

Adran yr Economi a'r Seilwaith
Department for Economy and Infrastructure



Llywodraeth Cymru
Welsh Government

This document is an update to the 'Proof of Evidence – Air Quality' document WG 1.12.1. It contains a scheme evidence update following the recent Department for Transport announcement that tolls on the Severn Crossings will be removed by the 31st December 2018.

Scheme Evidence Update

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Welsh Government, Air Quality

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1. AUTHOR

- 1.1 I am Michael Andrew Bull. I am a Director of Ove Arup and Partners Ltd (Arup), a multi-disciplinary consultancy, where I have been responsible for leading most of the air quality work carried out by Arup for the last 20 years. My professional qualifications are set out in my main Proof of Evidence (WG 1.12.1) and are not repeated here.
- 1.2 The evidence which I have prepared and provided in this Scheme Evidence Update has been prepared and is given in accordance with the Code of Conduct of the Institute of Air Quality Management and I confirm that the opinions expressed are my true and professional opinions.

2. SCOPE AND PURPOSE OF THIS SCHEME EVIDENCE UPDATE

- 2.1 This Scheme Evidence Update provides an update to my previous evidence (WG 1.12.1) to provide an update of the assessment of air quality impact due to the recent announcement from the DfT that the Severn Crossing Tolls will be removed from 31st December 2018.
- 2.2 Aspects of my evidence interface with the evidence of other witnesses including the main proof of Dr Peter Ireland (WG 1.7.5).
- 2.3 My Scheme Evidence Update is presented in the following structure, with a detailed contents provided at the start of the document.
1. Author
 2. Scope and Purpose of this Scheme Evidence Update
 3. Scheme Evidence Update
 4. Conclusion

3. SCHEME EVIDENCE UPDATE

3.1. No Tolls Scenario

- 3.1.1. Since my main evidence was prepared, there has been an announcement that the tolls on the Severn Crossing will be removed. This has resulted in a change in the predicted traffic flows on the existing M4 corridor and proposed new section of motorway in both the Do-Minimum and Do-something scenarios for the opening year (2022). I have examined the changes in predicted flows and this has shown that the change in traffic on some road links exceeds the DMRB criteria for requiring assessment. I have therefore made a assessment of the impact of the removal of the Severn Crossing tolls on the outcome of the air quality modelling results (Shown in March 2017 Environmental Statement Supplement).
- 3.1.2. The general trend in the changes in traffic data is that typically the flows on the M4 increase for both the Do-minimum and Do-Something cases. The expectation therefore is that predicted concentrations near to the existing M4 are likely to remain the same or increase slightly for both the Do-minimum and Do-something cases. Near to the new M4 the Do-Minimum case typically remains the same as it is not currently affected by emissions from this road. For the Do-Something case, predicted concentrations remain the same or are likely to increase slightly.
- 3.1.3. Predicted total NO₂ and PM₁₀ concentrations do not change in proportion to the changes in traffic flows. For PM₁₀ more than 90% of the total concentrations measured come from background sources so the contribution of emissions from vehicles on the local road network is less than 10% of the total predicted concentrations. Therefore, very large changes in traffic volumes will be required to significantly alter the outcome of the air quality assessment for this pollutant.
- 3.1.4. For NO₂ the contribution of emissions from vehicles on the existing M4 corridor is less than 50% of the total concentrations. In addition,

only part of the NO₂ in the atmosphere derives from direct emissions from vehicles, the majority is formed by a series of chemical reactions involving other chemical species. Therefore, relatively large changes in traffic volumes are required to significantly alter the outcome of the air quality assessment for this pollutant.

- 3.1.5. For NO_x concentrations calculated to assess compliance with the air quality standard for the protection of vegetation, these chemical reactions are not relevant. As a worst case, if it is assumed that the contribution from the road could make up some 50% of the total NO_x concentrations then the percentage increase in NO_x concentrations can be estimated as 50% of the increase in traffic flows.
- 3.1.6. The removal of the tolls from the Severn Crossing results in an increase in traffic flows between junctions 22 and 24 of up to 27% in the Do-minimum case, slightly lower increases (21%) are found in the Do-Something case. In the previous assessment the predicted NO₂ and PM₁₀ concentrations at receptors in this area were well below the relevant air quality standards and hence very large changes predicted impacts would be required to result in an exceedance of air quality standards.
- 3.1.7. The changes in traffic flows on the remainder of the existing M4 (Junctions 24-28) are much lower (5% or lower) in both the Do-minimum and Do-something cases. This level of change in traffic would be unlikely to change predicted NO₂ and PM₁₀ concentrations by more than a few percent.
- 3.1.8. With the removal of the tolls, the predicted flows on the proposed new section of motorway increase by up to 17%. In the previous assessment the predicted NO₂ and PM₁₀ concentrations at receptors in this area are well below the relevant air quality standards and hence very large changes predicted impacts would be required to result in an exceedance of air quality standards.

3.1.9. To provide further details of the air quality impacts with the new traffic data the air quality modelling described in the ES has been re-run. The resulting predicted concentrations are provided in Appendix A of this proof. This provides the same tables that detail the operational impacts as presented in Appendix 7.3 of the main ES and subsequent supplements. The results reflect my qualitative descriptions described in Paragraphs 3.1.6-3.1.9. there are some minor changes in the impact descriptors as a result and these are summarised in Table 1 below.

Table 1: Changes in impact descriptors

ID	NO2 Change	PM10 Change
HH2	Impact descriptor changes from negligible to minor adverse for all years and methods	-
HH3	Impact descriptor changes from negligible to minor adverse for IAN 185/15 2037 only	
HH4	Change in impact descriptor for the IAN 185/15 2022 method from negligible to minor adverse	-
HH8	Impact descriptor changes from negligible to minor beneficial for all years and method	-
HH10	Impact descriptor changes from major beneficial to moderate beneficial for all methods and years with the exception of IAN185/15 in 2037	-
HH11	Impact descriptor changes from negligible to minor beneficial in 2037	-
HH14	Impact descriptor changes from minor to moderate beneficial for IAN 185/15 2022 only	-
HH15	Impact descriptor changes from minor to moderate beneficial for IAN 185/15 2037 only	-
HH19	Impact descriptor changes from negligible to minor beneficial in 2037	-
HH21	-	Impact descriptor changes from negligible to minor beneficial in 2037
HH22	Impact descriptor changes from minor beneficial to negligible for 2037	-
HH25	Impact descriptor changes from negligible to minor beneficial for all methods and years	-
HH26	Impact descriptor changes from moderate to major beneficial for IAN 185/15 2022	
HH27	Impact descriptor changes from minor beneficial to minor adverse in IAN170/12 2022	-

HH29	Impact descriptor changes from moderate to major beneficial for IAN 170/12 2037	-
HH31	Impact descriptor changes from negligible to minor beneficial for all methods and years	-
HH32	Impact descriptor changes from moderate to major beneficial in IAN 85/15 2037	-
HH36	Impact descriptor changes from moderate to major beneficial in IAN 170/12 2037	-
HH38	Impact descriptor changes from minor to moderate beneficial for IAN 185/15 2037 only	Impact descriptor changes from minor beneficial to negligible in 2022
HH39	Impact descriptor changes from negligible to minor adverse for 2037	-
HH43	Impact descriptor changes from negligible to minor adverse for 2037	-
HH46	Impact descriptor changes from minor beneficial to negligible for 2022	-
HH51	Impact descriptor changes from minor to moderate adverse for 2022	-

- 3.1.10. I have also examined the impact of the changes in traffic flows in terms of their impact on ecological receptors. In the Environmental Statement and subsequent supplements, two ecological sites were identified as having an exceedance of the annual mean NO_x air quality standard for the protection of vegetation. These are Langstone-Llanmartin Meadows SSSI and Severn Estuary SAC/SSSI/SPA/Ramsar. One further site, St Brides SSSI was identified as being close to an exceedance.
- 3.1.11. At Langstone-Llanmartin Meadows SSSI the removal of the tolls result in an 9% increase in flows for the Do-minimum case and a 1.1% increase for the Do-something case on the road link nearest to this site. The previous assessment predicted up to a Major beneficial impact as a result of the Scheme as there are substantial reductions in flows in this area with the Scheme. This remains the same with the revised traffic flows although the scale of the improvement increases.
- 3.1.12. Although traffic volumes will increase near to the Severn Estuary SAC/SSSI/SPA/Ramsar site in both the Do-minimum and Do-something case, this site has been identified as not being sensitive to

changes in nitrogen levels and therefore no significant impacts would be expected.

- 3.1.13. At the St Brides SSSI the assessment in the December 2016 Environmental Statement supplement showed that concentrations of NO_x were at or close to the limit value of 30µg/m³ in the Do-something case at receptors 17m from the road centreline (receptors Eco3 and Eco7). The revised traffic flows are nearly 10% higher on this section of the new M4 and consequently the predicted NO_x concentrations are above 30µg/m³ at these receptors and for a distance of 5-10 metres further from the motorway. It is important to note that this does not represent an exceedance of the limit value. As explained in Paragraph 7.2.8 of the main ES, the limit value is not assessed within 5km of a motorway.
- 3.1.14. To determine the ecological impacts it is important to determine whether the critical loads for Nitrogen deposition are exceeded. As detailed in Table 7.2 of the main ES, the critical load for St Brides SSSI is 10-20 kgN/ha/yr. Table 7.3.7 in Appendix A gives the predicted nitrogen deposition rates with the revised traffic data. Receptors Eco3-Eco10 are those located within the St Brides SSSI and it can be seen that the critical load is not exceeded in either the Do-minimum or Do-something cases.

4. CONCLUSION

- 4.1 I have examined the impact of changes in predicted traffic flows arising from the removal of tolls from the Severn Crossing. I have concluded that the changes in traffic flows are unlikely to result in any predicted exceedance of air quality standards for the protection of human health. The magnitude of change in predicted NO₂ and PM₁₀ concentrations would remain similar to that predicted in the Environmental Statement. However, as a result of predicted increases in traffic flows on the proposed new section of motorway there are minor changes in the impact descriptors at some receptors but these do not affect the overall conclusions of the assessment.
- 4.2 The changes in traffic flows from the removal of tolls results in predicted NO_x concentrations being above 30µg/m³ at the two receptors located closest to the proposed M4 in the St Brides SSSI. As compliance cannot be assessed within 5 km of a motorway, this does not represent an exceedance of the air quality limit value. The critical loads for nitrogen deposition are not exceeded at any receptor modelled within the St Brides SSSI. To confirm that this does not result in an unacceptable ecological impact, I have passed this information to the ecology team.

Appendix A

1 OPERATIONAL ASSESSMENT RESULTS

1.1 Introduction

1.1.1 This section includes tabulated result data for the assessment of operational effects.

1.2 Human Health Receptors

Table 7.3.4: Annual Mean NO₂ Concentrations at Human Health Receptors Assessed

ID	IAN 185/15				IAN 170/12			IAN 185/15			IAN 170/12		
	2014	2022			2022			2037			2037		
	Base	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact
HH1	22.8	15.6	15.7	Negligible	17.3	17.4	Negligible	14.3	14.6	Negligible	16.0	16.4	Negligible
HH2	23.0	16.0	16.6	Minor Adverse	17.3	18.0	Minor Adverse	14.6	15.1	Minor Adverse	15.9	16.5	Minor Adverse
HH3	25.4	17.2	17.9	Minor Adverse	18.9	19.7	Minor Adverse	15.6	16.2	Minor Adverse	17.6	18.3	Minor Adverse
HH4	20.5	14.9	15.5	Minor Adverse	15.4	16.1	Minor Adverse	13.7	14.3	Minor Adverse	14.0	14.6	Minor Adverse
HH5	23.5	16.3	16.5	Negligible	17.6	17.8	Negligible	14.9	15.1	Negligible	16.2	16.5	Negligible
HH6	23.3	16.8	16.7	Negligible	17.5	17.4	Negligible	15.5	15.3	Negligible	16.2	16.1	Negligible
HH7	26.2	16.6	16.4	Negligible	18.8	18.6	Negligible	15.1	15.0	Negligible	17.8	17.7	Negligible
HH8	26.5	20.7	20.2	Minor Beneficial	20.7	20.2	Minor Beneficial	20.1	19.7	Minor Beneficial	20.1	19.7	Minor Beneficial
HH9	35.0	23.4	20.0	Moderate Beneficial	28.1	24.0	Major Beneficial	20.8	18.1	Moderate Beneficial	26.5	23.0	Moderate Beneficial
HH10	41.4	26.3	23.2	Moderate Beneficial	32.5	28.7	Moderate Beneficial	23.0	20.6	Moderate Beneficial	30.9	27.6	Moderate Beneficial

ID	IAN 185/15				IAN 170/12			IAN 185/15			IAN 170/12		
	2014	2022			2022			2037			2037		
	Base	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact
HH11	28.1	20.6	19.3	Minor Beneficial	21.5	20.2	Minor Beneficial	19.2	18.1	Minor Beneficial	19.7	18.6	Minor Beneficial
HH12	15.5	12.4	13.1	Minor Adverse	12.4	13.1	Minor Adverse	12.1	12.7	Minor Adverse	12.1	12.7	Minor Adverse
HH13	15.5	12.4	14.3	Minor Adverse	12.4	14.3	Minor Adverse	12.1	13.6	Minor Adverse	12.1	13.6	Minor Adverse
HH14	32.3	21.4	19.3	Moderate Beneficial	24.7	22.3	Moderate Beneficial	19.0	17.7	Minor Beneficial	22.9	21.4	Minor Beneficial
HH15	38.9	24.9	21.6	Moderate Beneficial	30.0	26.1	Moderate Beneficial	21.7	19.6	Moderate Beneficial	28.0	25.3	Moderate Beneficial
HH16	39.4	30.9	28.9	Minor Beneficial	31.5	29.5	Minor Beneficial	28.6	26.9	Minor Beneficial	28.8	27.0	Minor Beneficial
HH17	26.0	19.9	19.7	Negligible	19.9	19.7	Negligible	19.0	18.8	Negligible	19.0	18.8	Negligible
HH18	35.1	24.1	22.1	Minor Beneficial	27.1	24.9	Moderate Beneficial	21.5	20.3	Minor Beneficial	24.9	23.5	Minor Beneficial
HH19	34.5	25.1	24.5	Minor Beneficial	27.5	26.8	Minor Beneficial	22.3	21.8	Minor Beneficial	25.1	24.7	Minor Beneficial
HH20	42.0	28.3	26.0	Moderate Beneficial	33.0	30.2	Moderate Beneficial	24.9	23.4	Minor Beneficial	30.7	28.7	Minor Beneficial
HH21	43.0	29.0	26.7	Moderate Beneficial	33.9	31.3	Moderate Beneficial	25.5	24.0	Minor Beneficial	31.6	29.7	Minor Beneficial
HH22	32.3	23.2	22.6	Minor Beneficial	25.1	24.4	Minor Beneficial	20.9	20.5	Negligible	22.9	22.5	Negligible
HH23	29.4	21.4	19.7	Minor Beneficial	22.5	20.8	Minor Beneficial	19.6	18.4	Minor Beneficial	20.6	19.4	Minor Beneficial
HH24	35.2	26.9	26.0	Minor Beneficial	28.4	27.5	Minor Beneficial	24.3	23.3	Minor Beneficial	25.9	24.9	Minor Beneficial
HH25	30.0	23.1	22.6	Minor Beneficial	23.3	22.7	Minor Beneficial	21.4	20.9	Minor Beneficial	21.4	20.9	Minor Beneficial

ID	IAN 185/15				IAN 170/12			IAN 185/15			IAN 170/12		
	2014	2022			2022			2037			2037		
	Base	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact
HH26	35.4	24.8	20.5	Major Beneficial	28.7	23.7	Major Beneficial	22.5	19.3	Moderate Beneficial	26.9	23.0	Moderate Beneficial
HH27	25.6	18.5	18.9	Negligible	19.4	19.8	Minor Adverse	17.4	17.7	Negligible	17.6	17.9	Negligible
HH28	27.0	22.7	22.7	Negligible	22.7	22.7	Negligible	22.6	22.6	Negligible	22.6	22.6	Negligible
HH29	37.2	25.9	20.8	Major Beneficial	30.6	24.6	Major Beneficial	23.5	19.7	Moderate Beneficial	28.7	24.1	Major Beneficial
HH30	15.8	12.8	14.2	Minor Adverse	12.8	14.2	Minor Adverse	12.5	13.6	Minor Adverse	12.5	13.6	Minor Adverse
HH31	26.5	20.7	19.9	Minor Beneficial	20.7	19.9	Minor Beneficial	19.7	19.2	Minor Beneficial	19.7	19.2	Minor Beneficial
HH32	39.3	26.7	20.4	Major Beneficial	32.9	25.2	Major Beneficial	23.8	19.2	Major Beneficial	31.2	25.2	Major Beneficial
HH33	13.9	10.9	11.9	Minor Adverse	10.9	11.9	Minor Adverse	10.6	11.4	Minor Adverse	10.6	11.4	Minor Adverse
HH34	22.6	16.7	16.2	Minor Beneficial	17.2	16.7	Minor Beneficial	15.6	15.2	Negligible	15.7	15.3	Negligible
HH35	21.4	15.3	14.6	Minor Beneficial	16.0	15.3	Minor Beneficial	14.3	13.7	Minor Beneficial	14.7	14.1	Minor Beneficial
HH36	31.4	21.0	16.5	Major Beneficial	25.5	20.0	Major Beneficial	19.0	15.5	Moderate Beneficial	23.8	19.4	Major Beneficial
HH37	11.3	8.8	10.2	Minor Adverse	8.8	10.2	Minor Adverse	8.5	9.7	Minor Adverse	8.5	9.7	Minor Adverse
HH38	21.8	14.8	12.0	Moderate Beneficial	17.6	14.2	Moderate Beneficial	13.5	11.3	Moderate Beneficial	16.3	13.7	Moderate Beneficial
HH39	14.5	11.5	12.2	Minor Adverse	11.5	12.2	Minor Adverse	11.3	11.8	Minor Adverse	11.3	11.8	Minor Adverse
HH40	14.5	11.5	12.6	Minor Adverse	11.5	12.6	Minor Adverse	11.3	12.2	Minor Adverse	11.3	12.2	Minor Adverse

ID	IAN 185/15				IAN 170/12			IAN 185/15			IAN 170/12		
	2014	2022			2022			2037			2037		
	Base	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact
HH41	15.8	12.5	13.8	Minor Adverse	12.5	13.8	Minor Adverse	12.1	13.2	Minor Adverse	12.1	13.2	Minor Adverse
HH42	16.0	12.6	13.6	Minor Adverse	12.6	13.6	Minor Adverse	12.2	13.0	Minor Adverse	12.2	13.0	Minor Adverse
HH43	16.6	12.8	13.9	Minor Adverse	12.8	13.9	Minor Adverse	12.5	13.3	Minor Adverse	12.5	13.3	Minor Adverse
HH44	16.9	13.0	14.5	Minor Adverse	13.0	14.5	Minor Adverse	12.6	13.8	Minor Adverse	12.6	13.8	Minor Adverse
HH45	17.9	13.6	15.1	Minor Adverse	13.9	15.5	Minor Adverse	13.1	14.3	Minor Adverse	13.1	14.3	Minor Adverse
HH46	23.7	17.2	16.9	Negligible	19.7	19.4	Negligible	16.3	15.8	Minor Beneficial	18.5	18.0	Minor Beneficial
HH47	15.2	11.1	11.4	Negligible	11.6	11.9	Negligible	10.4	10.6	Negligible	10.6	10.8	Negligible
HH48	15.6	11.7	11.9	Negligible	11.7	11.9	Negligible	11.2	11.2	Negligible	11.2	11.2	Negligible
HH49	15.6	11.5	12.2	Minor Adverse	11.8	12.6	Minor Adverse	10.7	11.4	Minor Adverse	10.8	11.4	Minor Adverse
HH50	17.4	12.3	13.7	Minor Adverse	13.2	14.7	Minor Adverse	11.4	12.8	Minor Adverse	12.1	13.6	Minor Adverse
HH51	17.9	12.5	14.6	Moderate Adverse	13.4	15.6	Moderate Adverse	11.6	13.4	Minor Adverse	12.3	14.3	Minor Adverse
HH52	16.8	12.0	13.1	Minor Adverse	12.6	13.8	Minor Adverse	11.1	12.2	Minor Adverse	11.6	12.7	Minor Adverse

Table 7.3.5: Annual Mean PM₁₀ Concentrations at Human Health Receptors Assessed

ID	2014	2022			2037		
	Base	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact
HH1	17.1	16.1	16.1	Negligible	16.2	16.2	Negligible
HH2	16.5	15.4	15.5	Negligible	15.5	15.5	Negligible
HH3	18.7	17.7	17.7	Negligible	17.9	17.9	Negligible
HH4	18.1	17.1	17.2	Negligible	17.2	17.3	Negligible
HH5	18.4	17.4	17.4	Negligible	17.5	17.5	Negligible
HH6	16.3	15.1	15.1	Negligible	15.3	15.2	Negligible
HH7	18.1	17.0	17.0	Negligible	17.2	17.2	Negligible
HH8	18.7	17.6	17.6	Negligible	17.8	17.7	Negligible
HH9	19.1	17.8	17.2	Minor Beneficial	18.1	17.4	Minor Beneficial
HH10	19.9	18.3	17.6	Minor Beneficial	18.6	17.8	Minor Beneficial
HH11	18.9	17.8	17.7	Negligible	18.2	18.0	Negligible
HH12	14.4	13.6	13.6	Negligible	13.5	13.6	Negligible
HH13	14.4	13.6	13.8	Negligible	13.5	13.8	Negligible
HH14	19.0	17.9	17.5	Negligible	18.0	17.7	Negligible
HH15	19.7	18.4	17.8	Minor Beneficial	18.6	18.0	Minor Beneficial
HH16	17.5	16.3	16.2	Negligible	16.5	16.3	Negligible
HH17	17.3	16.3	16.2	Negligible	16.5	16.4	Negligible
HH18	19.0	17.8	17.5	Negligible	17.9	17.7	Negligible
HH19	18.6	17.5	17.4	Negligible	17.6	17.6	Negligible
HH20	19.9	18.5	18.1	Negligible	18.7	18.3	Negligible
HH21	19.9	18.5	18.2	Negligible	18.8	18.4	Minor Beneficial
HH22	19.2	18.0	17.8	Negligible	18.1	18.0	Negligible
HH23	18.6	17.5	17.3	Negligible	17.6	17.4	Negligible
HH24	16.9	15.7	15.7	Negligible	15.9	15.7	Negligible
HH25	16.6	15.4	15.4	Negligible	15.5	15.5	Negligible
HH26	18.2	16.9	16.3	Minor Beneficial	17.1	16.5	Minor Beneficial
HH27	16.9	15.8	15.7	Negligible	16.0	15.8	Negligible
HH28	18.6	17.5	17.5	Negligible	17.8	17.8	Negligible

ID	2014	2022			2037		
	Base	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact
HH29	18.1	16.8	16.1	Minor Beneficial	17.1	16.3	Minor Beneficial
HH30	14.8	13.9	14.1	Negligible	13.9	14.1	Negligible
HH31	16.5	15.5	15.4	Negligible	15.6	15.5	Negligible
HH32	18.4	17.0	16.1	Minor Beneficial	17.3	16.3	Minor Beneficial
HH33	14.2	13.3	13.4	Negligible	13.3	13.4	Negligible
HH34	15.8	14.8	14.7	Negligible	14.9	14.8	Negligible
HH35	18.6	17.5	17.4	Negligible	17.6	17.5	Negligible
HH36	19.6	18.4	17.7	Minor Beneficial	18.7	17.8	Minor Beneficial
HH37	13.6	12.8	12.9	Negligible	12.7	12.9	Negligible
HH38	17.2	16.2	15.8	Negligible	16.3	15.8	Minor Beneficial
HH39	13.8	12.9	13.0	Negligible	12.8	12.9	Negligible
HH40	13.8	12.9	13.0	Negligible	12.8	13.0	Negligible
HH41	15.0	14.1	14.3	Negligible	14.1	14.3	Negligible
HH42	15.0	14.1	14.3	Negligible	14.1	14.2	Negligible
HH43	16.4	15.5	15.6	Negligible	15.5	15.6	Negligible
HH44	16.4	15.5	15.7	Negligible	15.6	15.7	Negligible
HH45	16.5	15.6	15.8	Negligible	15.6	15.8	Negligible
HH46	17.1	16.2	16.0	Negligible	16.3	16.1	Negligible
HH47	14.3	13.4	13.4	Negligible	13.3	13.3	Negligible
HH48	16.5	15.6	15.6	Negligible	15.6	15.6	Negligible
HH49	17.3	16.4	16.5	Negligible	16.4	16.5	Negligible
HH50	17.5	16.5	16.7	Negligible	16.5	16.7	Negligible
HH51	17.6	16.6	16.7	Negligible	16.6	16.8	Negligible
HH52	17.4	16.5	16.6	Negligible	16.5	16.6	Negligible

1.3 Ecological Receptors**Table 7.3.6 Annual Mean NO_x Concentrations at Assessed Designated Sites**

ID	Designated Site	2014	2022			2037		
		Base	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact
Eco1	Fforestganol A Chwm Nofydd - A	26.4	18.4	18.4	Negligible	17.0	17.1	Negligible
Eco2	Fforestganol A Chwm Nofydd - B	25.5	17.9	18.0	Negligible	16.5	16.6	Negligible
Eco3	St Brides North - A	25.6	20.1	32.8	Major Adverse	19.7	30.7	Major Adverse
Eco4	St Brides North - B	25.6	20.1	24.2	Major Adverse	19.7	23.3	Major Adverse
Eco5	St Brides North - C	25.6	20.2	22.5	Moderate Adverse	19.7	21.8	Moderate Adverse
Eco6	St Brides North - D	25.6	20.2	21.8	Moderate Adverse	19.7	21.2	Minor Adverse
Eco7	St Brides South - A	25.5	20.1	30.5	Major Adverse	19.7	28.6	Major Adverse
Eco8	St Brides South - B	25.5	20.1	23.5	Major Adverse	19.7	22.6	Moderate Adverse
Eco9	St Brides South - C	25.5	20.1	22.1	Moderate Adverse	19.7	21.4	Moderate Adverse
Eco10	St Brides South - D	25.4	20.1	21.5	Minor Adverse	19.7	20.9	Minor Adverse
Eco11	River Usk North - A	29.3	23.7	24.5	Minor Adverse	23.4	24.1	Minor Adverse
Eco12	River Usk North - B	29.3	23.7	24.5	Minor Adverse	23.4	24.2	Minor Adverse
Eco13	River Usk North - C	29.4	23.7	24.5	Minor Adverse	23.4	24.2	Minor Adverse
Eco14	River Usk North - D	29.4	23.7	24.6	Minor Adverse	23.4	24.2	Minor Adverse
Eco15	River Usk North - E	24.8	19.5	20.2	Minor Adverse	19.0	19.6	Minor Adverse
Eco16	River Usk South - A	29.3	23.7	24.5	Minor Adverse	23.4	24.1	Minor Adverse
Eco17	River Usk South - B	29.3	23.7	24.5	Minor Adverse	23.4	24.1	Minor Adverse
Eco18	River Usk South - C	29.2	23.6	24.5	Minor Adverse	23.4	24.1	Minor Adverse
Eco19	River Usk South - D	29.2	23.6	24.4	Minor Adverse	23.4	24.1	Minor Adverse
Eco20	River Usk South - E	29.2	23.6	24.3	Minor Adverse	23.4	24.0	Minor Adverse

ID	Designated Site	2014	2022			2037		
		Base	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact
Eco21	Nash & Goldcliff North - A	18.9	14.5	28.0	Major Adverse	14.0	25.6	Major Adverse
Eco22	Nash & Goldcliff North - B	18.9	14.5	18.7	Major Adverse	14.0	17.6	Major Adverse
Eco23	Nash & Goldcliff North - C	19.0	14.5	17.0	Moderate Adverse	14.0	16.1	Moderate Adverse
Eco24	Nash & Goldcliff North - D	19.0	14.6	16.3	Moderate Adverse	14.1	15.6	Moderate Adverse
Eco25	Nash & Goldcliff North - E	19.0	14.6	15.9	Minor Adverse	14.1	15.3	Minor Adverse
Eco26	Nash & Goldcliff South - A	18.9	14.5	29.2	Major Adverse	14.0	26.5	Major Adverse
Eco27	Nash & Goldcliff South - B	18.9	14.5	19.4	Major Adverse	14.0	18.2	Major Adverse
Eco28	Nash & Goldcliff South - C	18.8	14.5	17.4	Moderate Adverse	14.0	16.5	Moderate Adverse
Eco29	Nash & Goldcliff South - D	18.8	14.4	16.6	Moderate Adverse	14.0	15.8	Moderate Adverse
Eco30	Nash & Goldcliff South - E	18.8	14.4	16.3	Moderate Adverse	14.0	15.6	Moderate Adverse
Eco31	Whitson North - A	14.9	11.3	27.2	Major Adverse	10.8	24.8	Major Adverse
Eco32	Whitson North - B	15.0	11.3	16.4	Major Adverse	10.9	15.3	Major Adverse
Eco33	Whitson North - C	15.0	11.3	14.3	Major Adverse	10.9	13.4	Moderate Adverse
Eco34	Whitson North - E	15.1	11.3	13.1	Moderate Adverse	10.9	12.4	Minor Adverse
Eco35	Whitson North - D	15.0	11.3	13.5	Moderate Adverse	10.9	12.7	Moderate Adverse
Eco36	Whitson South - A	14.9	11.2	23.6	Major Adverse	10.8	21.5	Major Adverse
Eco37	Whitson South - B	14.9	11.2	15.6	Major Adverse	10.8	14.6	Major Adverse

ID	Designated Site	2014	2022			2037		
		Base	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact
Eco38	Whitson South - C	14.8	11.2	13.9	Moderate Adverse	10.8	13.1	Moderate Adverse
Eco39	Whitson South - D	14.8	11.2	13.1	Moderate Adverse	10.8	12.4	Moderate Adverse
Eco40	Whitson South - E	14.8	11.2	12.7	Minor Adverse	10.8	12.0	Minor Adverse
Eco41	Llanmartin Meadows - A	52.3	38.3	25.3	Major Beneficial	32.9	23.1	Major Beneficial
Eco42	Llanmartin Meadows - B	30.4	20.8	17.2	Major Beneficial	18.6	15.9	Moderate Beneficial
Eco43	Llanmartin Meadows - C	26.0	18.0	16.0	Moderate Beneficial	16.6	15.0	Moderate Beneficial
Eco44	Llanmartin Meadows - D	24.1	16.9	15.5	Minor Beneficial	15.8	14.6	Minor Beneficial
Eco45	Llanmartin Meadows - E	23.3	16.5	15.4	Minor Beneficial	15.4	14.5	Minor Beneficial
Eco46	Redwick and Llandevenny - A	15.5	11.7	25.3	Major Adverse	11.3	23.2	Major Adverse
Eco47	Redwick and Llandevenny - B	15.2	11.3	15.9	Major Adverse	10.9	14.8	Major Adverse
Eco48	Redwick and Llandevenny - C	15.6	11.5	14.3	Moderate Adverse	11.1	13.4	Moderate Adverse
Eco49	Redwick and Llandevenny - D	19.2	13.9	15.7	Moderate Adverse	13.5	14.8	Minor Adverse
Eco50	Redwick and Llandevenny - E	20.7	14.5	15.8	Minor Adverse	14.1	14.8	Minor Adverse
Eco51	Redwick and Llandevenny South - A	15.4	11.7	27.6	Major Adverse	11.3	25.0	Major Adverse
Eco52	Redwick and Llandevenny South - B	15.3	11.6	16.5	Major Adverse	11.2	15.5	Major Adverse
Eco53	Redwick and Llandevenny South - C	15.3	11.6	14.5	Moderate Adverse	11.2	13.7	Moderate Adverse
Eco54	Redwick and Llandevenny South - D	15.2	11.6	13.5	Moderate Adverse	11.2	12.9	Moderate Adverse

ID	Designated Site	2014	2022			2037		
		Base	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact
Eco55	Redwick and Llandeenny South - E	15.2	11.6	13.1	Moderate Adverse	11.2	12.5	Minor Adverse
Eco56	Magor and Undy - A	20.8	15.8	16.0	Negligible	15.5	15.5	Negligible
Eco57	Magor and Undy - B	20.1	15.4	15.7	Negligible	15.1	15.3	Negligible
Eco58	Magor and Undy - C	19.9	15.3	15.6	Negligible	15.0	15.2	Negligible
Eco59	Magor and Undy - D	19.8	15.3	15.5	Negligible	14.9	15.1	Negligible
Eco60	Nedern Brook Wetlands North - A	25.8	17.1	18.4	Minor Adverse	15.9	18.9	Major Adverse
Eco61	Nedern Brook Wetlands North - B	17.7	12.8	13.0	Negligible	12.2	12.6	Minor Adverse
Eco62	Nedern Brook Wetlands North - C	16.9	12.4	12.6	Negligible	11.8	12.1	Negligible
Eco63	Nedern Brook Wetlands North - D	16.6	12.2	12.4	Negligible	11.7	11.9	Negligible
Eco64	Nedern Brook Wetlands North - E	16.4	12.2	12.3	Negligible	11.6	11.8	Negligible
Eco65	Nedern Brook Wetlands South - A	23.7	15.5	16.7	Minor Adverse	14.7	16.4	Moderate Adverse
Eco66	Nedern Brook Wetlands South - B	18.0	12.9	13.2	Minor Adverse	12.3	12.8	Minor Adverse
Eco67	Nedern Brook Wetlands South - C	17.1	12.5	12.7	Negligible	11.9	12.2	Negligible
Eco68	Nedern Brook Wetlands South - D	16.8	12.3	12.5	Negligible	11.8	12.0	Negligible
Eco69	Nedern Brook Wetlands South - E	16.6	12.3	12.4	Negligible	11.7	11.9	Negligible
Eco70	Severn Estuary North - A	47.2	36.2	36.6	Minor Adverse	30.6	30.3	Negligible
Eco71	Severn Estuary North - B	30.5	21.5	21.7	Negligible	20.0	19.9	Negligible
Eco72	Severn Estuary North - C	26.5	19.1	19.3	Negligible	18.0	18.0	Negligible
Eco73	Severn Estuary North - D	24.8	18.1	18.2	Negligible	17.2	17.2	Negligible

ID	Designated Site	2014	2022			2037		
		Base	Do Minimum	Do Something	Magnitude of Impact	Do Minimum	Do Something	Magnitude of Impact
Eco74	Severn Estuary North - E	24.0	17.6	17.7	Negligible	16.8	16.8	Negligible
Eco75	Severn Estuary South - A	62.1	50.5	50.9	Minor Adverse	42.9	42.7	Negligible
Eco76	Severn Estuary South - B	28.9	20.6	20.7	Negligible	19.2	19.2	Negligible
Eco77	Severn Estuary South - C	25.2	18.3	18.4	Negligible	17.3	17.4	Negligible
Eco78	Severn Estuary South - D	23.7	17.4	17.5	Negligible	16.6	16.6	Negligible
Eco79	Severn Estuary South - E	22.9	17.0	17.0	Negligible	16.2	16.2	Negligible
Eco80	River Wye - A	25.5	20.6	20.4	Negligible	19.1	20.1	Minor Adverse
Eco81	River Wye - B	17.6	13.7	13.7	Negligible	13.2	13.4	Negligible
Eco82	River Wye - C	16.4	12.8	12.8	Negligible	12.3	12.4	Negligible
Eco83	River Wye - D	15.9	12.3	12.3	Negligible	11.8	12.0	Negligible
Eco84	River Wye - E	15.6	12.1	12.1	Negligible	11.6	11.8	Negligible

Table 7.3.7 2022 Opening Year Nitrogen Deposition Rates (kg N/ha/yr)

ID	Designated Site	IAN 185/15			IAN170/12		
		Do Minimum	Do Something	Change in Nitrogen deposition	Do Minimum	Do Something	Change in Nitrogen deposition
Eco1	Fforestganol A Chwm Nofydd - A	14.4	14.4	0.0	14.4	14.4	0.0
Eco2	Fforestganol A Chwm Nofydd - B	14.4	14.4	0.0	14.4	14.4	0.0
Eco3	St Brides North - A	8.0	8.7	0.7	8.0	8.7	0.7
Eco4	St Brides North - B	8.0	8.2	0.2	8.0	8.2	0.2
Eco5	St Brides North - C	8.0	8.2	0.2	8.0	8.2	0.2
Eco6	St Brides North - D	8.0	8.1	0.1	8.0	8.1	0.1
Eco7	St Brides South - A	8.0	8.6	0.6	8.0	8.6	0.6
Eco8	St Brides South - B	8.0	8.2	0.2	8.0	8.2	0.2
Eco9	St Brides South - C	8.0	8.1	0.1	8.0	8.1	0.1
Eco10	St Brides South - D	8.0	8.1	0.1	8.0	8.1	0.1
Eco11	River Usk North - A	12.8	12.9	0.1	12.8	12.9	0.1
Eco12	River Usk North - B	12.8	12.9	0.1	12.8	12.9	0.1
Eco13	River Usk North - C	12.8	12.9	0.1	12.8	12.9	0.1
Eco14	River Usk North - D	12.8	12.9	0.1	12.8	12.9	0.1
Eco15	River Usk North - E	12.8	12.9	0.1	12.8	12.9	0.1
Eco16	River Usk South - A	12.8	12.9	0.1	12.8	12.9	0.1
Eco17	River Usk South - B	12.8	12.9	0.1	12.8	12.9	0.1
Eco18	River Usk South - C	12.8	12.9	0.1	12.8	12.9	0.1
Eco19	River Usk South - D	12.8	12.9	0.1	12.8	12.9	0.1
Eco20	River Usk South - E	12.8	12.9	0.1	12.8	12.9	0.1
Eco21	Nash & Goldcliff North - A	12.8	13.5	0.7	12.8	13.5	0.7
Eco22	Nash & Goldcliff North - B	12.8	13.0	0.2	12.8	13.0	0.2
Eco23	Nash & Goldcliff North - C	12.8	13.0	0.2	12.8	13.0	0.2
Eco24	Nash & Goldcliff North - D	12.8	12.9	0.1	12.8	12.9	0.1
Eco25	Nash & Goldcliff North - E	12.8	12.9	0.1	12.8	12.9	0.1
Eco26	Nash & Goldcliff South - A	12.8	13.6	0.8	12.8	13.6	0.8

ID	Designated Site	IAN 185/15			IAN170/12		
		Do Minimum	Do Something	Change in Nitrogen deposition	Do Minimum	Do Something	Change in Nitrogen deposition
Eco27	Nash & Goldcliff South - B	12.8	13.1	0.3	12.8	13.1	0.3
Eco28	Nash & Goldcliff South - C	12.8	13.0	0.2	12.8	13.0	0.2
Eco29	Nash & Goldcliff South - D	12.8	12.9	0.1	12.8	12.9	0.1
Eco30	Nash & Goldcliff South - E	12.8	12.9	0.1	12.8	12.9	0.1
Eco31	Whitson North - A	11.9	12.7	0.8	11.9	12.7	0.8
Eco32	Whitson North - B	11.9	12.2	0.3	11.9	12.2	0.3
Eco33	Whitson North - C	11.9	12.1	0.2	11.9	12.1	0.2
Eco34	Whitson North - E	11.9	12.0	0.1	11.9	12.0	0.1
Eco35	Whitson North - D	11.9	12.0	0.1	11.9	12.0	0.1
Eco36	Whitson South - A	11.9	12.6	0.7	11.9	12.6	0.7
Eco37	Whitson South - B	11.9	12.2	0.3	11.9	12.2	0.3
Eco38	Whitson South - C	11.9	12.1	0.2	11.9	12.1	0.2
Eco39	Whitson South - D	11.9	12.0	0.1	11.9	12.0	0.1
Eco40	Whitson South - E	11.9	12.0	0.1	11.9	12.0	0.1
Eco41	Llanmartin Meadows - A	13.3	12.8	-0.5	13.8	13.2	-0.6
Eco42	Llanmartin Meadows - B	12.7	12.5	-0.2	12.9	12.7	-0.2
Eco43	Llanmartin Meadows - C	12.6	12.5	-0.1	12.7	12.6	-0.1
Eco44	Llanmartin Meadows - D	12.5	12.5	0.0	12.6	12.5	-0.1
Eco45	Llanmartin Meadows - E	12.5	12.5	0.0	12.6	12.5	-0.1
Eco46	Redwick and Llandeenny - A	12.6	13.3	0.7	12.6	13.3	0.7
Eco47	Redwick and Llandeenny - B	12.6	12.9	0.3	12.6	12.9	0.3
Eco48	Redwick and Llandeenny - C	12.6	12.8	0.2	12.6	12.8	0.2
Eco49	Redwick and Llandeenny - D	12.7	12.8	0.1	12.7	12.8	0.1
Eco50	Redwick and Llandeenny - E	12.7	12.8	0.1	12.7	12.8	0.1
Eco51	Redwick and Llandeenny South - A	12.6	13.4	0.8	12.6	13.4	0.8
Eco52	Redwick and Llandeenny South - B	12.6	12.9	0.3	12.6	12.9	0.3

ID	Designated Site	IAN 185/15			IAN170/12		
		Do Minimum	Do Something	Change in Nitrogen deposition	Do Minimum	Do Something	Change in Nitrogen deposition
Eco53	Redwick and Llandeenny South - C	12.6	12.8	0.2	12.6	12.8	0.2
Eco54	Redwick and Llandeenny South - D	12.6	12.7	0.1	12.6	12.7	0.1
Eco55	Redwick and Llandeenny South - E	12.6	12.7	0.1	12.6	12.7	0.1
Eco56	Magor and Undy - A	12.7	12.7	0.0	12.7	12.7	0.0
Eco57	Magor and Undy - B	12.6	12.7	0.1	12.6	12.7	0.1
Eco58	Magor and Undy - C	12.6	12.7	0.1	12.6	12.7	0.1
Eco59	Magor and Undy - D	12.6	12.7	0.1	12.6	12.7	0.1
Eco60	Nedern Brook Wetlands North - A	12.2	12.2	0.0	12.3	12.4	0.1
Eco61	Nedern Brook Wetlands North - B	12.0	12.0	0.0	12.0	12.0	0.0
Eco62	Nedern Brook Wetlands North - C	11.9	12.0	0.1	11.9	12.0	0.1
Eco63	Nedern Brook Wetlands North - D	11.9	11.9	0.0	11.9	11.9	0.0
Eco64	Nedern Brook Wetlands North - E	11.9	11.9	0.0	11.9	11.9	0.0
Eco65	Nedern Brook Wetlands South - A	12.1	12.2	0.1	12.2	12.3	0.1
Eco66	Nedern Brook Wetlands South - B	12.0	12.0	0.0	12.0	12.0	0.0
Eco67	Nedern Brook Wetlands South - C	11.9	12.0	0.1	11.9	12.0	0.1
Eco68	Nedern Brook Wetlands South - D	11.9	11.9	0.0	11.9	11.9	0.0
Eco69	Nedern Brook Wetlands South - E	11.9	11.9	0.0	11.9	11.9	0.0

ID	Designated Site	IAN 185/15			IAN170/12		
		Do Minimum	Do Something	Change in Nitrogen deposition	Do Minimum	Do Something	Change in Nitrogen deposition
Eco70	Severn Estuary North - A	10.4	10.4	0.0	10.9	10.9	0.0
Eco71	Severn Estuary North - B	9.9	9.9	0.0	10.1	10.1	0.0
Eco72	Severn Estuary North - C	9.8	9.8	0.0	9.9	9.9	0.0
Eco73	Severn Estuary North - D	9.8	9.8	0.0	9.8	9.8	0.0
Eco74	Severn Estuary North - E	9.7	9.7	0.0	9.8	9.8	0.0
Eco75	Severn Estuary South - A	10.9	10.9	0.0	11.6	11.6	0.0
Eco76	Severn Estuary South - B	9.9	9.9	0.0	10.0	10.0	0.0
Eco77	Severn Estuary South - C	9.8	9.8	0.0	9.8	9.8	0.0
Eco78	Severn Estuary South - D	9.7	9.7	0.0	9.7	9.7	0.0
Eco79	Severn Estuary South - E	9.7	9.7	0.0	9.7	9.7	0.0
Eco80	River Wye - A	14.8	14.8	0.0	14.9	14.9	0.0
Eco81	River Wye - B	14.4	14.4	0.0	14.4	14.4	0.0
Eco82	River Wye - C	14.4	14.4	0.0	14.4	14.4	0.0
Eco83	River Wye - D	14.4	14.4	0.0	14.4	14.4	0.0
Eco84	River Wye - E	14.4	14.4	0.0	14.4	14.4	0.0

Table 7.3.8 2037 Future Year Nitrogen Deposition Rates (kg N/ha/yr)

ID	Designated Site	IAN 185/15			IAN170/12		
		Do Minimum	Do Something	Change in Nitrogen deposition	Do Minimum	Do Something	Change in Nitrogen deposition
Eco1	Fforestganol A Chwm Nofydd - A	10.7	10.7	0.0	10.7	10.7	0.0
Eco2	Fforestganol A Chwm Nofydd - B	10.7	10.7	0.0	10.7	10.7	0.0
Eco3	St Brides North - A	5.9	6.5	0.6	6.0	6.5	0.5
Eco4	St Brides North - B	5.9	6.1	0.2	6.0	6.1	0.1
Eco5	St Brides North - C	5.9	6.0	0.1	6.0	6.0	0.0
Eco6	St Brides North - D	5.9	6.0	0.1	6.0	6.0	0.0
Eco7	St Brides South - A	5.9	6.4	0.5	6.0	6.4	0.4
Eco8	St Brides South - B	5.9	6.1	0.2	6.0	6.1	0.1
Eco9	St Brides South - C	5.9	6.0	0.1	6.0	6.0	0.0
Eco10	St Brides South - D	5.9	6.0	0.1	6.0	6.0	0.0
Eco11	River Usk North - A	9.5	9.6	0.1	9.5	9.6	0.1
Eco12	River Usk North - B	9.5	9.6	0.1	9.5	9.6	0.1
Eco13	River Usk North - C	9.5	9.6	0.1	9.5	9.6	0.1
Eco14	River Usk North - D	9.5	9.6	0.1	9.5	9.6	0.1
Eco15	River Usk North - E	9.5	9.6	0.1	9.5	9.6	0.1
Eco16	River Usk South - A	9.5	9.6	0.1	9.5	9.6	0.1
Eco17	River Usk South - B	9.5	9.6	0.1	9.5	9.6	0.1
Eco18	River Usk South - C	9.5	9.6	0.1	9.5	9.6	0.1
Eco19	River Usk South - D	9.5	9.6	0.1	9.5	9.6	0.1
Eco20	River Usk South - E	9.5	9.6	0.1	9.5	9.6	0.1
Eco21	Nash & Goldcliff North - A	9.5	10.1	0.6	9.5	10.1	0.6
Eco22	Nash & Goldcliff North - B	9.5	9.7	0.2	9.5	9.7	0.2
Eco23	Nash & Goldcliff North - C	9.5	9.6	0.1	9.5	9.6	0.1
Eco24	Nash & Goldcliff North - D	9.5	9.6	0.1	9.5	9.6	0.1
Eco25	Nash & Goldcliff North - E	9.5	9.6	0.1	9.5	9.6	0.1
Eco26	Nash & Goldcliff South - A	9.5	10.1	0.6	9.5	10.1	0.6

ID	Designated Site	IAN 185/15			IAN170/12		
		Do Minimum	Do Something	Change in Nitrogen deposition	Do Minimum	Do Something	Change in Nitrogen deposition
Eco27	Nash & Goldcliff South - B	9.5	9.7	0.2	9.5	9.7	0.2
Eco28	Nash & Goldcliff South - C	9.5	9.7	0.2	9.5	9.7	0.2
Eco29	Nash & Goldcliff South - D	9.5	9.6	0.1	9.5	9.6	0.1
Eco30	Nash & Goldcliff South - E	9.5	9.6	0.1	9.5	9.6	0.1
Eco31	Whitson North - A	8.8	9.5	0.7	8.8	9.5	0.7
Eco32	Whitson North - B	8.8	9.0	0.2	8.8	9.0	0.2
Eco33	Whitson North - C	8.8	9.0	0.2	8.8	9.0	0.2
Eco34	Whitson North - E	8.8	8.9	0.1	8.8	8.9	0.1
Eco35	Whitson North - D	8.8	8.9	0.1	8.8	8.9	0.1
Eco36	Whitson South - A	8.8	9.4	0.6	8.8	9.4	0.6
Eco37	Whitson South - B	8.8	9.0	0.2	8.8	9.0	0.2
Eco38	Whitson South - C	8.8	8.9	0.1	8.8	8.9	0.1
Eco39	Whitson South - D	8.8	8.9	0.1	8.8	8.9	0.1
Eco40	Whitson South - E	8.8	8.9	0.1	8.8	8.9	0.1
Eco41	Llanmartin Meadows - A	9.8	9.4	-0.4	10.4	9.9	-0.5
Eco42	Llanmartin Meadows - B	9.4	9.2	-0.2	9.5	9.4	-0.1
Eco43	Llanmartin Meadows - C	9.3	9.2	-0.1	9.3	9.2	-0.1
Eco44	Llanmartin Meadows - D	9.2	9.2	0.0	9.2	9.2	0.0
Eco45	Llanmartin Meadows - E	9.2	9.2	0.0	9.2	9.2	0.0
Eco46	Redwick and Llandevenny - A	9.3	9.9	0.6	9.3	9.9	0.6
Eco47	Redwick and Llandevenny - B	9.3	9.5	0.2	9.3	9.5	0.2
Eco48	Redwick and Llandevenny - C	9.3	9.5	0.2	9.3	9.5	0.2
Eco49	Redwick and Llandevenny - D	9.4	9.4	0.0	9.4	9.4	0.0
Eco50	Redwick and Llandevenny - E	9.4	9.4	0.0	9.4	9.4	0.0
Eco51	Redwick and Llandevenny South - A	9.3	10.0	0.7	9.3	10.0	0.7
Eco52	Redwick and Llandevenny South - B	9.3	9.5	0.2	9.3	9.5	0.2

ID	Designated Site	IAN 185/15			IAN170/12		
		Do Minimum	Do Something	Change in Nitrogen deposition	Do Minimum	Do Something	Change in Nitrogen deposition
Eco53	Redwick and Llandeenny South - C	9.3	9.4	0.1	9.3	9.4	0.1
Eco54	Redwick and Llandeenny South - D	9.3	9.4	0.1	9.3	9.4	0.1
Eco55	Redwick and Llandeenny South - E	9.3	9.4	0.1	9.3	9.4	0.1
Eco56	Magor and Undy - A	9.4	9.4	0.0	9.4	9.4	0.0
Eco57	Magor and Undy - B	9.3	9.3	0.0	9.3	9.3	0.0
Eco58	Magor and Undy - C	9.3	9.3	0.0	9.3	9.3	0.0
Eco59	Magor and Undy - D	9.3	9.3	0.0	9.3	9.3	0.0
Eco60	Nedern Brook Wetlands North - A	9.0	9.2	0.2	9.2	9.3	0.1
Eco61	Nedern Brook Wetlands North - B	8.8	8.9	0.1	8.8	8.9	0.1
Eco62	Nedern Brook Wetlands North - C	8.8	8.8	0.0	8.8	8.8	0.0
Eco63	Nedern Brook Wetlands North - D	8.8	8.8	0.0	8.8	8.8	0.0
Eco64	Nedern Brook Wetlands North - E	8.8	8.8	0.0	8.8	8.8	0.0
Eco65	Nedern Brook Wetlands South - A	9.0	9.1	0.1	9.1	9.2	0.1
Eco66	Nedern Brook Wetlands South - B	8.9	8.9	0.0	8.9	8.9	0.0
Eco67	Nedern Brook Wetlands South - C	8.8	8.9	0.1	8.8	8.9	0.1
Eco68	Nedern Brook Wetlands South - D	8.8	8.8	0.0	8.8	8.8	0.0
Eco69	Nedern Brook Wetlands South - E	8.8	8.8	0.0	8.8	8.8	0.0

ID	Designated Site	IAN 185/15			IAN170/12		
		Do Minimum	Do Something	Change in Nitrogen deposition	Do Minimum	Do Something	Change in Nitrogen deposition
Eco70	Severn Estuary North - A	7.8	7.8	0.0	8.2	8.2	0.0
Eco71	Severn Estuary North - B	7.4	7.4	0.0	7.5	7.5	0.0
Eco72	Severn Estuary North - C	7.3	7.3	0.0	7.3	7.3	0.0
Eco73	Severn Estuary North - D	7.2	7.2	0.0	7.2	7.2	0.0
Eco74	Severn Estuary North - E	7.2	7.2	0.0	7.2	7.2	0.0
Eco75	Severn Estuary South - A	8.1	8.1	0.0	8.9	8.9	0.0
Eco76	Severn Estuary South - B	7.3	7.3	0.0	7.4	7.4	0.0
Eco77	Severn Estuary South - C	7.2	7.2	0.0	7.2	7.2	0.0
Eco78	Severn Estuary South - D	7.2	7.2	0.0	7.2	7.2	0.0
Eco79	Severn Estuary South - E	7.2	7.2	0.0	7.2	7.2	0.0
Eco80	River Wye - A	11.0	11.1	0.1	11.2	11.2	0.0
Eco81	River Wye - B	10.7	10.7	0.0	10.7	10.7	0.0
Eco82	River Wye - C	10.7	10.7	0.0	10.7	10.7	0.0
Eco83	River Wye - D	10.7	10.7	0.0	10.7	10.7	0.0
Eco84	River Wye - E	10.6	10.7	0.1	10.6	10.7	0.1