6	6.8
EBCM1	30	1.9	**6.4%**	22.3	10.9	12.8
EBCM2	30	1.7	**5.8%**	20.3	10.2	12.0
EBCM3	30	1.5	**5.1%**	18.9	9.8	11.3
EBCM4	30	1.3	**4.3%**	17.3	9.3	10.5
EBCM5	30	1.1	**3.8%**	16.3	8.9	10.0
EBCM6	30	1.0	**3.4%**	15.4	8.6	9.7
EBCM7	30	0.9	**3.1%**	14.8	8.4	9.4
EBCM8	30	0.6	**2.1%**	12.7	7.8	8.4
EBCM9	30	0.5	**1.5%**	11.6	7.4	7.9
EBCM10	30	0.4	**1.2%**	10.9	7.2	7.5
EBCM11	30	0.3	1.0%	10.4	7.0	7.3
EBCM12	30	0.3	0.9%	10.1	6.9	7.2
EBCM13	30	0.2	0.8%	9.8	6.8	7.1
EBCM14	30	0.2	0.7%	9.7	6.8	7.0

Table E-3: Predicted 'in isolation' 24-hour NOx Concentrations at Modelled Ecological Receptors (Change >1% of critical level)

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DM	Future year DS
CLSM1_1	75	0.8	1.0%	**288.0**	**102.6**	**103.3**
CLSM1_2	75	0.7	1.0%	**275.6**	**98.8**	**99.5**
CLSM1_3	75	0.7	0.9%	**259.2**	**93.8**	**94.5**
CLSM1_4	75	0.6	0.8%	**236.8**	**87.0**	**87.6**
CLSM1_5	75	0.6	0.7%	**219.3**	**81.5**	**82.1**
CLSM1_6	75	0.3	0.4%	**205.2**	**77.2**	**77.5**
CLSM1_7	75	0.1	0.2%	**193.2**	73.6	73.8
CLSM1_8	75	0.0	0.0%	**153.5**	61.8	61.8
CLSM1_9	75	-0.1	-0.1%	**130.9**	55.2	55.1
CLSM1_10	75	-0.1	-0.2%	**116.3**	50.9	50.7
CLSM1_11	75	-0.2	-0.2%	**105.9**	47.8	47.7
CLSM1_12	75	-0.2	-0.2%	**98.2**	45.5	45.4
CLSM1_13	75	-0.2	-0.3%	**92.2**	43.8	43.6
CLSM1_14	75	-0.2	-0.3%	**87.3**	42.3	42.1
CLSM2_1	75	0.0	0.0%	35.9	22.7	22.8
CLSM2_2	75	0.0	0.0%	35.9	22.7	22.8
CLSM2_3	75	0.0	0.0%	35.9	22.7	22.7
CLSM2_4	75	0.0	0.0%	35.8	22.7	22.7
CLSM2_5	75	0.0	0.0%	35.7	22.7	22.7
CLSM2_6	75	0.0	0.0%	35.7	22.6	22.7
CLSM2_7	75	0.0	0.0%	35.6	22.6	22.6
CLSM2_8	75	0.0	0.0%	35.4	22.5	22.5
CLSM2_9	75	0.0	0.0%	35.2	22.4	22.4
CLSM2_10	75	0.0	0.0%	35.0	22.3	22.4
CLSM2_11	75	0.0	0.0%	34.9	22.3	22.3
CLSM2_12	75	0.0	0.0%	34.7	22.2	22.2
CLSM2_13	75	0.0	0.0%	34.6	22.2	22.2
CLSM2_14	75	0.0	0.0%	34.4	22.1	22.1
CLSM3_1	75	1.9	**2.6%**	**88.7**	45.0	47.0
CLSM3_2	75	1.7	**2.3%**	**85.5**	43.7	45.4
CLSM3_3	75	1.4	**1.9%**	**81.3**	41.8	43.3
CLSM3_4	75	1.0	**1.4%**	**75.7**	39.4	40.5
CLSM3_5	75	0.8	1.0%	71.3	37.6	38.3
CLSM3_6	75	0.5	0.7%	67.8	36.0	36.6
CLSM3_7	75	0.4	0.5%	64.9	34.8	35.1
CLSM3_8	75	0.0	-0.1%	55.9	30.7	30.7
CLSM3_9	75	-0.2	-0.3%	50.8	28.4	28.1
CLSM3_10	75	-0.3	-0.4%	47.6	26.8	26.6
CLSM3_11	75	-0.3	-0.4%	45.3	25.8	25.5
CLSM3_12	75	-0.3	-0.4%	43.6	24.9	24.7
CLSM3_13	75	-0.3	-0.3%	42.3	24.3	24.1
CLSM3_14	75	-0.2	-0.3%	41.1	23.8	23.6
SOME1	75	3.6	**4.8%**	**82.1**	43.1	46.7
SOME2	75	3.2	**4.3%**	**76.7**	40.7	44.0
SOME3	75	2.8	**3.8%**	70.3	37.9	40.7
SOME4	75	2.4	**3.1%**	62.7	34.5	36.8
SOME5	75	2.0	**2.7%**	57.3	32.1	34.1
SOME6	75	1.8	**2.4%**	53.2	30.3	32.1
SOME7	75	1.6	**2.1%**	50.1	29.0	30.6
SOME8	75	1.0	**1.4%**	41.2	25.1	26.1
SOME9	75	0.8	1.0%	37.0	23.3	24.1

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DM	Future year DS
SOME10	75	0.6	0.8%	34.6	22.2	22.8
SOME11	75	0.5	0.7%	33.0	21.5	22.1
SOME12	75	0.5	0.6%	32.5	21.0	21.5
SOME13	75	0.4	0.6%	32.1	20.7	21.1
SOME14	75	0.2	0.3%	31.8	20.5	20.8
KGVE1	75	0.0	0.0%	28.1	20.3	20.3
KGVE2	75	0.0	0.0%	28.1	20.3	20.3
KGVE3	75	0.0	0.0%	28.1	20.3	20.3
KGVE4	75	0.0	0.0%	28.1	20.2	20.3
KGVE5	75	0.0	0.0%	28.0	20.2	20.3
KGVE6	75	0.0	0.0%	28.0	20.2	20.3
KGVE7	75	0.0	0.0%	28.0	20.2	20.3
KGVE8	75	0.0	0.0%	28.0	20.2	20.2
KGVE9	75	0.0	0.0%	28.0	20.2	20.2
KGVE10	75	0.0	0.0%	27.9	20.2	20.2
KGVE11	75	0.0	0.0%	27.9	20.2	20.2
KGVE12	75	0.0	0.0%	27.9	20.2	20.2
KGVE13	75	0.0	0.0%	27.9	20.2	20.2
KGVE14	75	0.0	0.0%	27.9	20.2	20.2
PGHR1_1	75	6.0	**8.0%**	**180.1**	**87.5**	**93.5**
PGHR1_2	75	4.8	**6.4%**	**149.8**	73.2	**78.0**
PGHR1_3	75	3.8	**5.0%**	**122.3**	60.4	64.2
PGHR1_4	75	2.9	**3.8%**	**98.3**	49.1	51.9
PGHR1_5	75	2.5	**3.3%**	**87.3**	44.3	46.7
PGHR1_6	75	2.2	**2.9%**	**79.3**	40.9	43.1
PGHR1_7	75	1.9	**2.6%**	72.9	38.2	40.2
PGHR1_8	75	1.2	**1.6%**	53.7	30.2	31.4
PGHR1_9	75	0.9	**1.1%**	44.9	26.8	27.6
PGHR1_10	75	0.7	0.9%	40.7	25.0	25.7
PGHR1_11	75	0.6	0.8%	38.0	23.6	24.2
PGHR1_12	75	0.5	0.7%	35.6	22.7	23.1
PGHR1_13	75	0.4	0.6%	33.8	22.0	22.4
PGHR1_14	75	0.4	0.5%	32.4	21.5	21.9
PGHR2_1	75	7.5	**9.9%**	**218.1**	**101.8**	**109.3**
PGHR2_2	75	6.1	**8.2%**	**183.3**	**87.0**	**93.1**
PGHR2_3	75	4.9	**6.6%**	**151.8**	73.3	**78.2**
PGHR2_4	75	3.7	**5.0%**	**120.5**	59.5	63.2
PGHR2_5	75	3.0	**4.0%**	**101.3**	51.0	54.0
PGHR2_6	75	2.5	**3.4%**	**88.2**	45.2	47.7
PGHR2_7	75	2.1	**2.9%**	**79.5**	41.3	43.4
PGHR2_8	75	1.3	**1.8%**	58.3	32.2	33.5
PGHR2_9	75	0.9	**1.3%**	47.8	27.7	28.6
PGHR2_10	75	0.8	1.0%	42.9	25.7	26.5
PGHR2_11	75	0.7	0.9%	40.0	24.6	25.2
PGHR2_12	75	0.6	0.8%	37.9	23.7	24.3
PGHR2_13	75	0.5	0.7%	36.2	23.0	23.6
PGHR2_14	75	0.5	0.6%	34.8	22.5	22.9
DNBG1	75	1.5	**2.0%**	53.1	35.4	36.9
DNBG2	75	1.4	**1.9%**	50.9	34.3	35.7
DNBG3	75	1.3	**1.8%**	49.1	33.0	34.3
DNBG4	75	1.2	**1.6%**	46.3	31.3	32.5
DNBG5	75	1.1	**1.5%**	44.0	29.8	30.9

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DM	Future year DS
DNBG6	75	1.0	**1.4%**	42.0	28.6	29.7
DNBG7	75	1.0	**1.3%**	40.4	27.7	28.6
DNBG8	75	0.7	1.0%	35.1	24.5	25.2
DNBG9	75	0.6	0.8%	31.7	22.4	23.0
DNBG10	75	0.5	0.6%	29.0	20.7	21.2
DNBG11	75	0.4	0.5%	26.6	19.2	19.6
DNBG12	75	0.3	0.4%	24.7	17.9	18.2
DNBG13	75	0.3	0.3%	23.4	17.2	17.4
DNBG14	75	0.2	0.3%	22.8	16.8	17.0
SACT1	75	0.3	0.5%	26.4	18.4	18.8
SACT2	75	0.3	0.5%	26.3	18.4	18.7
SACT3	75	0.3	0.4%	26.2	18.3	18.7
SACT4	75	0.3	0.4%	26.0	18.2	18.6
SACT5	75	0.3	0.4%	25.9	18.1	18.5
SACT6	75	0.3	0.4%	25.7	18.1	18.4
SACT7	75	0.3	0.4%	25.5	18.0	18.3
SLDR1	75	0.9	**1.2%**	**315.0**	**117.5**	**118.4**
SLDR2	75	-2.6	-3.4%	**315.0**	**117.5**	**114.9**
SLDR3	75	0.8	1.1%	**288.7**	**109.3**	**110.2**
SLDR4	75	-5.8	-7.7%	**288.7**	**109.3**	**103.6**
SLDR5	75	-11.3	-15.0%	**288.7**	**109.3**	**98.1**
SLDR6	75	-15.8	-21.1%	**288.7**	**109.3**	**93.5**
SLDR7	75	-19.7	-26.3%	**288.7**	**109.3**	**89.6**
SLDR8	75	0.4	0.6%	**179.6**	**75.7**	**76.1**
SLDR9	75	0.4	0.5%	**153.9**	67.9	68.2
SLDR10	75	-4.9	-6.6%	**153.9**	67.9	62.9
BSHL1	75	3.5	**4.6%**	**970.9**	**614.3**	**617.8**
BSHL2	75	3.3	**4.4%**	**921.7**	**581.3**	**584.6**
BSHL3	75	3.1	**4.1%**	**858.8**	**539.5**	**542.5**
BSHL4	75	2.8	**3.7%**	**774.9**	**484.2**	**487.0**
BSHL5	75	2.6	**3.4%**	**709.1**	**441.5**	**444.0**
BSHL6	75	2.4	**3.1%**	**655.9**	**407.3**	**409.6**
BSHL7	75	2.2	**2.9%**	**612.1**	**379.3**	**381.5**
BSHL8	75	1.7	**2.2%**	**468.1**	**288.8**	**290.5**
BSHL9	75	1.4	**1.8%**	**384.0**	**236.9**	**238.3**
BSHL10	75	1.1	**1.5%**	**324.7**	**200.5**	**201.6**
BSHL11	75	1.0	**1.3%**	**278.5**	**172.1**	**173.1**
BSHL12	75	0.8	**1.1%**	**239.9**	**148.5**	**149.3**
BSHL13	75	0.7	1.0%	**213.0**	**132.9**	**133.6**
BSHL14	75	0.7	0.9%	**196.6**	**122.8**	**123.5**
MENS1_1	75	0.7	0.9%	31.6	23.9	24.6
MENS1_2	75	0.6	0.8%	30.0	22.7	23.3
MENS1_3	75	0.5	0.7%	28.1	21.3	21.8
MENS1_4	75	0.4	0.5%	25.9	19.6	20.0
MENS1_5	75	0.3	0.4%	24.4	18.5	18.9
MENS1_6	75	0.3	0.4%	23.4	17.8	18.1
MENS1_7	75	0.3	0.3%	22.7	17.3	17.5
MENS1_8	75	0.2	0.2%	20.6	15.7	15.9
MENS1_9	75	0.1	0.2%	19.8	15.1	15.2
MENS1_10	75	0.1	0.1%	19.3	14.7	14.8
MENS1_11	75	0.1	0.1%	18.8	14.4	14.4
MENS1_12	75	0.1	0.1%	18.6	14.2	14.2

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DM	Future year DS
MENS1_13	75	0.1	0.1%	18.4	14.0	14.1
MENS1_14	75	0.1	0.1%	18.3	13.9	14.0
MENS2_1	75	0.9	1.2%	36.8	27.9	28.8
MENS2_2	75	0.8	1.0%	34.4	26.1	26.9
MENS2_3	75	0.7	0.9%	31.7	24.1	24.7
MENS2_4	75	0.5	0.7%	28.5	21.6	22.1
MENS2_5	75	0.4	0.6%	26.3	20.0	20.4
MENS2_6	75	0.3	0.5%	24.7	18.8	19.1
MENS2_7	75	0.3	0.4%	23.5	17.9	18.2
MENS2_8	75	0.2	0.3%	21.5	16.3	16.5
MENS2_9	75	0.2	0.2%	20.6	15.6	15.8
MENS2_10	75	0.1	0.2%	20.0	15.2	15.3
MENS2_11	75	0.1	0.1%	19.6	14.9	15.0
MENS2_12	75	0.1	0.1%	19.2	14.6	14.7
MENS2_13	75	0.1	0.1%	19.0	14.4	14.5
MENS2_14	75	0.1	0.1%	18.8	14.3	14.3
EBCM1	75	-1.0	-1.4%	73.4	41.0	40.0
EBCM2	75	-0.8	-1.1%	64.7	36.4	35.5
EBCM3	75	-0.7	-1.0%	58.2	33.0	32.2
EBCM4	75	-0.6	-0.7%	49.7	28.8	28.2
EBCM5	75	-0.4	-0.6%	43.9	25.9	25.5
EBCM6	75	-0.4	-0.5%	39.7	23.9	23.5
EBCM7	75	-0.3	-0.4%	36.8	22.5	22.2
EBCM8	75	-0.2	-0.3%	29.7	19.1	18.9
EBCM9	75	-0.1	-0.2%	26.7	17.7	17.5
EBCM10	75	-0.1	-0.1%	25.1	16.9	16.8
EBCM11	75	-0.1	-0.1%	24.1	16.4	16.3
EBCM12	75	-0.1	-0.1%	23.3	16.0	16.0
EBCM13	75	-0.1	-0.1%	22.7	15.8	15.7
EBCM14	75	-0.1	-0.1%	22.3	15.6	15.5

Table E-4: Predicted 'in combination' 24-hour NOx Concentrations at Modelled Ecological Receptors (Change >1% of Critical Level)

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DN	Future year DS
CLSM1_1	75	60.2	**80.3%**	**288.0**	43.1	**103.3**
CLSM1_2	75	57.3	**76.4%**	**275.6**	42.2	**99.5**
CLSM1_3	75	53.5	**71.3%**	**259.2**	41.0	**94.5**
CLSM1_4	75	48.3	**64.3%**	**236.8**	39.4	**87.6**
CLSM1_5	75	44.0	**58.7%**	**219.3**	38.1	**82.1**
CLSM1_6	75	40.5	**54.0%**	**205.2**	37.0	**77.5**
CLSM1_7	75	37.6	**50.2%**	**193.2**	36.1	73.8
CLSM1_8	75	28.6	**38.1%**	**153.5**	33.3	61.8
CLSM1_9	75	23.4	**31.3%**	**130.9**	31.7	55.1
CLSM1_10	75	20.1	**26.8%**	**116.3**	30.6	50.7
CLSM1_11	75	17.8	**23.7%**	**105.9**	29.9	47.7
CLSM1_12	75	16.0	**21.4%**	**98.2**	29.3	45.4
CLSM1_13	75	14.6	**19.5%**	**92.2**	28.9	43.6
CLSM1_14	75	13.5	**18.1%**	**87.3**	28.6	42.1
CLSM2_1	75	3.8	**5.1%**	35.9	19.0	22.8
CLSM2_2	75	3.8	**5.1%**	35.9	19.0	22.8
CLSM2_3	75	3.8	**5.0%**	35.9	19.0	22.7
CLSM2_4	75	3.8	**5.0%**	35.8	19.0	22.7
CLSM2_5	75	3.7	**5.0%**	35.7	19.0	22.7
CLSM2_6	75	3.7	**5.0%**	35.7	18.9	22.7
CLSM2_7	75	3.7	**4.9%**	35.6	18.9	22.6
CLSM2_8	75	3.6	**4.8%**	35.4	18.9	22.5
CLSM2_9	75	3.6	**4.7%**	35.2	18.9	22.4
CLSM2_10	75	3.5	**4.7%**	35.0	18.9	22.4
CLSM2_11	75	3.4	**4.6%**	34.9	18.8	22.3
CLSM2_12	75	3.4	**4.5%**	34.7	18.8	22.2
CLSM2_13	75	3.4	**4.5%**	34.6	18.8	22.2
CLSM2_14	75	3.3	**4.4%**	34.4	18.8	22.1
CLSM3_1	75	26.3	**35.1%**	**88.7**	20.7	47.0
CLSM3_2	75	25.0	**33.3%**	**85.5**	20.4	45.4
CLSM3_3	75	23.2	**31.0%**	**81.3**	20.0	43.3
CLSM3_4	75	20.9	**27.9%**	**75.7**	19.6	40.5
CLSM3_5	75	19.1	**25.5%**	71.3	19.2	38.3
CLSM3_6	75	17.7	**23.5%**	67.8	18.9	36.6
CLSM3_7	75	16.5	**22.0%**	64.9	18.7	35.1
CLSM3_8	75	12.7	**17.0%**	55.9	17.9	30.7
CLSM3_9	75	10.6	**14.1%**	50.8	17.6	28.1
CLSM3_10	75	9.2	**12.3%**	47.6	17.3	26.6
CLSM3_11	75	8.3	**11.0%**	45.3	17.2	25.5
CLSM3_12	75	7.6	**10.1%**	43.6	17.1	24.7
CLSM3_13	75	7.1	**9.4%**	42.3	17.0	24.1
CLSM3_14	75	6.6	**8.9%**	41.1	16.9	23.6
SOME1	75	25.0	**33.3%**	**82.1**	21.8	46.7
SOME2	75	22.6	**30.2%**	**76.7**	21.4	44.0
SOME3	75	19.9	**26.5%**	70.3	20.8	40.7
SOME4	75	16.6	**22.1%**	62.7	20.2	36.8
SOME5	75	14.3	**19.1%**	57.3	19.8	34.1
SOME6	75	12.7	**16.9%**	53.2	19.4	32.1
SOME7	75	11.4	**15.2%**	50.1	19.2	30.6
SOME8	75	7.7	**10.2%**	41.2	18.5	26.1
SOME9	75	5.9	**7.9%**	37.0	18.1	24.1

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DN	Future year DS
SOME10	75	4.9	**6.5%**	34.6	17.9	22.8
SOME11	75	4.2	**5.6%**	33.0	17.8	22.1
SOME12	75	3.8	**5.0%**	32.5	17.7	21.5
SOME13	75	3.4	**4.6%**	32.1	17.7	21.1
SOME14	75	3.1	**4.2%**	31.8	17.6	20.8
KGVE1	75	5.4	**7.3%**	28.1	14.8	20.3
KGVE2	75	5.4	**7.3%**	28.1	14.8	20.3
KGVE3	75	5.4	**7.3%**	28.1	14.8	20.3
KGVE4	75	5.4	**7.3%**	28.1	14.8	20.3
KGVE5	75	5.5	**7.3%**	28.0	14.8	20.3
KGVE6	75	5.5	**7.3%**	28.0	14.8	20.3
KGVE7	75	5.5	**7.3%**	28.0	14.8	20.3
KGVE8	75	5.5	**7.3%**	28.0	14.8	20.2
KGVE9	75	5.5	**7.3%**	28.0	14.7	20.2
KGVE10	75	5.5	**7.3%**	27.9	14.7	20.2
KGVE11	75	5.5	**7.3%**	27.9	14.7	20.2
KGVE12	75	5.5	**7.3%**	27.9	14.7	20.2
KGVE13	75	5.5	**7.3%**	27.9	14.7	20.2
KGVE14	75	5.5	**7.4%**	27.9	14.7	20.2
PGHR1_1	75	63.2	**84.3%**	**180.1**	30.3	**93.5**
PGHR1_2	75	49.2	**65.6%**	**149.8**	28.8	**78.0**
PGHR1_3	75	36.8	**49.0%**	**122.3**	27.4	64.2
PGHR1_4	75	26.1	**34.8%**	**98.3**	25.8	51.9
PGHR1_5	75	22.1	**29.4%**	**87.3**	24.7	46.7
PGHR1_6	75	19.3	**25.7%**	**79.3**	23.8	43.1
PGHR1_7	75	17.1	**22.8%**	72.9	23.1	40.2
PGHR1_8	75	10.4	**13.9%**	53.7	21.0	31.4
PGHR1_9	75	7.7	**10.3%**	44.9	19.9	27.6
PGHR1_10	75	6.3	**8.4%**	40.7	19.4	25.7
PGHR1_11	75	5.2	**6.9%**	38.0	19.0	24.2
PGHR1_12	75	4.4	**5.9%**	35.6	18.7	23.1
PGHR1_13	75	3.9	**5.2%**	33.8	18.5	22.4
PGHR1_14	75	3.5	**4.7%**	32.4	18.4	21.9
PGHR2_1	75	80.9	**107.8%**	**218.1**	28.4	**109.3**
PGHR2_2	75	66.3	**88.4%**	**183.3**	26.8	**93.1**
PGHR2_3	75	52.8	**70.4%**	**151.8**	25.5	**78.2**
PGHR2_4	75	39.3	**52.4%**	**120.5**	23.9	63.2
PGHR2_5	75	31.1	**41.4%**	**101.3**	22.9	54.0
PGHR2_6	75	25.6	**34.1%**	**88.2**	22.1	47.7
PGHR2_7	75	21.9	**29.2%**	**79.5**	21.6	43.4
PGHR2_8	75	13.6	**18.2%**	58.3	19.9	33.5
PGHR2_9	75	9.5	**12.7%**	47.8	19.1	28.6
PGHR2_10	75	7.8	**10.3%**	42.9	18.7	26.5
PGHR2_11	75	6.8	**9.0%**	40.0	18.4	25.2
PGHR2_12	75	6.1	**8.1%**	37.9	18.3	24.3
PGHR2_13	75	5.4	**7.2%**	36.2	18.1	23.6
PGHR2_14	75	4.9	**6.5%**	34.8	18.0	22.9
DNBG1	75	12.1	**16.2%**	53.1	24.8	36.9
DNBG2	75	11.7	**15.5%**	50.9	24.0	35.7
DNBG3	75	10.9	**14.6%**	49.1	23.4	34.3
DNBG4	75	9.9	**13.2%**	46.3	22.5	32.5
DNBG5	75	9.1	**12.2%**	44.0	21.8	30.9
DNBG6	75	8.5	**11.3%**	42.0	21.2	29.7

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DN	Future year DS
DNBG7	75	7.9	**10.6%**	40.4	20.7	28.6
DNBG8	75	6.2	**8.3%**	35.1	19.0	25.2
DNBG9	75	5.0	**6.7%**	31.7	18.0	23.0
DNBG10	75	4.1	**5.5%**	29.0	17.1	21.2
DNBG11	75	3.3	**4.3%**	26.6	16.3	19.6
DNBG12	75	2.6	**3.4%**	24.7	15.7	18.2
DNBG13	75	2.2	**2.9%**	23.4	15.3	17.4
DNBG14	75	1.9	**2.6%**	22.8	15.1	17.0
SACT1	75	4.0	**5.4%**	26.4	14.7	18.8
SACT2	75	4.0	**5.3%**	26.3	14.7	18.7
SACT3	75	4.0	**5.3%**	26.2	14.7	18.7
SACT4	75	3.9	**5.2%**	26.0	14.7	18.6
SACT5	75	3.8	**5.0%**	25.9	14.7	18.5
SACT6	75	3.7	**4.9%**	25.7	14.7	18.4
SACT7	75	3.6	**4.8%**	25.5	14.7	18.3
SLDR1	75	67.0	**89.3%**	**315.0**	51.4	**118.4**
SLDR2	75	64.3	**85.7%**	**315.0**	50.6	**114.9**
SLDR3	75	60.6	**80.8%**	**288.7**	49.6	**110.2**
SLDR4	75	55.4	**73.9%**	**288.7**	48.1	**103.6**
SLDR5	75	51.1	**68.1%**	**288.7**	47.0	**98.1**
SLDR6	75	47.5	**63.4%**	**288.7**	46.0	**93.5**
SLDR7	75	44.4	**59.2%**	**288.7**	45.2	**89.6**
SLDR8	75	33.7	**45.0%**	**179.6**	42.4	**76.1**
SLDR9	75	27.4	**36.5%**	**153.9**	40.8	68.2
SLDR10	75	23.1	**30.8%**	**153.9**	39.8	62.9
BSHL1	75	174.3	**232.5%**	**970.9**	**443.4**	**617.8**
BSHL2	75	165.6	**220.8%**	**921.7**	**419.0**	**584.6**
BSHL3	75	154.4	**205.8%**	**858.8**	**388.2**	**542.5**
BSHL4	75	139.3	**185.7%**	**774.9**	**347.7**	**487.0**
BSHL5	75	127.4	**169.9%**	**709.1**	**316.6**	**444.0**
BSHL6	75	117.7	**157.0%**	**655.9**	**291.9**	**409.6**
BSHL7	75	109.7	**146.3%**	**612.1**	**271.8**	**381.5**
BSHL8	75	83.2	**110.9%**	**468.1**	**207.3**	**290.5**
BSHL9	75	67.7	**90.3%**	**384.0**	**170.6**	**238.3**
BSHL10	75	56.9	**75.9%**	**324.7**	**144.7**	**201.6**
BSHL11	75	48.5	**64.7%**	**278.5**	**124.6**	**173.1**
BSHL12	75	41.6	**55.4%**	**239.9**	**107.7**	**149.3**
BSHL13	75	36.6	**48.8%**	**213.0**	**97.0**	**133.6**
BSHL14	75	33.4	**44.5%**	**196.6**	**90.2**	**123.5**
MENS1_1	75	10.3	**13.7%**	31.6	14.3	24.6
MENS1_2	75	9.1	**12.1%**	30.0	14.2	23.3
MENS1_3	75	7.7	**10.3%**	28.1	14.0	21.8
MENS1_4	75	6.2	**8.2%**	25.9	13.9	20.0
MENS1_5	75	5.1	**6.8%**	24.4	13.7	18.9
MENS1_6	75	4.5	**6.0%**	23.4	13.6	18.1
MENS1_7	75	4.0	**5.3%**	22.7	13.5	17.5
MENS1_8	75	2.6	**3.4%**	20.6	13.3	15.9
MENS1_9	75	2.0	**2.7%**	19.8	13.2	15.2
MENS1_10	75	1.7	**2.2%**	19.3	13.1	14.8
MENS1_11	75	1.4	**1.8%**	18.8	13.1	14.4
MENS1_12	75	1.2	**1.6%**	18.6	13.1	14.2
MENS1_13	75	1.1	**1.4%**	18.4	13.0	14.1
MENS1_14	75	1.0	**1.3%**	18.3	13.0	14.0

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DN	Future year DS
MENS2_1	75	14.5	**19.4%**	36.8	14.2	28.8
MENS2_2	75	12.7	**17.0%**	34.4	14.1	26.9
MENS2_3	75	10.7	**14.3%**	31.7	14.0	24.7
MENS2_4	75	8.3	**11.1%**	28.5	13.8	22.1
MENS2_5	75	6.7	**8.9%**	26.3	13.7	20.4
MENS2_6	75	5.5	**7.4%**	24.7	13.6	19.1
MENS2_7	75	4.7	**6.2%**	23.5	13.5	18.2
MENS2_8	75	3.2	**4.3%**	21.5	13.3	16.5
MENS2_9	75	2.6	**3.5%**	20.6	13.1	15.8
MENS2_10	75	2.2	**2.9%**	20.0	13.1	15.3
MENS2_11	75	1.9	**2.6%**	19.6	13.0	15.0
MENS2_12	75	1.7	**2.2%**	19.2	13.0	14.7
MENS2_13	75	1.5	**2.0%**	19.0	13.0	14.5
MENS2_14	75	1.4	**1.8%**	18.8	13.0	14.3
EBCM1	75	22.8	**30.4%**	73.4	17.2	40.0
EBCM2	75	19.0	**25.3%**	64.7	16.6	35.5
EBCM3	75	16.1	**21.5%**	58.2	16.1	32.2
EBCM4	75	12.6	**16.8%**	49.7	15.6	28.2
EBCM5	75	10.2	**13.6%**	43.9	15.3	25.5
EBCM6	75	8.5	**11.4%**	39.7	15.0	23.5
EBCM7	75	7.4	**9.8%**	36.8	14.8	22.2
EBCM8	75	4.8	**6.4%**	29.7	14.1	18.9
EBCM9	75	3.8	**5.0%**	26.7	13.7	17.5
EBCM10	75	3.3	**4.4%**	25.1	13.5	16.8
EBCM11	75	2.9	**3.9%**	24.1	13.4	16.3
EBCM12	75	2.7	**3.6%**	23.3	13.3	16.0
EBCM13	75	2.5	**3.4%**	22.7	13.2	15.7
EBCM14	75	2.4	**3.2%**	22.3	13.1	15.5

Table E-5: Predicted ‘in isolation’ Annual NH_3 at Modelled Ecological Receptors (Change >1% of Critical Load)

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DM	Future year DS
CLSM1_1	3	0.0	0.5%	1.0	1.4	1.4
CLSM1_2	3	0.0	0.5%	0.9	1.3	1.4
CLSM1_3	3	0.0	0.4%	0.8	1.2	1.3
CLSM1_4	3	0.0	0.4%	0.8	1.1	1.1
CLSM1_5	3	0.0	0.3%	0.7	1.0	1.0
CLSM1_6	3	0.0	0.3%	0.6	0.9	0.9
CLSM1_7	3	0.0	0.3%	0.6	0.9	0.9
CLSM1_8	3	0.0	0.2%	0.4	0.6	0.6
CLSM1_9	3	0.0	0.1%	0.3	0.5	0.5
CLSM1_10	3	0.0	0.1%	0.3	0.4	0.4
CLSM1_11	3	0.0	0.1%	0.2	0.4	0.4
CLSM1_12	3	0.0	0.1%	0.2	0.3	0.3
CLSM1_13	3	0.0	0.0%	0.2	0.3	0.3
CLSM1_14	3	0.0	0.0%	0.2	0.3	0.3
CLSM2_1	3	0.0	0.1%	0.0	0.1	0.1
CLSM2_2	3	0.0	0.1%	0.0	0.1	0.1
CLSM2_3	3	0.0	0.1%	0.0	0.1	0.1
CLSM2_4	3	0.0	0.1%	0.0	0.1	0.1
CLSM2_5	3	0.0	0.1%	0.0	0.1	0.1
CLSM2_6	3	0.0	0.1%	0.0	0.1	0.1
CLSM2_7	3	0.0	0.1%	0.0	0.1	0.1
CLSM2_8	3	0.0	0.1%	0.0	0.0	0.1
CLSM2_9	3	0.0	0.1%	0.0	0.0	0.0
CLSM2_10	3	0.0	0.1%	0.0	0.0	0.0
CLSM2_11	3	0.0	0.0%	0.0	0.0	0.0
CLSM2_12	3	0.0	0.0%	0.0	0.0	0.0
CLSM2_13	3	0.0	0.0%	0.0	0.0	0.0
CLSM2_14	3	0.0	0.0%	0.0	0.0	0.0
CLSM3_1	3	0.1	**1.8%**	0.3	0.5	0.6
CLSM3_2	3	0.0	**1.6%**	0.3	0.5	0.6
CLSM3_3	3	0.0	**1.4%**	0.3	0.5	0.5
CLSM3_4	3	0.0	**1.1%**	0.3	0.4	0.5
CLSM3_5	3	0.0	0.9%	0.2	0.4	0.4
CLSM3_6	3	0.0	0.7%	0.2	0.3	0.4
CLSM3_7	3	0.0	0.6%	0.2	0.3	0.3
CLSM3_8	3	0.0	0.2%	0.1	0.2	0.2
CLSM3_9	3	0.0	0.1%	0.1	0.2	0.2
CLSM3_10	3	0.0	0.1%	0.1	0.2	0.2
CLSM3_11	3	0.0	0.0%	0.1	0.1	0.1
CLSM3_12	3	0.0	0.0%	0.1	0.1	0.1
CLSM3_13	3	0.0	0.0%	0.1	0.1	0.1
CLSM3_14	3	0.0	0.0%	0.1	0.1	0.1
SOME1	3	0.1	**2.6%**	0.3	0.6	0.7
SOME2	3	0.1	**2.4%**	0.3	0.5	0.6
SOME3	3	0.1	**2.1%**	0.3	0.5	0.5
SOME4	3	0.1	**1.7%**	0.2	0.4	0.4
SOME5	3	0.0	**1.4%**	0.2	0.3	0.4
SOME6	3	0.0	**1.2%**	0.2	0.3	0.3
SOME7	3	0.0	**1.1%**	0.1	0.3	0.3
SOME8	3	0.0	0.7%	0.1	0.2	0.2
SOME9	3	0.0	0.5%	0.1	0.1	0.1

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DM	Future year DS
SOME10	3	0.0	0.4%	0.1	0.1	0.1
SOME11	3	0.0	0.3%	0.0	0.1	0.1
SOME12	3	0.0	0.2%	0.0	0.1	0.1
SOME13	3	0.0	0.2%	0.0	0.1	0.1
SOME14	3	0.0	0.2%	0.0	0.1	0.1
KGVE1	1	0.0	0.3%	0.0	0.0	0.0
KGVE2	1	0.0	0.3%	0.0	0.0	0.0
KGVE3	1	0.0	0.2%	0.0	0.0	0.0
KGVE4	1	0.0	0.2%	0.0	0.0	0.0
KGVE5	1	0.0	0.2%	0.0	0.0	0.0
KGVE6	1	0.0	0.2%	0.0	0.0	0.0
KGVE7	1	0.0	0.2%	0.0	0.0	0.0
KGVE8	1	0.0	0.2%	0.0	0.0	0.0
KGVE9	1	0.0	0.2%	0.0	0.0	0.0
KGVE10	1	0.0	0.1%	0.0	0.0	0.0
KGVE11	1	0.0	0.1%	0.0	0.0	0.0
KGVE12	1	0.0	0.1%	0.0	0.0	0.0
KGVE13	1	0.0	0.1%	0.0	0.0	0.0
KGVE14	1	0.0	0.1%	0.0	0.0	0.0
PGHR1_1	3	0.1	**4.9%**	0.9	1.6	1.8
PGHR1_2	3	0.1	**4.4%**	0.8	1.4	1.6
PGHR1_3	3	0.1	**3.8%**	0.7	1.3	1.4
PGHR1_4	3	0.1	**3.2%**	0.6	1.1	1.2
PGHR1_5	3	0.1	**2.8%**	0.5	0.9	1.0
PGHR1_6	3	0.1	**2.5%**	0.5	0.8	0.9
PGHR1_7	3	0.1	**2.2%**	0.4	0.7	0.8
PGHR1_8	3	0.0	**1.4%**	0.3	0.5	0.5
PGHR1_9	3	0.0	1.0%	0.2	0.3	0.3
PGHR1_10	3	0.0	0.8%	0.1	0.2	0.3
PGHR1_11	3	0.0	0.6%	0.1	0.2	0.2
PGHR1_12	3	0.0	0.5%	0.1	0.2	0.2
PGHR1_13	3	0.0	0.4%	0.1	0.1	0.2
PGHR1_14	3	0.0	0.4%	0.1	0.1	0.1
PGHR2_1	3	0.1	**4.2%**	0.8	1.4	1.5
PGHR2_2	3	0.1	**3.6%**	0.7	1.2	1.3
PGHR2_3	3	0.1	**3.1%**	0.6	1.0	1.1
PGHR2_4	3	0.1	**2.5%**	0.5	0.8	0.9
PGHR2_5	3	0.1	**2.1%**	0.4	0.7	0.8
PGHR2_6	3	0.1	**1.8%**	0.4	0.6	0.7
PGHR2_7	3	0.0	**1.6%**	0.3	0.5	0.6
PGHR2_8	3	0.0	1.0%	0.2	0.3	0.3
PGHR2_9	3	0.0	0.7%	0.1	0.2	0.2
PGHR2_10	3	0.0	0.5%	0.1	0.2	0.2
PGHR2_11	3	0.0	0.4%	0.1	0.1	0.1
PGHR2_12	3	0.0	0.3%	0.1	0.1	0.1
PGHR2_13	3	0.0	0.3%	0.1	0.1	0.1
PGHR2_14	3	0.0	0.3%	0.0	0.1	0.1
DNBG1	3	0.0	**1.2%**	0.2	0.5	0.6
DNBG2	3	0.0	**1.1%**	0.2	0.5	0.5
DNBG3	3	0.0	1.0%	0.2	0.5	0.5
DNBG4	3	0.0	0.9%	0.2	0.4	0.4
DNBG5	3	0.0	0.8%	0.1	0.4	0.4

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DM	Future year DS
DNBG6	3	0.0	0.7%	0.1	0.3	0.3
DNBG7	3	0.0	0.7%	0.1	0.3	0.3
DNBG8	3	0.0	0.4%	0.1	0.2	0.2
DNBG9	3	0.0	0.3%	0.1	0.2	0.2
DNBG10	3	0.0	0.3%	0.0	0.1	0.1
DNBG11	3	0.0	0.2%	0.0	0.1	0.1
DNBG12	3	0.0	0.2%	0.0	0.1	0.1
DNBG13	3	0.0	0.2%	0.0	0.1	0.1
DNBG14	3	0.0	0.2%	0.0	0.1	0.1
SACT1	3	0.0	0.2%	0.0	0.1	0.1
SACT2	3	0.0	0.2%	0.0	0.1	0.1
SACT3	3	0.0	0.2%	0.0	0.1	0.1
SACT4	3	0.0	0.2%	0.0	0.1	0.1
SACT5	3	0.0	0.2%	0.0	0.1	0.1
SACT6	3	0.0	0.2%	0.0	0.1	0.1
SACT7	3	0.0	0.2%	0.0	0.1	0.1
SLDR1	3	0.0	0.6%	0.9	1.3	1.3
SLDR2	3	0.0	0.6%	0.8	1.2	1.3
SLDR3	3	0.0	0.5%	0.8	1.2	1.2
SLDR4	3	0.0	0.5%	0.7	1.0	1.1
SLDR5	3	0.0	0.4%	0.6	0.9	1.0
SLDR6	3	0.0	0.4%	0.6	0.9	0.9
SLDR7	3	0.0	0.4%	0.5	0.8	0.8
SLDR8	3	0.0	0.3%	0.4	0.6	0.6
SLDR9	3	0.0	0.2%	0.3	0.4	0.5
SLDR10	3	0.0	0.2%	0.2	0.4	0.4
BSHL1	1	0.0	**1.1%**	**2.0**	**3.1**	**3.1**
BSHL2	1	0.0	1.0%	**1.9**	**2.9**	**2.9**
BSHL3	1	0.0	1.0%	**1.8**	**2.7**	**2.8**
BSHL4	1	0.0	0.9%	**1.6**	**2.5**	**2.5**
BSHL5	1	0.0	0.8%	**1.5**	**2.3**	**2.3**
BSHL6	1	0.0	0.7%	**1.4**	**2.1**	**2.1**
BSHL7	1	0.0	0.7%	**1.3**	**1.9**	**1.9**
BSHL8	1	0.0	0.5%	0.9	**1.4**	**1.4**
BSHL9	1	0.0	0.4%	0.7	**1.1**	**1.1**
BSHL10	1	0.0	0.3%	0.6	0.9	0.9
BSHL11	1	0.0	0.3%	0.5	0.7	0.7
BSHL12	1	0.0	0.2%	0.4	0.6	0.6
BSHL13	1	0.0	0.2%	0.3	0.5	0.5
BSHL14	1	0.0	0.2%	0.3	0.4	0.4
MENS1_1	3	0.3	0.0	0.5%	1.6	1.6
MENS1_2	3	0.3	0.0	0.5%	1.6	1.6
MENS1_3	3	0.3	0.0	0.4%	1.6	1.5
MENS1_4	3	0.2	0.0	0.4%	1.6	1.5
MENS1_5	3	0.2	0.0	0.3%	1.6	1.5
MENS1_6	3	0.2	0.0	0.3%	1.6	1.5
MENS1_7	3	0.2	0.0	0.3%	1.6	1.4
MENS1_8	3	0.1	0.0	0.2%	1.5	1.4
MENS1_9	3	0.1	0.0	0.1%	1.5	1.4
MENS1_10	3	0.1	0.0	0.1%	1.5	1.3
MENS1_11	3	0.1	0.0	0.1%	1.5	1.3
MENS1_12	3	0.0	0.0	0.1%	1.5	1.3

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DM	Future year DS
MENS1_13	3	0.0	0.0	0.1%	1.5	1.3
MENS1_14	3	0.0	0.0	0.1%	1.5	1.3
MENS2_1	3	0.3	0.0	0.5%	1.6	1.6
MENS2_2	3	0.3	0.0	0.5%	1.6	1.6
MENS2_3	3	0.3	0.0	0.4%	1.6	1.5
MENS2_4	3	0.2	0.0	0.4%	1.6	1.5
MENS2_5	3	0.2	0.0	0.3%	1.6	1.5
MENS2_6	3	0.2	0.0	0.3%	1.6	1.4
MENS2_7	3	0.1	0.0	0.2%	1.6	1.4
MENS2_8	3	0.1	0.0	0.2%	1.5	1.4
MENS2_9	3	0.1	0.0	0.1%	1.5	1.4
MENS2_10	3	0.1	0.0	0.1%	1.5	1.3
MENS2_11	3	0.0	0.0	0.1%	1.5	1.3
MENS2_12	3	0.0	0.0	0.1%	1.5	1.3
MENS2_13	3	0.0	0.0	0.1%	1.5	1.3
MENS2_14	3	0.0	0.0	0.0%	1.5	1.3
EBCM1	3	0.5	0.0	-0.5%	1.9	1.9
EBCM2	3	0.5	0.0	-0.5%	1.9	1.8
EBCM3	3	0.4	0.0	-0.4%	1.8	1.8
EBCM4	3	0.3	0.0	-0.3%	1.8	1.7
EBCM5	3	0.3	0.0	-0.3%	1.8	1.7
EBCM6	3	0.3	0.0	-0.3%	1.8	1.6
EBCM7	3	0.2	0.0	-0.2%	1.7	1.6
EBCM8	3	0.2	0.0	-0.2%	1.7	1.5
EBCM9	3	0.1	0.0	-0.1%	1.7	1.5
EBCM10	3	0.1	0.0	-0.1%	1.7	1.5
EBCM11	3	0.1	0.0	-0.1%	1.6	1.4
EBCM12	3	0.1	0.0	-0.1%	1.6	1.4
EBCM13	3	0.1	0.0	0.0%	1.6	1.4
EBCM14	3	0.1	0.0	0.0%	1.6	1.4

Table E-6: Predicted ‘in combination’ Annual NH_3 at Modelled Ecological Receptors (Change >1% of Critical Load)

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year - DN	Future year DS
CLSM1_1	3	0.2	**6.4%**	1.0	1.2	1.4
CLSM1_2	3	0.2	**6.1%**	0.9	1.2	1.4
CLSM1_3	3	0.2	**5.7%**	0.8	1.1	1.3
CLSM1_4	3	0.2	**5.1%**	0.8	1.0	1.1
CLSM1_5	3	0.1	**4.7%**	0.7	0.9	1.0
CLSM1_6	3	0.1	**4.3%**	0.6	0.8	0.9
CLSM1_7	3	0.1	**4.0%**	0.6	0.8	0.9
CLSM1_8	3	0.1	**3.0%**	0.4	0.6	0.6
CLSM1_9	3	0.1	**2.4%**	0.3	0.4	0.5
CLSM1_10	3	0.1	**2.0%**	0.3	0.4	0.4
CLSM1_11	3	0.1	**1.7%**	0.2	0.3	0.4
CLSM1_12	3	0.0	**1.5%**	0.2	0.3	0.3
CLSM1_13	3	0.0	**1.4%**	0.2	0.3	0.3
CLSM1_14	3	0.0	**1.2%**	0.2	0.2	0.3
CLSM2_1	3	0.0	0.7%	0.0	0.0	0.1
CLSM2_2	3	0.0	0.7%	0.0	0.0	0.1
CLSM2_3	3	0.0	0.7%	0.0	0.0	0.1
CLSM2_4	3	0.0	0.7%	0.0	0.0	0.1
CLSM2_5	3	0.0	0.7%	0.0	0.0	0.1
CLSM2_6	3	0.0	0.7%	0.0	0.0	0.1
CLSM2_7	3	0.0	0.6%	0.0	0.0	0.1
CLSM2_8	3	0.0	0.6%	0.0	0.0	0.1
CLSM2_9	3	0.0	0.5%	0.0	0.0	0.0
CLSM2_10	3	0.0	0.5%	0.0	0.0	0.0
CLSM2_11	3	0.0	0.5%	0.0	0.0	0.0
CLSM2_12	3	0.0	0.4%	0.0	0.0	0.0
CLSM2_13	3	0.0	0.4%	0.0	0.0	0.0
CLSM2_14	3	0.0	0.4%	0.0	0.0	0.0
CLSM3_1	3	0.2	**6.8%**	0.3	0.4	0.6
CLSM3_2	3	0.2	**6.3%**	0.3	0.4	0.6
CLSM3_3	3	0.2	**5.7%**	0.3	0.3	0.5
CLSM3_4	3	0.1	**5.0%**	0.3	0.3	0.5
CLSM3_5	3	0.1	**4.4%**	0.2	0.3	0.4
CLSM3_6	3	0.1	**3.9%**	0.2	0.2	0.4
CLSM3_7	3	0.1	**3.6%**	0.2	0.2	0.3
CLSM3_8	3	0.1	**2.4%**	0.1	0.2	0.2
CLSM3_9	3	0.1	**1.8%**	0.1	0.1	0.2
CLSM3_10	3	0.0	**1.5%**	0.1	0.1	0.2
CLSM3_11	3	0.0	**1.3%**	0.1	0.1	0.1
CLSM3_12	3	0.0	**1.1%**	0.1	0.1	0.1
CLSM3_13	3	0.0	1.0%	0.1	0.1	0.1
CLSM3_14	3	0.0	0.9%	0.1	0.1	0.1
SOME1	3	0.3	**8.5%**	0.3	0.4	0.7
SOME2	3	0.2	**7.7%**	0.3	0.4	0.6
SOME3	3	0.2	**6.7%**	0.3	0.3	0.5
SOME4	3	0.2	**5.5%**	0.2	0.3	0.4
SOME5	3	0.1	**4.7%**	0.2	0.2	0.4
SOME6	3	0.1	**4.1%**	0.2	0.2	0.3

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year - DN	Future year DS
SOME7	3	0.1	**3.6%**	0.1	0.2	0.3
SOME8	3	0.1	**2.2%**	0.1	0.1	0.2
SOME9	3	0.0	**1.6%**	0.1	0.1	0.1
SOME10	3	0.0	**1.2%**	0.1	0.1	0.1
SOME11	3	0.0	**1.0%**	0.0	0.1	0.1
SOME12	3	0.0	0.9%	0.0	0.1	0.1
SOME13	3	0.0	0.8%	0.0	0.0	0.1
SOME14	3	0.0	0.7%	0.0	0.0	0.1
KGVE1	1	0.0	**1.8%**	0.0	0.0	0.0
KGVE2	1	0.0	**1.8%**	0.0	0.0	0.0
KGVE3	1	0.0	**1.8%**	0.0	0.0	0.0
KGVE4	1	0.0	**1.7%**	0.0	0.0	0.0
KGVE5	1	0.0	**1.7%**	0.0	0.0	0.0
KGVE6	1	0.0	**1.6%**	0.0	0.0	0.0
KGVE7	1	0.0	**1.6%**	0.0	0.0	0.0
KGVE8	1	0.0	**1.4%**	0.0	0.0	0.0
KGVE9	1	0.0	**1.3%**	0.0	0.0	0.0
KGVE10	1	0.0	**1.1%**	0.0	0.0	0.0
KGVE11	1	0.0	1.0%	0.0	0.0	0.0
KGVE12	1	0.0	1.0%	0.0	0.0	0.0
KGVE13	1	0.0	0.9%	0.0	0.0	0.0
KGVE14	1	0.0	0.8%	0.0	0.0	0.0
PGHR1_1	3	0.6	**19.6%**	0.9	1.2	1.8
PGHR1_2	3	0.5	**17.4%**	0.8	1.0	1.6
PGHR1_3	3	0.5	**15.2%**	0.7	0.9	1.4
PGHR1_4	3	0.4	**12.7%**	0.6	0.8	1.2
PGHR1_5	3	0.3	**11.0%**	0.5	0.7	1.0
PGHR1_6	3	0.3	**9.6%**	0.5	0.6	0.9
PGHR1_7	3	0.3	**8.6%**	0.4	0.5	0.8
PGHR1_8	3	0.2	**5.5%**	0.3	0.3	0.5
PGHR1_9	3	0.1	**3.9%**	0.2	0.2	0.3
PGHR1_10	3	0.1	**3.0%**	0.1	0.2	0.3
PGHR1_11	3	0.1	**2.4%**	0.1	0.1	0.2
PGHR1_12	3	0.1	**2.0%**	0.1	0.1	0.2
PGHR1_13	3	0.1	**1.7%**	0.1	0.1	0.2
PGHR1_14	3	0.0	**1.5%**	0.1	0.1	0.1
PGHR2_1	3	0.5	**16.6%**	0.8	1.0	1.5
PGHR2_2	3	0.4	**14.2%**	0.7	0.9	1.3
PGHR2_3	3	0.4	**12.1%**	0.6	0.7	1.1
PGHR2_4	3	0.3	**9.8%**	0.5	0.6	0.9
PGHR2_5	3	0.2	**8.3%**	0.4	0.5	0.8
PGHR2_6	3	0.2	**7.1%**	0.4	0.4	0.7
PGHR2_7	3	0.2	**6.3%**	0.3	0.4	0.6
PGHR2_8	3	0.1	**3.7%**	0.2	0.2	0.3
PGHR2_9	3	0.1	**2.6%**	0.1	0.2	0.2
PGHR2_10	3	0.1	**2.0%**	0.1	0.1	0.2
PGHR2_11	3	0.0	**1.6%**	0.1	0.1	0.1
PGHR2_12	3	0.0	**1.3%**	0.1	0.1	0.1
PGHR2_13	3	0.0	**1.1%**	0.1	0.1	0.1
PGHR2_14	3	0.0	1.0%	0.0	0.1	0.1

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year - DN	Future year DS
DNBG1	3	0.3	**10.1%**	0.2	0.3	0.6
DNBG2	3	0.3	**9.5%**	0.2	0.2	0.5
DNBG3	3	0.3	**8.7%**	0.2	0.2	0.5
DNBG4	3	0.2	**7.6%**	0.2	0.2	0.4
DNBG5	3	0.2	**6.8%**	0.1	0.2	0.4
DNBG6	3	0.2	**6.1%**	0.1	0.2	0.3
DNBG7	3	0.2	**5.6%**	0.1	0.1	0.3
DNBG8	3	0.1	**3.8%**	0.1	0.1	0.2
DNBG9	3	0.1	**2.9%**	0.1	0.1	0.2
DNBG10	3	0.1	**2.3%**	0.0	0.1	0.1
DNBG11	3	0.1	**1.9%**	0.0	0.1	0.1
DNBG12	3	0.1	**1.7%**	0.0	0.0	0.1
DNBG13	3	0.0	**1.5%**	0.0	0.0	0.1
DNBG14	3	0.0	**1.3%**	0.0	0.0	0.1
SACT1	3	0.0	1.0%	0.0	0.0	0.1
SACT2	3	0.0	1.0%	0.0	0.0	0.1
SACT3	3	0.0	1.0%	0.0	0.0	0.1
SACT4	3	0.0	1.0%	0.0	0.0	0.1
SACT5	3	0.0	1.0%	0.0	0.0	0.1
SACT6	3	0.0	0.9%	0.0	0.0	0.1
SACT7	3	0.0	0.9%	0.0	0.0	0.1
SLDR1	3	0.2	**6.9%**	0.9	1.1	1.3
SLDR2	3	0.2	**6.5%**	0.8	1.1	1.3
SLDR3	3	0.2	**6.1%**	0.8	1.0	1.2
SLDR4	3	0.2	**5.4%**	0.7	0.9	1.1
SLDR5	3	0.1	**4.9%**	0.6	0.8	1.0
SLDR6	3	0.1	**4.5%**	0.6	0.7	0.9
SLDR7	3	0.1	**4.1%**	0.5	0.7	0.8
SLDR8	3	0.1	**3.0%**	0.4	0.5	0.6
SLDR9	3	0.1	**2.3%**	0.3	0.4	0.5
SLDR10	3	0.1	**1.9%**	0.2	0.3	0.4
BSHL1	1	0.4	**42.9%**	**2.0**	**2.7**	**3.1**
BSHL2	1	0.4	**41.0%**	**1.9**	**2.5**	**2.9**
BSHL3	1	0.4	**38.5%**	**1.8**	**2.4**	**2.8**
BSHL4	1	0.3	**34.9%**	**1.6**	**2.1**	**2.5**
BSHL5	1	0.3	**31.9%**	**1.5**	**2.0**	**2.3**
BSHL6	1	0.3	**29.4%**	**1.4**	**1.8**	**2.1**
BSHL7	1	0.3	**27.2%**	**1.3**	**1.7**	**1.9**
BSHL8	1	0.2	**19.6%**	0.9	**1.2**	**1.4**
BSHL9	1	0.2	**15.1%**	0.7	0.9	**1.1**
BSHL10	1	0.1	**12.2%**	0.6	0.7	0.9
BSHL11	1	0.1	**10.1%**	0.5	0.6	0.7
BSHL12	1	0.1	**8.7%**	0.4	0.5	0.6
BSHL13	1	0.1	**7.5%**	0.3	0.4	0.5
BSHL14	1	0.1	**6.5%**	0.3	0.4	0.4
MENS1_1	3	0.2	**6.6%**	1.6	1.4	1.6
MENS1_2	3	0.2	**6.1%**	1.6	1.4	1.6
MENS1_3	3	0.2	**5.4%**	1.6	1.4	1.6
MENS1_4	3	0.1	**4.6%**	1.6	1.4	1.5
MENS1_5	3	0.1	**4.0%**	1.6	1.4	1.5

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year - DN	Future year DS
MENS1_6	3	0.1	**3.5%**	1.6	1.4	1.5
MENS1_7	3	0.1	**3.2%**	1.6	1.4	1.4
MENS1_8	3	0.1	**2.1%**	1.5	1.3	1.4
MENS1_9	3	0.0	**1.6%**	1.5	1.3	1.4
MENS1_10	3	0.0	**1.3%**	1.5	1.3	1.4
MENS1_11	3	0.0	**1.1%**	1.5	1.3	1.3
MENS1_12	3	0.0	0.9%	1.5	1.3	1.3
MENS1_13	3	0.0	0.8%	1.5	1.3	1.3
MENS1_14	3	0.0	0.7%	1.5	1.3	1.3
MENS2_1	3	0.2	**6.4%**	1.6	1.4	1.6
MENS2_2	3	0.2	**5.8%**	1.6	1.4	1.6
MENS2_3	3	0.2	**5.2%**	1.6	1.4	1.5
MENS2_4	3	0.1	**4.3%**	1.6	1.4	1.5
MENS2_5	3	0.1	**3.7%**	1.6	1.4	1.5
MENS2_6	3	0.1	**3.3%**	1.6	1.4	1.5
MENS2_7	3	0.1	**2.9%**	1.6	1.3	1.4
MENS2_8	3	0.1	**1.9%**	1.5	1.3	1.4
MENS2_9	3	0.0	**1.4%**	1.5	1.3	1.4
MENS2_10	3	0.0	**1.1%**	1.5	1.3	1.3
MENS2_11	3	0.0	0.9%	1.5	1.3	1.3
MENS2_12	3	0.0	0.8%	1.5	1.3	1.3
MENS2_13	3	0.0	0.7%	1.5	1.3	1.3
MENS2_14	3	0.0	0.6%	1.5	1.3	1.3
EBCM1	3	0.2	**5.4%**	1.9	1.7	1.9
EBCM2	3	0.1	**4.8%**	1.9	1.7	1.8
EBCM3	3	0.1	**4.2%**	1.8	1.6	1.8
EBCM4	3	0.1	**3.6%**	1.8	1.6	1.7
EBCM5	3	0.1	**3.2%**	1.8	1.6	1.7
EBCM6	3	0.1	**2.9%**	1.8	1.5	1.6
EBCM7	3	0.1	**2.6%**	1.7	1.5	1.6
EBCM8	3	0.1	**1.7%**	1.7	1.5	1.5
EBCM9	3	0.0	**1.3%**	1.7	1.4	1.5
EBCM10	3	0.0	**1.0%**	1.7	1.4	1.5
EBCM11	3	0.0	0.9%	1.6	1.4	1.4
EBCM12	3	0.0	0.8%	1.6	1.4	1.4
EBCM13	3	0.0	0.7%	1.6	1.4	1.4
EBCM14	3	0.0	0.6%	1.6	1.4	1.4

Table E-7: Predicted 'in isolation' Annual Nitrogen Deposition at Modelled Ecological Receptors (Change >1% of Critical Level)

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DM	Future year DS
CLSM1_1	20	0.1	0.4%	**20.9**	18.6	18.7
CLSM1_2	20	0.1	0.4%	**20.5**	18.1	18.2
CLSM1_3	20	0.1	0.4%	19.9	17.5	17.6
CLSM1_4	20	0.1	0.3%	19.0	16.8	16.8
CLSM1_5	20	0.1	0.3%	18.4	16.1	16.2
CLSM1_6	20	0.1	0.3%	17.8	15.6	15.7
CLSM1_7	20	0.0	0.2%	17.4	15.2	15.2
CLSM1_8	20	0.0	0.2%	15.9	13.8	13.8
CLSM1_9	20	0.0	0.1%	15.0	13.0	13.0
CLSM1_10	20	0.0	0.1%	14.5	12.5	12.5
CLSM1_11	20	0.0	0.1%	14.1	12.1	12.1
CLSM1_12	20	0.0	0.0%	13.8	11.9	11.9
CLSM1_13	20	0.0	0.0%	13.6	11.7	11.7
CLSM1_14	20	0.0	0.0%	13.4	11.5	11.5
CLSM2_1	20	0.0	0.1%	11.8	10.2	10.2
CLSM2_2	20	0.0	0.1%	11.8	10.2	10.2
CLSM2_3	20	0.0	0.1%	11.8	10.2	10.2
CLSM2_4	20	0.0	0.1%	11.8	10.2	10.2
CLSM2_5	20	0.0	0.1%	11.8	10.2	10.2
CLSM2_6	20	0.0	0.1%	11.8	10.1	10.2
CLSM2_7	20	0.0	0.1%	11.8	10.1	10.2
CLSM2_8	20	0.0	0.1%	11.8	10.1	10.1
CLSM2_9	20	0.0	0.1%	11.8	10.1	10.1
CLSM2_10	20	0.0	0.0%	11.8	10.1	10.1
CLSM2_11	20	0.0	0.0%	11.7	10.1	10.1
CLSM2_12	20	0.0	0.0%	11.7	10.1	10.1
CLSM2_13	20	0.0	0.0%	11.7	10.0	10.1
CLSM2_14	20	0.0	0.0%	11.7	10.0	10.0
CLSM3_1	20	0.3	**1.6%**	14.2	12.9	13.2
CLSM3_2	20	0.3	**1.5%**	14.0	12.7	13.0
CLSM3_3	20	0.2	**1.2%**	13.8	12.5	12.7
CLSM3_4	20	0.2	1.0%	13.5	12.1	12.3
CLSM3_5	20	0.2	0.8%	13.2	11.9	12.0
CLSM3_6	20	0.1	0.6%	13.1	11.6	11.8
CLSM3_7	20	0.1	0.5%	12.9	11.5	11.6
CLSM3_8	20	0.0	0.2%	12.4	10.9	11.0
CLSM3_9	20	0.0	0.1%	12.2	10.7	10.7
CLSM3_10	20	0.0	0.0%	12.1	10.5	10.5
CLSM3_11	20	0.0	0.0%	12.0	10.4	10.4
CLSM3_12	20	0.0	0.0%	11.9	10.3	10.3
CLSM3_13	20	0.0	0.0%	11.8	10.2	10.2
CLSM3_14	20	0.0	0.0%	11.8	10.2	10.2
SOME1	20	0.5	2.4%	14.6	13.5	14.0
SOME2	20	0.4	2.2%	14.3	13.2	13.6
SOME3	20	0.4	1.9%	14.0	12.8	13.2
SOME4	20	0.3	1.6%	13.6	12.3	12.6
SOME5	20	0.3	1.3%	13.3	11.9	12.2
SOME6	20	0.2	1.1%	13.1	11.7	11.9
SOME7	20	0.2	1.0%	12.9	11.5	11.7
SOME8	20	0.1	0.6%	12.5	10.9	11.0
SOME9	20	0.1	0.4%	12.3	10.6	10.7

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DM	Future year DS
SOME10	20	0.1	0.3%	12.1	10.5	10.6
SOME11	20	0.1	0.3%	12.1	10.4	10.5
SOME12	20	0.0	0.2%	12.0	10.3	10.4
SOME13	20	0.0	0.2%	12.0	10.3	10.3
SOME14	20	0.0	0.2%	11.9	10.3	10.3
KGVE1	10	0.0	0.2%	**30.5**	**26.1**	**26.1**
KGVE2	10	0.0	0.3%	**30.5**	**26.1**	**26.1**
KGVE3	10	0.0	0.2%	**30.5**	**26.1**	**26.1**
KGVE4	10	0.0	0.2%	**30.5**	**26.1**	**26.1**
KGVE5	10	0.0	0.2%	**30.5**	**26.1**	**26.1**
KGVE6	10	0.0	0.2%	**30.5**	**26.1**	**26.1**
KGVE7	10	0.0	0.2%	**30.5**	**26.1**	**26.1**
KGVE8	10	0.0	0.2%	**30.5**	**26.0**	**26.0**
KGVE9	10	0.0	0.2%	**30.4**	**26.0**	**26.0**
KGVE10	10	0.0	0.1%	**30.4**	**26.0**	**26.0**
KGVE11	10	0.0	0.1%	**30.4**	**26.0**	**26.0**
KGVE12	10	0.0	0.1%	**30.4**	**25.9**	**25.9**
KGVE13	10	0.0	0.1%	**30.4**	**25.9**	**25.9**
KGVE14	10	0.0	0.1%	**30.4**	**25.9**	**25.9**
PGHR1_1	20	0.9	4.4%	16.8	17.2	18.0
PGHR1_2	20	0.8	3.9%	15.9	16.1	16.9
PGHR1_3	20	0.7	3.5%	15.0	15.0	15.7
PGHR1_4	20	0.6	2.9%	14.1	13.8	14.4
PGHR1_5	20	0.5	2.5%	13.4	12.9	13.4
PGHR1_6	20	0.4	2.2%	12.8	12.3	12.7
PGHR1_7	20	0.4	2.0%	12.4	11.7	12.1
PGHR1_8	20	0.3	1.3%	11.0	10.2	10.4
PGHR1_9	20	0.2	0.9%	10.4	9.4	9.5
PGHR1_10	20	0.1	0.7%	10.0	8.9	9.1
PGHR1_11	20	0.1	0.6%	9.8	8.6	8.7
PGHR1_12	20	0.1	0.5%	9.6	8.4	8.5
PGHR1_13	20	0.1	0.4%	9.5	8.3	8.4
PGHR1_14	20	0.1	0.4%	9.4	8.2	8.3
PGHR2_1	20	0.8	**3.8%**	15.7	15.7	16.5
PGHR2_2	20	0.7	**3.3%**	14.7	14.6	15.2
PGHR2_3	20	0.6	**2.8%**	13.9	13.5	14.1
PGHR2_4	20	0.5	**2.3%**	12.9	12.4	12.8
PGHR2_5	20	0.4	**1.9%**	12.3	11.6	12.0
PGHR2_6	20	0.3	**1.7%**	11.8	11.0	11.4
PGHR2_7	20	0.3	**1.4%**	11.4	10.6	10.9
PGHR2_8	20	0.2	0.9%	10.3	9.3	9.5
PGHR2_9	20	0.1	0.6%	9.9	8.7	8.9
PGHR2_10	20	0.1	0.5%	9.6	8.4	8.5
PGHR2_11	20	0.1	0.4%	9.4	8.2	8.3
PGHR2_12	20	0.1	0.3%	9.3	8.1	8.2
PGHR2_13	20	0.1	0.3%	9.2	8.0	8.1
PGHR2_14	20	0.0	0.2%	9.2	7.9	8.0
DNBG1	10	0.3	**3.4%**	**32.2**	**29.8**	**30.2**
DNBG2	10	0.3	**3.2%**	**32.0**	**29.5**	**29.8**
DNBG3	10	0.3	**2.9%**	**31.7**	**29.1**	**29.4**
DNBG4	10	0.3	**2.5%**	**31.4**	**28.5**	**28.8**
DNBG5	10	0.2	**2.2%**	**31.2**	**28.1**	**28.3**

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DM	Future year DS
DNBG6	10	0.2	**2.1%**	**30.9**	**27.8**	**28.0**
DNBG7	10	0.2	**1.9%**	**30.8**	**27.5**	**27.7**
DNBG8	10	0.1	**1.3%**	**30.2**	**26.6**	**26.8**
DNBG9	10	0.1	1.0%	**29.9**	**26.2**	**26.3**
DNBG10	10	0.1	0.8%	**29.8**	**25.9**	**26.0**
DNBG11	10	0.1	0.7%	**29.7**	**25.7**	**25.8**
DNBG12	10	0.1	0.5%	**29.6**	**25.6**	**25.6**
DNBG13	10	0.0	0.5%	**29.5**	**25.5**	**25.5**
DNBG14	10	0.0	0.5%	**29.5**	**25.4**	**25.5**
SACT1	10	0.1	0.5%	**31.0**	**26.6**	**26.7**
SACT2	10	0.1	0.5%	**31.0**	**26.6**	**26.6**
SACT3	10	0.0	0.5%	**31.0**	**26.6**	**26.6**
SACT4	10	0.1	0.5%	**31.0**	**26.6**	**26.6**
SACT5	10	0.0	0.5%	**31.0**	**26.5**	**26.6**
SACT6	10	0.0	0.5%	**30.9**	**26.5**	**26.6**
SACT7	10	0.0	0.5%	**30.9**	**26.5**	**26.6**
SLDR1	20	0.1	0.5%	**20.7**	18.4	18.5
SLDR2	20	0.1	0.5%	**20.3**	18.1	18.2
SLDR3	20	0.1	0.5%	19.8	17.5	17.6
SLDR4	20	0.1	0.4%	19.0	16.8	16.9
SLDR5	20	0.1	0.4%	18.4	16.2	16.3
SLDR6	20	0.1	0.3%	17.9	15.8	15.8
SLDR7	20	0.1	0.3%	17.5	15.3	15.4
SLDR8	20	0.0	0.2%	16.1	14.0	14.0
SLDR9	20	0.0	0.2%	15.2	13.2	13.2
SLDR10	20	0.0	0.1%	14.7	12.7	12.7
BSHL1	5	0.2	**3.5%**	**78.9**	**70.8**	**71.0**
BSHL2	5	0.2	**3.4%**	**77.0**	**69.1**	**69.2**
BSHL3	5	0.2	**3.3%**	**74.5**	**66.7**	**66.8**
BSHL4	5	0.1	**2.9%**	**70.9**	**63.2**	**63.4**
BSHL5	5	0.1	**2.8%**	**67.9**	**60.3**	**60.5**
BSHL6	5	0.1	**2.6%**	**65.3**	**57.9**	**58.0**
BSHL7	5	0.1	**2.4%**	**63.1**	**55.7**	**55.8**
BSHL8	5	0.1	**1.9%**	**55.1**	**48.1**	**48.2**
BSHL9	5	0.1	**1.5%**	**50.2**	**43.4**	**43.5**
BSHL10	5	0.1	**1.2%**	**46.8**	**40.2**	**40.3**
BSHL11	5	0.1	**1.1%**	**44.4**	**38.0**	**38.0**
BSHL12	5	0.0	0.9%	**42.5**	**36.3**	**36.3**
BSHL13	5	0.0	0.8%	**41.0**	**34.9**	**35.0**
BSHL14	5	0.0	0.7%	**39.8**	**33.9**	**33.9**
MENS1_1	10	0.2	**1.6%**	**28.0**	**25.5**	**25.6**
MENS1_2	10	0.1	**1.5%**	**27.8**	**25.2**	**25.3**
MENS1_3	10	0.1	**1.3%**	**27.7**	**24.9**	**25.0**
MENS1_4	10	0.1	**1.1%**	**27.5**	**24.5**	**24.6**
MENS1_5	10	0.1	0.9%	**27.3**	**24.3**	**24.4**
MENS1_6	10	0.1	0.9%	**27.2**	**24.0**	**24.1**
MENS1_7	10	0.1	0.8%	**27.1**	**23.9**	**24.0**
MENS1_8	10	0.1	0.5%	**26.9**	**23.4**	**23.4**
MENS1_9	10	0.0	0.4%	**26.7**	**23.2**	**23.2**
MENS1_10	10	0.0	0.3%	**26.7**	**23.0**	**23.1**
MENS1_11	10	0.0	0.3%	**26.6**	**22.9**	**23.0**
MENS1_12	10	0.0	0.2%	**26.6**	**22.9**	**22.9**

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DM	Future year DS
MENS1_13	10	0.0	0.2%	**26.6**	**22.8**	**22.8**
MENS1_14	10	0.0	0.2%	**26.5**	**22.8**	**22.8**
MENS2_1	10	0.2	**1.5%**	**27.9**	**25.3**	**25.5**
MENS2_2	10	0.1	**1.4%**	**27.8**	**25.1**	**25.2**
MENS2_3	10	0.1	**1.2%**	**27.6**	**24.8**	**24.9**
MENS2_4	10	0.1	**1.1%**	**27.4**	**24.4**	**24.5**
MENS2_5	10	0.1	0.9%	**27.3**	**24.1**	**24.2**
MENS2_6	10	0.1	0.8%	**27.2**	**23.9**	**24.0**
MENS2_7	10	0.1	0.7%	**27.1**	**23.8**	**23.8**
MENS2_8	10	0.0	0.4%	**26.8**	**23.3**	**23.3**
MENS2_9	10	0.0	0.3%	**26.7**	**23.1**	**23.1**
MENS2_10	10	0.0	0.3%	**26.6**	**22.9**	**23.0**
MENS2_11	10	0.0	0.2%	**26.6**	**22.8**	**22.9**
MENS2_12	10	0.0	0.2%	**26.5**	**22.8**	**22.8**
MENS2_13	10	0.0	0.2%	**26.5**	**22.7**	**22.8**
MENS2_14	10	0.0	0.1%	**26.5**	**22.7**	**22.7**
EBCM1	10	-0.2	-1.6%	**31.3**	**28.1**	**27.9**
EBCM2	10	-0.1	-1.4%	**30.7**	**27.4**	**27.2**
EBCM3	10	-0.1	-1.3%	**30.2**	**26.8**	**26.7**
EBCM4	10	-0.1	-1.1%	**29.7**	**26.2**	**26.1**
EBCM5	10	-0.1	-0.9%	**29.4**	**25.8**	**25.7**
EBCM6	10	-0.1	-0.8%	**29.1**	**25.5**	**25.4**
EBCM7	10	-0.1	-0.7%	**28.9**	**25.3**	**25.2**
EBCM8	10	0.0	-0.5%	**28.2**	**24.5**	**24.4**
EBCM9	10	0.0	-0.4%	**27.8**	**24.0**	**24.0**
EBCM10	10	0.0	-0.3%	**27.6**	**23.8**	**23.7**
EBCM11	10	0.0	-0.2%	**27.4**	**23.6**	**23.6**
EBCM12	10	0.0	-0.2%	**27.3**	**23.5**	**23.4**
EBCM13	10	0.0	-0.1%	**27.3**	**23.4**	**23.4**
EBCM14	10	0.0	-0.1%	**27.2**	**23.3**	**23.3**

Table E-8: Predicted 'in combination' Annual Nitrogen Deposition at Modelled Ecological Receptors (Change >1% of Critical Level)

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DN	Future year DS
CLSM1_1	20	1.0	**5.1%**	**20.9**	17.6	18.7
CLSM1_2	20	1.0	**4.9%**	**20.5**	17.2	18.2
CLSM1_3	20	0.9	**4.5%**	19.9	16.7	17.6
CLSM1_4	20	0.8	**4.1%**	19.0	16.0	16.8
CLSM1_5	20	0.7	**3.7%**	18.4	15.5	16.2
CLSM1_6	20	0.7	**3.4%**	17.8	15.0	15.7
CLSM1_7	20	0.6	**3.2%**	17.4	14.6	15.2
CLSM1_8	20	0.5	**2.4%**	15.9	13.3	13.8
CLSM1_9	20	0.4	**1.9%**	15.0	12.6	13.0
CLSM1_10	20	0.3	**1.6%**	14.5	12.2	12.5
CLSM1_11	20	0.3	**1.4%**	14.1	11.9	12.1
CLSM1_12	20	0.2	**1.2%**	13.8	11.6	11.9
CLSM1_13	20	0.2	**1.1%**	13.6	11.4	11.7
CLSM1_14	20	0.2	1.0%	13.4	11.3	11.5
CLSM2_1	20	0.1	0.6%	11.8	10.1	10.2
CLSM2_2	20	0.1	0.6%	11.8	10.1	10.2
CLSM2_3	20	0.1	0.6%	11.8	10.1	10.2
CLSM2_4	20	0.1	0.6%	11.8	10.1	10.2
CLSM2_5	20	0.1	0.6%	11.8	10.1	10.2
CLSM2_6	20	0.1	0.6%	11.8	10.0	10.2
CLSM2_7	20	0.1	0.6%	11.8	10.0	10.2
CLSM2_8	20	0.1	0.5%	11.8	10.0	10.1
CLSM2_9	20	0.1	0.5%	11.8	10.0	10.1
CLSM2_10	20	0.1	0.4%	11.8	10.0	10.1
CLSM2_11	20	0.1	0.4%	11.7	10.0	10.1
CLSM2_12	20	0.1	0.4%	11.7	10.0	10.1
CLSM2_13	20	0.1	0.4%	11.7	10.0	10.1
CLSM2_14	20	0.1	0.3%	11.7	10.0	10.0
CLSM3_1	20	1.2	**6.1%**	14.2	12.0	13.2
CLSM3_2	20	1.1	**5.7%**	14.0	11.9	13.0
CLSM3_3	20	1.0	**5.2%**	13.8	11.7	12.7
CLSM3_4	20	0.9	**4.5%**	13.5	11.4	12.3
CLSM3_5	20	0.8	**4.0%**	13.2	11.2	12.0
CLSM3_6	20	0.7	**3.5%**	13.1	11.1	11.8
CLSM3_7	20	0.6	**3.2%**	12.9	10.9	11.6
CLSM3_8	20	0.4	**2.2%**	12.4	10.6	11.0
CLSM3_9	20	0.3	**1.6%**	12.2	10.4	10.7
CLSM3_10	20	0.3	**1.3%**	12.1	10.2	10.5
CLSM3_11	20	0.2	**1.1%**	12.0	10.2	10.4
CLSM3_12	20	0.2	1.0%	11.9	10.1	10.3
CLSM3_13	20	0.2	0.9%	11.8	10.0	10.2
CLSM3_14	20	0.2	0.8%	11.8	10.0	10.2
SOME1	20	1.5	**7.6%**	14.6	12.5	14.0
SOME2	20	1.4	**6.9%**	14.3	12.2	13.6
SOME3	20	1.2	**6.0%**	14.0	12.0	13.2
SOME4	20	1.0	**5.0%**	13.6	11.6	12.6
SOME5	20	0.8	**4.2%**	13.3	11.4	12.2
SOME6	20	0.7	**3.7%**	13.1	11.2	11.9
SOME7	20	0.6	**3.2%**	12.9	11.0	11.7
SOME8	20	0.4	**2.0%**	12.5	10.6	11.0
SOME9	20	0.3	**1.4%**	12.3	10.4	10.7

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DN	Future year DS
SOME10	20	0.2	**1.1%**	12.1	10.3	10.6
SOME11	20	0.2	0.9%	12.1	10.3	10.5
SOME12	20	0.2	0.8%	12.0	10.2	10.4
SOME13	20	0.1	0.7%	12.0	10.2	10.3
SOME14	20	0.1	0.6%	11.9	10.2	10.3
KGVE1	10	0.2	**1.9%**	**30.5**	**26.0**	**26.1**
KGVE2	10	0.2	**1.8%**	**30.5**	**26.0**	**26.1**
KGVE3	10	0.2	**1.8%**	**30.5**	**25.9**	**26.1**
KGVE4	10	0.2	**1.7%**	**30.5**	**25.9**	**26.1**
KGVE5	10	0.2	**1.7%**	**30.5**	**25.9**	**26.1**
KGVE6	10	0.2	**1.7%**	**30.5**	**25.9**	**26.1**
KGVE7	10	0.2	**1.6%**	**30.5**	**25.9**	**26.1**
KGVE8	10	0.1	**1.5%**	**30.5**	**25.9**	**26.0**
KGVE9	10	0.1	**1.3%**	**30.4**	**25.9**	**26.0**
KGVE10	10	0.1	**1.2%**	**30.4**	**25.9**	**26.0**
KGVE11	10	0.1	**1.1%**	**30.4**	**25.9**	**26.0**
KGVE12	10	0.1	1.0%	**30.4**	**25.8**	**25.9**
KGVE13	10	0.1	1.0%	**30.4**	**25.8**	**25.9**
KGVE14	10	0.1	0.9%	**30.4**	**25.8**	**25.9**
PGHR1_1	20	3.5	**17.3%**	16.8	14.6	18.0
PGHR1_2	20	3.1	**15.4%**	15.9	13.8	16.9
PGHR1_3	20	2.7	**13.4%**	15.0	13.0	15.7
PGHR1_4	20	2.3	**11.3%**	14.1	12.1	14.4
PGHR1_5	20	2.0	**9.8%**	13.4	11.5	13.4
PGHR1_6	20	1.7	**8.6%**	12.8	11.0	12.7
PGHR1_7	20	1.5	**7.7%**	12.4	10.6	12.1
PGHR1_8	20	1.0	**4.9%**	11.0	9.4	10.4
PGHR1_9	20	0.7	**3.5%**	10.4	8.8	9.5
PGHR1_10	20	0.5	**2.6%**	10.0	8.5	9.1
PGHR1_11	20	0.4	**2.1%**	9.8	8.3	8.7
PGHR1_12	20	0.4	**1.8%**	9.6	8.2	8.5
PGHR1_13	20	0.3	**1.5%**	9.5	8.1	8.4
PGHR1_14	20	0.3	**1.4%**	9.4	8.0	8.3
PGHR2_1	20	2.9	**14.7%**	15.7	13.6	16.5
PGHR2_2	20	2.5	**12.6%**	14.7	12.7	15.2
PGHR2_3	20	2.2	**10.8%**	13.9	11.9	14.1
PGHR2_4	20	1.7	**8.7%**	12.9	11.1	12.8
PGHR2_5	20	1.5	**7.4%**	12.3	10.5	12.0
PGHR2_6	20	1.3	**6.4%**	11.8	10.1	11.4
PGHR2_7	20	1.1	**5.6%**	11.4	9.8	10.9
PGHR2_8	20	0.7	**3.3%**	10.3	8.8	9.5
PGHR2_9	20	0.5	**2.3%**	9.9	8.4	8.9
PGHR2_10	20	0.4	**1.8%**	9.6	8.2	8.5
PGHR2_11	20	0.3	**1.4%**	9.4	8.0	8.3
PGHR2_12	20	0.2	**1.2%**	9.3	7.9	8.2
PGHR2_13	20	0.2	1.0%	9.2	7.9	8.1
PGHR2_14	20	0.2	0.9%	9.2	7.8	8.0
DNBG1	10	2.9	**28.8%**	**32.2**	**27.3**	**30.2**
DNBG2	10	2.7	**26.9%**	**32.0**	**27.1**	**29.8**
DNBG3	10	2.5	**24.6%**	**31.7**	**26.9**	**29.4**
DNBG4	10	2.2	**21.5%**	**31.4**	**26.6**	**28.8**
DNBG5	10	1.9	**19.2%**	**31.2**	**26.4**	**28.3**

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DN	Future year DS
DNBG6	10	1.7	**17.4%**	**30.9**	**26.3**	**28.0**
DNBG7	10	1.6	**15.8%**	**30.8**	**26.1**	**27.7**
DNBG8	10	1.1	**10.9%**	**30.2**	**25.7**	**26.8**
DNBG9	10	0.8	**8.2%**	**29.9**	**25.5**	**26.3**
DNBG10	10	0.7	**6.6%**	**29.8**	**25.3**	**26.0**
DNBG11	10	0.6	**5.5%**	**29.7**	**25.2**	**25.8**
DNBG12	10	0.5	**4.8%**	**29.6**	**25.2**	**25.6**
DNBG13	10	0.4	**4.2%**	**29.5**	**25.1**	**25.5**
DNBG14	10	0.4	**3.8%**	**29.5**	**25.1**	**25.5**
SACT1	10	0.3	**3.1%**	**31.0**	**26.3**	**26.7**
SACT2	10	0.3	**3.0%**	**31.0**	**26.3**	**26.6**
SACT3	10	0.3	**3.0%**	**31.0**	**26.3**	**26.6**
SACT4	10	0.3	**2.9%**	**31.0**	**26.3**	**26.6**
SACT5	10	0.3	**2.8%**	**31.0**	**26.3**	**26.6**
SACT6	10	0.3	**2.8%**	**30.9**	**26.3**	**26.6**
SACT7	10	0.3	**2.7%**	**30.9**	**26.3**	**26.6**
SLDR1	20	1.1	**5.5%**	**20.7**	17.4	18.5
SLDR2	20	1.0	**5.2%**	**20.3**	17.1	18.2
SLDR3	20	1.0	**4.8%**	19.8	16.7	17.6
SLDR4	20	0.9	**4.3%**	19.0	16.0	16.9
SLDR5	20	0.8	**3.9%**	18.4	15.5	16.3
SLDR6	20	0.7	**3.6%**	17.9	15.1	15.8
SLDR7	20	0.7	**3.3%**	17.5	14.7	15.4
SLDR8	20	0.5	**2.4%**	16.1	13.5	14.0
SLDR9	20	0.4	**1.8%**	15.2	12.9	13.2
SLDR10	20	0.3	**1.5%**	14.7	12.4	12.7
BSHL1	5	8.4	**167.2%**	**78.9**	**62.7**	**71.0**
BSHL2	5	8.1	**161.1%**	**77.0**	**61.2**	**69.2**
BSHL3	5	7.6	**152.9%**	**74.5**	**59.2**	**66.8**
BSHL4	5	7.1	**141.2%**	**70.9**	**56.3**	**63.4**
BSHL5	5	6.6	**131.5%**	**67.9**	**53.9**	**60.5**
BSHL6	5	6.2	**123.1%**	**65.3**	**51.8**	**58.0**
BSHL7	5	5.8	**115.8%**	**63.1**	**50.1**	**55.8**
BSHL8	5	4.5	**89.2%**	**55.1**	**43.7**	**48.2**
BSHL9	5	3.6	**72.1%**	**50.2**	**39.9**	**43.5**
BSHL10	5	3.0	**59.9%**	**46.8**	**37.3**	**40.3**
BSHL11	5	2.6	**51.0%**	**44.4**	**35.5**	**38.0**
BSHL12	5	2.2	**44.3%**	**42.5**	**34.1**	**36.3**
BSHL13	5	1.9	**38.8%**	**41.0**	**33.0**	**35.0**
BSHL14	5	1.7	**34.2%**	**39.8**	**32.2**	**33.9**
MENS1_1	10	1.9	**19.0%**	**28.0**	**23.7**	**25.6**
MENS1_2	10	1.7	**17.4%**	**27.8**	**23.6**	**25.3**
MENS1_3	10	1.5	**15.5%**	**27.7**	**23.5**	**25.0**
MENS1_4	10	1.3	**13.2%**	**27.5**	**23.3**	**24.6**
MENS1_5	10	1.1	**11.4%**	**27.3**	**23.2**	**24.4**
MENS1_6	10	1.0	**10.1%**	**27.2**	**23.1**	**24.1**
MENS1_7	10	0.9	**9.1%**	**27.1**	**23.0**	**24.0**
MENS1_8	10	0.6	**6.0%**	**26.9**	**22.8**	**23.4**
MENS1_9	10	0.5	**4.5%**	**26.7**	**22.7**	**23.2**
MENS1_10	10	0.4	**3.7%**	**26.7**	**22.7**	**23.1**
MENS1_11	10	0.3	**3.1%**	**26.6**	**22.6**	**23.0**
MENS1_12	10	0.3	**2.7%**	**26.6**	**22.6**	**22.9**

Receptor	Critical Level	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Level	Base Year	Future Year DN	Future year DS
MENS1_13	10	0.2	**2.4%**	**26.6**	**22.6**	**22.8**
MENS1_14	10	0.2	**2.1%**	**26.5**	**22.6**	**22.8**
MENS2_1	10	1.8	**18.2%**	**27.9**	**23.7**	**25.5**
MENS2_2	10	1.7	**16.6%**	**27.8**	**23.6**	**25.2**
MENS2_3	10	1.5	**14.8%**	**27.6**	**23.4**	**24.9**
MENS2_4	10	1.2	**12.5%**	**27.4**	**23.3**	**24.5**
MENS2_5	10	1.1	**10.7%**	**27.3**	**23.2**	**24.2**
MENS2_6	10	0.9	**9.4%**	**27.2**	**23.1**	**24.0**
MENS2_7	10	0.8	**8.4%**	**27.1**	**23.0**	**23.8**
MENS2_8	10	0.5	**5.4%**	**26.8**	**22.8**	**23.3**
MENS2_9	10	0.4	**3.9%**	**26.7**	**22.7**	**23.1**
MENS2_10	10	0.3	**3.1%**	**26.6**	**22.6**	**23.0**
MENS2_11	10	0.3	**2.6%**	**26.6**	**22.6**	**22.9**
MENS2_12	10	0.2	**2.2%**	**26.5**	**22.6**	**22.8**
MENS2_13	10	0.2	**1.9%**	**26.5**	**22.6**	**22.8**
MENS2_14	10	0.2	**1.7%**	**26.5**	**22.6**	**22.7**
EBCM1	10	1.6	**15.7%**	**31.3**	**26.3**	**27.9**
EBCM2	10	1.4	**14.1%**	**30.7**	**25.8**	**27.2**
EBCM3	10	1.2	**12.4%**	**30.2**	**25.5**	**26.7**
EBCM4	10	1.0	**10.4%**	**29.7**	**25.1**	**26.1**
EBCM5	10	0.9	**9.3%**	**29.4**	**24.8**	**25.7**
EBCM6	10	0.8	**8.4%**	**29.1**	**24.6**	**25.4**
EBCM7	10	0.8	**7.6%**	**28.9**	**24.4**	**25.2**
EBCM8	10	0.5	**5.1%**	**28.2**	**23.9**	**24.4**
EBCM9	10	0.4	**3.8%**	**27.8**	**23.6**	**24.0**
EBCM10	10	0.3	**3.0%**	**27.6**	**23.4**	**23.7**
EBCM11	10	0.3	**2.5%**	**27.4**	**23.3**	**23.6**
EBCM12	10	0.2	**2.2%**	**27.3**	**23.2**	**23.4**
EBCM13	10	0.2	**2.0%**	**27.3**	**23.2**	**23.4**
EBCM14	10	0.2	**1.8%**	**27.2**	**23.1**	**23.3**

Table E-9: Predicted 'in isolation' Annual Acid Deposition at Modelled Ecological Receptors (Change >1% of Critical Load)

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DM	Future year DS
CLSM1_1	1.1	0.01	0.6%	**1.67**	**1.51**	**1.51**
CLSM1_2	1.1	0.01	0.5%	**1.64**	**1.48**	**1.48**
CLSM1_3	1.1	0.01	0.5%	**1.60**	**1.44**	**1.44**
CLSM1_4	1.1	0.00	0.4%	**1.54**	**1.38**	**1.38**
CLSM1_5	1.1	0.00	0.4%	**1.49**	**1.33**	**1.34**
CLSM1_6	1.1	0.00	0.4%	**1.45**	**1.30**	**1.30**
CLSM1_7	1.1	0.00	0.3%	**1.42**	**1.27**	**1.27**
CLSM1_8	1.1	0.00	0.2%	**1.31**	**1.17**	**1.17**
CLSM1_9	1.1	0.00	0.1%	**1.25**	**1.11**	**1.11**
CLSM1_10	1.1	0.00	0.1%	**1.21**	1.07	1.08
CLSM1_11	1.1	0.00	0.1%	**1.18**	1.05	1.05
CLSM1_12	1.1	0.00	0.1%	**1.16**	1.03	1.03
CLSM1_13	1.1	0.00	0.0%	**1.15**	1.01	1.01
CLSM1_14	1.1	0.00	0.0%	**1.13**	1.00	1.00
CLSM2_1	1.1	0.00	0.1%	0.92	0.81	0.81
CLSM2_2	1.1	0.00	0.1%	0.92	0.81	0.81
CLSM2_3	1.1	0.00	0.1%	0.92	0.81	0.81
CLSM2_4	1.1	0.00	0.1%	0.92	0.81	0.81
CLSM2_5	1.1	0.00	0.1%	0.92	0.81	0.81
CLSM2_6	1.1	0.00	0.1%	0.92	0.81	0.81
CLSM2_7	1.1	0.00	0.1%	0.92	0.81	0.81
CLSM2_8	1.1	0.00	0.1%	0.92	0.80	0.81
CLSM2_9	1.1	0.00	0.1%	0.92	0.80	0.80
CLSM2_10	1.1	0.00	0.1%	0.92	0.80	0.80
CLSM2_11	1.1	0.00	0.1%	0.92	0.80	0.80
CLSM2_12	1.1	0.00	0.0%	0.92	0.80	0.80
CLSM2_13	1.1	0.00	0.0%	0.92	0.80	0.80
CLSM2_14	1.1	0.00	0.0%	0.92	0.80	0.80
CLSM3_1	1.1	0.02	**2.1%**	**1.11**	1.02	1.05
CLSM3_2	1.1	0.02	**1.9%**	**1.10**	1.01	1.03
CLSM3_3	1.1	0.02	**1.6%**	1.08	0.99	1.01
CLSM3_4	1.1	0.01	**1.3%**	1.06	0.97	0.98
CLSM3_5	1.1	0.01	1.0%	1.05	0.95	0.96
CLSM3_6	1.1	0.01	0.8%	1.03	0.93	0.94
CLSM3_7	1.1	0.01	0.7%	1.02	0.92	0.93
CLSM3_8	1.1	0.00	0.3%	0.99	0.88	0.88
CLSM3_9	1.1	0.00	0.1%	0.97	0.86	0.86
CLSM3_10	1.1	0.00	0.1%	0.96	0.85	0.85
CLSM3_11	1.1	0.00	0.0%	0.95	0.84	0.84
CLSM3_12	1.1	0.00	0.0%	0.95	0.83	0.83
CLSM3_13	1.1	0.00	0.0%	0.95	0.83	0.83
CLSM3_14	1.1	0.00	0.0%	0.94	0.83	0.83
SOME1	1.3	0.03	**2.6%**	1.11	1.04	1.08
SOME2	1.3	0.03	**2.4%**	1.09	1.02	1.05
SOME3	1.3	0.03	**2.1%**	1.07	0.99	1.02
SOME4	1.3	0.02	**1.7%**	1.04	0.95	0.98
SOME5	1.3	0.02	**1.4%**	1.02	0.93	0.95
SOME6	1.3	0.02	**1.2%**	1.01	0.91	0.93
SOME7	1.3	0.01	**1.1%**	1.00	0.90	0.91
SOME8	1.3	0.01	0.7%	0.96	0.85	0.86
SOME9	1.3	0.01	0.5%	0.95	0.84	0.84

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DM	Future year DS
SOME10	1.3	0.00	0.3%	0.94	0.83	0.83
SOME11	1.3	0.00	0.3%	0.93	0.82	0.82
SOME12	1.3	0.00	0.2%	0.93	0.81	0.82
SOME13	1.3	0.00	0.2%	0.93	0.81	0.81
SOME14	1.3	0.00	0.2%	0.92	0.81	0.81
KGVE1	4.9	0.00	0.0%	2.43	2.11	2.11
KGVE2	4.9	0.00	0.0%	2.43	2.11	2.11
KGVE3	4.9	0.00	0.0%	2.43	2.11	2.11
KGVE4	4.9	0.00	0.0%	2.43	2.11	2.11
KGVE5	4.9	0.00	0.0%	2.43	2.11	2.11
KGVE6	4.9	0.00	0.0%	2.43	2.10	2.11
KGVE7	4.9	0.00	0.0%	2.43	2.10	2.11
KGVE8	4.9	0.00	0.0%	2.43	2.10	2.10
KGVE9	4.9	0.00	0.0%	2.42	2.10	2.10
KGVE10	4.9	0.00	0.0%	2.42	2.10	2.10
KGVE11	4.9	0.00	0.0%	2.42	2.10	2.10
KGVE12	4.9	0.00	0.0%	2.42	2.10	2.10
KGVE13	4.9	0.00	0.0%	2.42	2.09	2.09
KGVE14	4.9	0.00	0.0%	2.42	2.09	2.09
PGHR1_1	4.6	0.06	**1.4%**	1.28	1.31	1.37
PGHR1_2	4.6	0.06	**1.2%**	1.21	1.23	1.29
PGHR1_3	4.6	0.05	**1.1%**	1.15	1.15	1.20
PGHR1_4	4.6	0.04	0.9%	1.08	1.07	1.11
PGHR1_5	4.6	0.04	0.8%	1.03	1.01	1.04
PGHR1_6	4.6	0.03	0.7%	0.99	0.96	0.99
PGHR1_7	4.6	0.03	0.6%	0.96	0.92	0.95
PGHR1_8	4.6	0.02	0.4%	0.87	0.81	0.82
PGHR1_9	4.6	0.01	0.3%	0.82	0.75	0.76
PGHR1_10	4.6	0.01	0.2%	0.79	0.72	0.73
PGHR1_11	4.6	0.01	0.2%	0.78	0.70	0.71
PGHR1_12	4.6	0.01	0.1%	0.76	0.68	0.69
PGHR1_13	4.6	0.01	0.1%	0.76	0.67	0.68
PGHR1_14	4.6	0.01	0.1%	0.75	0.67	0.67
PGHR2_1	4.6	0.05	**1.2%**	1.20	1.21	1.26
PGHR2_2	4.6	0.05	1.0%	1.13	1.12	1.17
PGHR2_3	4.6	0.04	0.9%	1.07	1.05	1.09
PGHR2_4	4.6	0.03	0.7%	1.00	0.97	1.00
PGHR2_5	4.6	0.03	0.6%	0.95	0.91	0.94
PGHR2_6	4.6	0.02	0.5%	0.92	0.87	0.89
PGHR2_7	4.6	0.02	0.5%	0.89	0.84	0.86
PGHR2_8	4.6	0.01	0.3%	0.82	0.75	0.76
PGHR2_9	4.6	0.01	0.2%	0.78	0.71	0.72
PGHR2_10	4.6	0.01	0.1%	0.76	0.68	0.69
PGHR2_11	4.6	0.01	0.1%	0.75	0.67	0.68
PGHR2_12	4.6	0.00	0.1%	0.74	0.66	0.66
PGHR2_13	4.6	0.00	0.1%	0.74	0.65	0.66
PGHR2_14	4.6	0.00	0.1%	0.73	0.65	0.65
DNBG1	2.1	0.02	**1.2%**	**2.53**	**2.36**	**2.38**
DNBG2	2.1	0.02	**1.1%**	**2.52**	**2.33**	**2.35**
DNBG3	2.1	0.02	1.0%	**2.50**	**2.30**	**2.32**
DNBG4	2.1	0.02	0.9%	**2.47**	**2.26**	**2.28**
DNBG5	2.1	0.02	0.8%	**2.45**	**2.23**	**2.25**

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DM	Future year DS
DNBG6	2.1	0.01	0.7%	**2.44**	**2.21**	**2.22**
DNBG7	2.1	0.01	0.6%	**2.43**	**2.19**	**2.20**
DNBG8	2.1	0.01	0.4%	**2.39**	**2.13**	**2.14**
DNBG9	2.1	0.01	0.3%	**2.37**	2.09	2.10
DNBG10	2.1	0.01	0.3%	**2.35**	2.07	2.08
DNBG11	2.1	0.00	0.2%	**2.35**	2.06	2.07
DNBG12	2.1	0.00	0.2%	**2.34**	2.05	2.06
DNBG13	2.1	0.00	0.2%	**2.34**	2.04	2.05
DNBG14	2.1	0.00	0.2%	**2.33**	2.04	2.04
SACT1	11.4	0.00	0.0%	2.44	2.12	2.13
SACT2	11.4	0.00	0.0%	2.44	2.12	2.13
SACT3	11.4	0.00	0.0%	2.44	2.12	2.13
SACT4	11.4	0.00	0.0%	2.44	2.12	2.13
SACT5	11.4	0.00	0.0%	2.44	2.12	2.12
SACT6	11.4	0.00	0.0%	2.44	2.12	2.12
SACT7	11.4	0.00	0.0%	2.44	2.12	2.12
BSHL1	11.4	0.01	0.1%	5.83	5.25	5.27
BSHL2	11.4	0.01	0.1%	5.69	5.13	5.14
BSHL3	11.4	0.01	0.1%	5.51	4.96	4.97
BSHL4	11.4	0.01	0.1%	5.26	4.71	4.72
BSHL5	11.4	0.01	0.1%	5.04	4.50	4.51
BSHL6	11.4	0.01	0.1%	4.86	4.33	4.34
BSHL7	11.4	0.01	0.1%	4.70	4.17	4.18
BSHL8	11.4	0.01	0.1%	4.13	3.63	3.63
BSHL9	11.4	0.01	0.0%	3.78	3.29	3.30
BSHL10	11.4	0.00	0.0%	3.54	3.07	3.07
BSHL11	11.4	0.00	0.0%	3.36	2.91	2.91
BSHL12	11.4	0.00	0.0%	3.23	2.78	2.79
BSHL13	11.4	0.00	0.0%	3.12	2.69	2.69
BSHL14	11.4	0.01	0.1%	5.83	5.25	5.27
MENS1_1	3.2	0.01	0.4%	2.22	2.04	2.05
MENS1_2	3.2	0.01	0.3%	2.21	2.02	2.03
MENS1_3	3.2	0.01	0.3%	2.20	2.00	2.01
MENS1_4	3.2	0.01	0.2%	2.18	1.97	1.98
MENS1_5	3.2	0.01	0.2%	2.17	1.95	1.96
MENS1_6	3.2	0.01	0.2%	2.16	1.94	1.94
MENS1_7	3.2	0.01	0.2%	2.16	1.92	1.93
MENS1_8	3.2	0.00	0.1%	2.14	1.89	1.89
MENS1_9	3.2	0.00	0.1%	2.13	1.87	1.88
MENS1_10	3.2	0.00	0.1%	2.13	1.86	1.86
MENS1_11	3.2	0.00	0.1%	2.12	1.86	1.86
MENS1_12	3.2	0.00	0.1%	2.12	1.85	1.85
MENS1_13	3.2	0.00	0.0%	2.12	1.85	1.85
MENS1_14	3.2	0.00	0.0%	2.12	1.85	1.85
MENS2_1	3.2	0.01	0.3%	2.21	2.03	2.04
MENS2_2	3.2	0.01	0.3%	2.20	2.01	2.02
MENS2_3	3.2	0.01	0.3%	2.19	1.99	2.00
MENS2_4	3.2	0.01	0.2%	2.18	1.96	1.97
MENS2_5	3.2	0.01	0.2%	2.17	1.94	1.95
MENS2_6	3.2	0.01	0.2%	2.16	1.93	1.93
MENS2_7	3.2	0.01	0.2%	2.15	1.92	1.92
MENS2_8	3.2	0.00	0.1%	2.14	1.88	1.88

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DM	Future year DS
MENS2_9	3.2	0.00	0.1%	2.13	1.87	1.87
MENS2_10	3.2	0.00	0.1%	2.12	1.86	1.86
MENS2_11	3.2	0.00	0.1%	2.12	1.85	1.85
MENS2_12	3.2	0.00	0.0%	2.12	1.85	1.85
MENS2_13	3.2	0.00	0.0%	2.12	1.84	1.84
MENS2_14	3.2	0.00	0.0%	2.11	1.84	1.84
EBCM1	3.1	-0.01	-0.4%	2.43	2.20	2.19
EBCM2	3.1	-0.01	-0.3%	2.38	2.15	2.14
EBCM3	3.1	-0.01	-0.3%	2.35	2.11	2.10
EBCM4	3.1	-0.01	-0.2%	2.32	2.07	2.06
EBCM5	3.1	-0.01	-0.2%	2.29	2.04	2.03
EBCM6	3.1	-0.01	-0.2%	2.27	2.02	2.01
EBCM7	3.1	-0.01	-0.2%	2.26	2.00	1.99
EBCM8	3.1	0.00	-0.1%	2.21	1.94	1.94
EBCM9	3.1	0.00	-0.1%	2.18	1.91	1.91
EBCM10	3.1	0.00	-0.1%	2.16	1.89	1.89
EBCM11	3.1	0.00	-0.1%	2.15	1.88	1.88
EBCM12	3.1	0.00	0.0%	2.15	1.87	1.87
EBCM13	3.1	0.00	0.0%	2.14	1.86	1.86
EBCM14	3.1	0.00	0.0%	2.14	1.86	1.86

Table E-10: Predicted 'in combination' Annual Acid Deposition at Modelled Ecological Receptors (Change >1% of Critical Load)

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DN	Future year DS
CLSM1_1	1.1	0.07	**6.6%**	**1.67**	**1.44**	**1.51**
CLSM1_2	1.1	0.07	**6.3%**	**1.64**	**1.41**	**1.48**
CLSM1_3	1.1	0.06	**5.9%**	**1.60**	**1.38**	**1.44**
CLSM1_4	1.1	0.06	**5.3%**	**1.54**	**1.33**	**1.38**
CLSM1_5	1.1	0.05	**4.8%**	**1.49**	**1.29**	**1.34**
CLSM1_6	1.1	0.05	**4.5%**	**1.45**	**1.25**	**1.30**
CLSM1_7	1.1	0.05	**4.1%**	**1.42**	**1.23**	**1.27**
CLSM1_8	1.1	0.03	**3.1%**	**1.31**	**1.14**	**1.17**
CLSM1_9	1.1	0.03	**2.5%**	**1.25**	1.08	**1.11**
CLSM1_10	1.1	0.02	**2.1%**	**1.21**	1.05	1.08
CLSM1_11	1.1	0.02	**1.8%**	**1.18**	1.03	1.05
CLSM1_12	1.1	0.02	**1.6%**	**1.16**	1.01	1.03
CLSM1_13	1.1	0.02	**1.4%**	**1.15**	1.00	1.01
CLSM1_14	1.1	0.01	**1.3%**	**1.13**	0.99	1.00
CLSM2_1	1.1	0.01	0.8%	0.92	0.80	0.81
CLSM2_2	1.1	0.01	0.8%	0.92	0.80	0.81
CLSM2_3	1.1	0.01	0.8%	0.92	0.80	0.81
CLSM2_4	1.1	0.01	0.8%	0.92	0.80	0.81
CLSM2_5	1.1	0.01	0.8%	0.92	0.80	0.81
CLSM2_6	1.1	0.01	0.8%	0.92	0.80	0.81
CLSM2_7	1.1	0.01	0.7%	0.92	0.80	0.81
CLSM2_8	1.1	0.01	0.7%	0.92	0.80	0.81
CLSM2_9	1.1	0.01	0.6%	0.92	0.80	0.80
CLSM2_10	1.1	0.01	0.6%	0.92	0.80	0.80
CLSM2_11	1.1	0.01	0.5%	0.92	0.80	0.80
CLSM2_12	1.1	0.01	0.5%	0.92	0.80	0.80
CLSM2_13	1.1	0.01	0.5%	0.92	0.79	0.80
CLSM2_14	1.1	0.00	0.4%	0.92	0.79	0.80
CLSM3_1	1.1	0.09	**8.0%**	**1.11**	0.96	1.05
CLSM3_2	1.1	0.08	**7.4%**	**1.10**	0.95	1.03
CLSM3_3	1.1	0.07	**6.7%**	1.08	0.93	1.01
CLSM3_4	1.1	0.06	**5.8%**	1.06	0.92	0.98
CLSM3_5	1.1	0.06	**5.2%**	1.05	0.90	0.96
CLSM3_6	1.1	0.05	**4.6%**	1.03	0.89	0.94
CLSM3_7	1.1	0.05	**4.2%**	1.02	0.88	0.93
CLSM3_8	1.1	0.03	**2.8%**	0.99	0.85	0.88
CLSM3_9	1.1	0.02	**2.1%**	0.97	0.84	0.86
CLSM3_10	1.1	0.02	**1.7%**	0.96	0.83	0.85
CLSM3_11	1.1	0.02	**1.5%**	0.95	0.83	0.84
CLSM3_12	1.1	0.01	**1.3%**	0.95	0.82	0.83
CLSM3_13	1.1	0.01	**1.1%**	0.95	0.82	0.83
CLSM3_14	1.1	0.01	1.0%	0.94	0.82	0.83
SOME1	1.3	0.11	**8.4%**	1.11	0.97	1.08
SOME2	1.3	0.10	**7.6%**	1.09	0.95	1.05
SOME3	1.3	0.09	**6.6%**	1.07	0.93	1.02
SOME4	1.3	0.07	**5.5%**	1.04	0.91	0.98
SOME5	1.3	0.06	**4.6%**	1.02	0.89	0.95
SOME6	1.3	0.05	**4.0%**	1.01	0.87	0.93
SOME7	1.3	0.05	**3.5%**	1.00	0.86	0.91
SOME8	1.3	0.03	**2.2%**	0.96	0.83	0.86
SOME9	1.3	0.02	**1.6%**	0.95	0.82	0.84

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DN	Future year DS
SOME10	1.3	0.02	**1.2%**	0.94	0.81	0.83
SOME11	1.3	0.01	1.0%	0.93	0.81	0.82
SOME12	1.3	0.01	0.9%	0.93	0.81	0.82
SOME13	1.3	0.01	0.8%	0.93	0.80	0.81
SOME14	1.3	0.01	0.7%	0.92	0.80	0.81
KGVE1	4.9	0.01	0.3%	2.43	2.10	2.11
KGVE2	4.9	0.01	0.3%	2.43	2.10	2.11
KGVE3	4.9	0.01	0.3%	2.43	2.10	2.11
KGVE4	4.9	0.01	0.3%	2.43	2.10	2.11
KGVE5	4.9	0.01	0.2%	2.43	2.10	2.11
KGVE6	4.9	0.01	0.2%	2.43	2.09	2.11
KGVE7	4.9	0.01	0.2%	2.43	2.09	2.11
KGVE8	4.9	0.01	0.2%	2.43	2.09	2.10
KGVE9	4.9	0.01	0.2%	2.42	2.09	2.10
KGVE10	4.9	0.01	0.2%	2.42	2.09	2.10
KGVE11	4.9	0.01	0.2%	2.42	2.09	2.10
KGVE12	4.9	0.01	0.1%	2.42	2.09	2.10
KGVE13	4.9	0.01	0.1%	2.42	2.09	2.09
KGVE14	4.9	0.01	0.1%	2.42	2.09	2.09
PGHR1_1	4.6	0.25	**5.4%**	1.28	1.12	1.37
PGHR1_2	4.6	0.22	**4.8%**	1.21	1.07	1.29
PGHR1_3	4.6	0.19	**4.2%**	1.15	1.01	1.20
PGHR1_4	4.6	0.16	**3.5%**	1.08	0.95	1.11
PGHR1_5	4.6	0.14	**3.0%**	1.03	0.90	1.04
PGHR1_6	4.6	0.12	**2.7%**	0.99	0.87	0.99
PGHR1_7	4.6	0.11	**2.4%**	0.96	0.84	0.95
PGHR1_8	4.6	0.07	**1.5%**	0.87	0.76	0.82
PGHR1_9	4.6	0.05	**1.1%**	0.82	0.71	0.76
PGHR1_10	4.6	0.04	0.8%	0.79	0.69	0.73
PGHR1_11	4.6	0.03	0.7%	0.78	0.68	0.71
PGHR1_12	4.6	0.03	0.5%	0.76	0.67	0.69
PGHR1_13	4.6	0.02	0.5%	0.76	0.66	0.68
PGHR1_14	4.6	0.02	0.4%	0.75	0.65	0.67
PGHR2_1	4.6	0.21	**4.6%**	1.20	1.05	1.26
PGHR2_1	4.6	0.21	**4.6%**	1.20	1.05	1.26
PGHR2_2	4.6	0.18	**3.9%**	1.13	0.99	1.17
PGHR2_3	4.6	0.15	**3.3%**	1.07	0.93	1.09
PGHR2_4	4.6	0.12	**2.7%**	1.00	0.87	1.00
PGHR2_5	4.6	0.11	**2.3%**	0.95	0.83	0.94
PGHR2_6	4.6	0.09	**2.0%**	0.92	0.80	0.89
PGHR2_7	4.6	0.08	**1.7%**	0.89	0.78	0.86
PGHR2_8	4.6	0.05	1.0%	0.82	0.71	0.76
PGHR2_9	4.6	0.03	0.7%	0.78	0.68	0.72
PGHR2_10	4.6	0.03	0.5%	0.76	0.67	0.69
PGHR2_11	4.6	0.02	0.4%	0.75	0.65	0.68
PGHR2_12	4.6	0.02	0.4%	0.74	0.65	0.66
PGHR2_13	4.6	0.01	0.3%	0.74	0.64	0.66
DNBG1	2.1	0.21	**9.8%**	**2.53**	**2.17**	**2.38**
DNBG2	2.1	0.19	**9.1%**	**2.52**	**2.16**	**2.35**
DNBG3	2.1	0.18	**8.4%**	**2.50**	**2.15**	**2.32**
DNBG4	2.1	0.15	**7.3%**	**2.47**	**2.13**	**2.28**
DNBG5	2.1	0.14	**6.5%**	**2.45**	**2.11**	**2.25**

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DN	Future year DS
DNBG6	2.1	0.12	**5.9%**	**2.44**	2.10	**2.22**
DNBG7	2.1	0.11	**5.4%**	**2.43**	2.09	**2.20**
DNBG8	2.1	0.08	**3.7%**	**2.39**	2.06	**2.14**
DNBG9	2.1	0.06	**2.8%**	**2.37**	2.04	**2.10**
DNBG10	2.1	0.05	**2.2%**	**2.35**	2.03	2.08
DNBG11	2.1	0.04	**1.9%**	**2.35**	2.03	2.07
DNBG12	2.1	0.03	**1.6%**	**2.34**	2.02	2.06
DNBG13	2.1	0.03	**1.4%**	**2.34**	2.02	2.05
DNBG14	2.1	0.03	**1.3%**	**2.33**	2.02	2.04
SACT1	11.4	0.02	0.2%	2.44	2.11	2.13
SACT2	11.4	0.02	0.2%	2.44	2.11	2.13
SACT3	11.4	0.02	0.2%	2.44	2.11	2.13
SACT4	11.4	0.02	0.2%	2.44	2.10	2.13
SACT5	11.4	0.02	0.2%	2.44	2.10	2.12
SACT6	11.4	0.02	0.2%	2.44	2.10	2.12
SACT7	11.4	0.02	0.2%	2.44	2.10	2.12
BSHL1	11.4	0.60	**5.2%**	5.83	4.67	5.27
BSHL2	11.4	0.58	**5.0%**	5.69	4.56	5.14
BSHL3	11.4	0.55	**4.8%**	5.51	4.42	4.97
BSHL4	11.4	0.50	**4.4%**	5.26	4.22	4.72
BSHL5	11.4	0.47	**4.1%**	5.04	4.04	4.51
BSHL6	11.4	0.44	**3.9%**	4.86	3.90	4.34
BSHL7	11.4	0.41	**3.6%**	4.70	3.77	4.18
BSHL8	11.4	0.32	**2.8%**	4.13	3.32	3.63
BSHL9	11.4	0.26	**2.3%**	3.78	3.04	3.30
BSHL10	11.4	0.21	**1.9%**	3.54	2.86	3.07
BSHL11	11.4	0.18	**1.6%**	3.36	2.73	2.91
BSHL12	11.4	0.16	**1.4%**	3.23	2.63	2.79
BSHL13	11.4	0.14	**1.2%**	3.12	2.55	2.69
BSHL14	11.4	0.12	**1.1%**	3.04	2.49	2.62
MENS1_1	3.2	0.14	**4.2%**	2.22	1.91	2.05
MENS1_2	3.2	0.12	**3.9%**	2.21	1.90	2.03
MENS1_3	3.2	0.11	**3.5%**	2.20	1.90	2.01
MENS1_4	3.2	0.09	**2.9%**	2.18	1.88	1.98
MENS1_5	3.2	0.08	**2.6%**	2.17	1.88	1.96
MENS1_6	3.2	0.07	**2.3%**	2.16	1.87	1.94
MENS1_7	3.2	0.06	**2.0%**	2.16	1.86	1.93
MENS1_8	3.2	0.04	**1.3%**	2.14	1.85	1.89
MENS1_9	3.2	0.03	**1.0%**	2.13	1.84	1.88
MENS1_10	3.2	0.03	0.8%	2.13	1.84	1.86
MENS1_11	3.2	0.02	0.7%	2.12	1.84	1.86
MENS1_12	3.2	0.02	0.6%	2.12	1.83	1.85
MENS1_13	3.2	0.02	0.5%	2.12	1.83	1.85
MENS1_14	3.2	0.02	0.5%	2.12	1.83	1.85
MENS2_1	3.2	0.13	**4.1%**	2.21	1.91	2.04
MENS2_2	3.2	0.12	**3.7%**	2.20	1.90	2.02
MENS2_3	3.2	0.11	**3.3%**	2.19	1.89	2.00
MENS2_4	3.2	0.09	**2.8%**	2.18	1.88	1.97
MENS2_5	3.2	0.08	**2.4%**	2.17	1.87	1.95
MENS2_6	3.2	0.07	**2.1%**	2.16	1.87	1.93
MENS2_7	3.2	0.06	**1.9%**	2.15	1.86	1.92
MENS2_8	3.2	0.04	**1.2%**	2.14	1.85	1.88

Receptor	Critical Load	Road Contribution		Total Concentration		
		Absolute Change	Change as % of Critical Load	Base Year	Future Year DN	Future year DS
MENS2_9	3.2	0.03	0.9%	2.13	1.84	1.87
MENS2_10	3.2	0.02	0.7%	2.12	1.84	1.86
MENS2_11	3.2	0.02	0.6%	2.12	1.83	1.85
MENS2_12	3.2	0.02	0.5%	2.12	1.83	1.85
MENS2_13	3.2	0.01	0.4%	2.12	1.83	1.84
MENS2_14	3.2	0.01	0.4%	2.11	1.83	1.84
EBCM1	3.1	0.11	**3.6%**	2.43	2.08	2.19
EBCM2	3.1	0.10	**3.2%**	2.38	2.04	2.14
EBCM3	3.1	0.09	**2.8%**	2.35	2.01	2.10
EBCM4	3.1	0.07	**2.4%**	2.32	1.99	2.06
EBCM5	3.1	0.07	**2.1%**	2.29	1.97	2.03
EBCM6	3.1	0.06	**1.9%**	2.27	1.95	2.01
EBCM7	3.1	0.05	**1.8%**	2.26	1.94	1.99
EBCM8	3.1	0.04	**1.2%**	2.21	1.90	1.94
EBCM9	3.1	0.03	0.9%	2.18	1.88	1.91
EBCM10	3.1	0.02	0.7%	2.16	1.87	1.89
EBCM11	3.1	0.02	0.6%	2.15	1.86	1.88
EBCM12	3.1	0.02	0.5%	2.15	1.85	1.87
EBCM13	3.1	0.01	0.5%	2.14	1.85	1.86
EBCM14	3.1	0.01	0.4%	2.14	1.85	1.86

Appendix E Figures