Keynote AP15

Air Quality and Designated Sites

Forest of Dean District Council
August 2015

Purpose:
This evidence paper has been developed to provide some context as to the Forest of Dean District Council Allocations Plan (AP) and air quality issues in relation to European designated nature conservation sites. It provides further background information in supporting the AP Habitats Regulations Assessment (HRA).

The AP HRA
Through a screening process the HRA identifies that the mostly likely sources of air pollution, as a result of the AP, will be from road transport. The following European sites are within 200m of A roads or Trunk roads:

1. Walmore common SPA/Ramsar (A48)
2. Severn Estuary SPA/SAC/Ramsar (A48 & M48)
3. River Wye SAC (A48, A466 & A4136)
4. Wye Valley Woodlands (A466 & A4136)
5. Wye Valley and Forest of Dean Bat SAC (A4136)

With regards to the Wye Valley and Forest of Dean bat SAC no identified impact pathway, that could adversely impact the qualifying features, were identified and therefore it screened out at the initial stage.

Baseline road transport information is shown in Figure 1 below. Further consideration of the effects of air quality as result of increased road use in relation to major roads within 200m of designates is considered in Table 1 below. Table 1 identifies the potential for the AP to effect major road routes and SAC's. Whilst all polices to some degree will affect road transport movements Table 1 provides specific focus on those most closely related to the roads identified above.

Conclusions
Taking into consideration the sensitivity and features of designated sites; the mitigation contained within the Core Strategy Policies CSP1, CSP2 and CSP4 and the wording of the AP policies, it is considered that there would be no significant effects as a result of the AP through increased atmospheric pollution from increased traffic movements on European designated sites. Furthermore LTP3, which takes account of traffic growth and expected developement scenarios, has come to similar conclusions.

Table 1 Risks to designated sites from increased road pollution - additional Screening information

Road	Designated Sites	AP allocations[1][2] (Housing / Employment / Tourism)	Assessment
M48	Severn Estuary - UK Air Pollution Information System (www.apis.ac.uk) indicate that many of the habitats and species for which the SAC was designated are either insensitive to atmospheric sources of nitrogen or sulphur (intertidal mudflats and sandflats, reefs, subtidal sandbanks) or are indirectly affected by nitrogen in marine situations (since nitrogen is usually the main limiting nutrient in marine systems and therefore influences eutrophication) but do not have specific critical loads for atmospheric sources (sea lamprey, river lamprey, twaite shad). Nitrogen sources within the Severn Estuary are likely to be overwhelmingly dominated by a combination of marine and fluvial sources rather than atmospheric sources, as with any estuary or major tidal river. The UK Air Pollution Information System does not present critical loads for the species for which the SPA are designated since birds are only indirectly affected by atmospheric nitrogen deposition via their habitats APIS also predicts that by 2020 deposition rates will have declined further from transport sources, essentially due to expected improvements in background air quality across the UK.	• AP91 (45 Dwellings) – 3.0km from Road • AP 92 (110 Dwellings – 2.7km from road • AP23 Mixed employment and Tourism – 4km from road • AP29 Recreation and Tourism (cycleway) – 4km from road	Bearing in mind the current traffic use information, effects of the AP on the M48 where it is within 200m of the Severn estuary are not likely to be significant. The proportion of new trip generation as a result of the plan at this point is expected to be very low. Potential for pollution effects from road transportation on the features of the features of the Severn Estuary are considered to be low. **Conclusion** – Road pollution effects of the AP in relation to the M48 on the Severn Estuary are screened out.
A466	Wye valley Woodlands The Wye Valley Woodlands contain qualifying habitats that are	• AP91 (45 Dwellings) – 1.9km from Road • AP 92 (110 Dwellings – 1.8km from road	With exception of AP29 allocations are some way from the A466. Generally road trips from this

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[1] Whilst all polices to some degree will affect road transport movements Table 1 provides specific focus on those most closely related to the roads identified

[2] Distances shown are direct as 'the crow flys'.

	sensitive to deposition of nitrogen and exceeding critical loads, including broadleaved and coniferous woodland which is noted in APIS as the relevant broad habitat for the qualifying bat species. Approximately 7.6% of overall nitrogen deposition is from road transport. Wye Valley and Forest of Dean bat SAC No identified impact pathway that could adversely impact the qualifying features have been identified.	• AP23 Mixed employment and Tourism – 2.4km from road • AP29 Recreation and Tourism (cycleway) – adjacent to road • AP17 Mixed development Employment, Tourism, Care, Dwellings (45) – 8.5km from road	allocations are unlikely to rely on the A466. The exception to this is AP29 where some trip generation can be expected. Whilst the allocation is for a cycleway, vehicle connection to either end can be expected. Bearing in mind the current traffic data for the A466, and the tourism nature of the Tintern area, the effects of the AP29 on the A466 where it is within 200m of the Wye Valley Woodland are not likely to be significant. The provision of a non motor vehicle access route to Tintern has the potential to restrict vehicle pollution on the SAC Woodlands in the Tintern areas. Policies AP23 and 17 include the continued used and redevelopment of existing sites. Current traffic information therefore accounts of existing use. Current uses at AP17 (large scale industrial) could result in higher road use rates. **Conclusion** – Road pollution effects of the AP in relation to the A466 on the Wye Valley Woodland and the Wye Valley and Forest of Dean bat SAC are screened out.

A48	Severn Estuary - UK Air Pollution Information System (www.apis.ac.uk) indicate that many of the habitats and species for which the SAC was designated are either insensitive to atmospheric sources of nitrogen or sulphur (intertidal mudflats and sandflats, reefs, subtidal sandbanks) or are indirectly affected by nitrogen in marine situations (since nitrogen is usually the main limiting nutrient in marine systems and therefore influences eutrophication) but do not have specific critical loads for atmospheric sources (sea lamprey, river lamprey, twaite shad). Nitrogen sources within the Severn Estuary are likely to be overwhelmingly dominated by a combination of marine and fluvial sources rather than atmospheric sources, as with any estuary or major tidal river. The UK Air Pollution Information System does not present critical loads for the species for which the SPA are designated since birds are only indirectly affected by atmospheric nitrogen deposition via their habitats APIS also predicts that by 2020 deposition rates will have declined further from transport sources, essentially due to expected improvements in background air quality across the UK. Walmore common The Air Pollution Information System website identifies the open water element of the site is sensitive to nitrogen (however no critical load has been assigned to this habitat) the grassland elements of the designated SPA site are not sensitive to nitrogen. The additional SSSI habitats of neutral grassland, this element is sensitive to nitrogen.	• AP 11 Continued employment Generating uses – Adjacent to road • AP12 Continued employment generating uses – 2.0km from road • AP15 Gypsy pitches (8) – 2.1km from road • AP18 Continued employment and tourism uses – adjacent to road • AP 19 Continued employment generating uses – adjacent to road • AP23 Tourism and recreational uses – adjacent • AP29 Wye Valley Cycleway – adjacent to road • AP40 Redevelopment for housing (25 dwellings) – 0.7km to road • AP42 Tourism and recreation – 0.7km to road • AP43 Redevelopment for mixed uses development –0.7km to road • AP44 Continued employment uses – 0.4km to road • AP45 Continued recreational uses – 0.2km to road • AP47 Residential (1684 dwellings) and new employment generating uses - adjacent to road. • AP48 Continued employment uses – adjacent to road • AP49 – Employment generating uses – adjacent to road • AP50 Continued employment generating uses – adjacent to road • AP51 Mixed use development – 0.3km to road • AP52 Recreational uses – adjacent to	Development focused in Lydney has the greatest access to public transport in the district including the districts only mainline railway station. Further mitigating increased road pollution from road transport. Taking into consideration the expected fall in emissions for road transport as result of improved engines; the low level likelihood of risks to the Severn estuary features; clustering of development around Lydney with greatest public transportation and; the current low level kgN/ha/yr at Walmore Common, it is considered that the plan will result in a neutral – minor increase in road transport pollution over the plan period. For the reasons set out above significant effects are not expected. In respect of Walmore common the average data set on the APIS website indicates the average deposition rate is 13.8 kg N/ha/yr over a 3 year period 2009-2011 for the SPA. This is well below the critical load for the SSSI element of the site (lowland grassland 20-30 kgN/ha/yr). APIS also predicts that by 2020

		road • AP53 Residential Development (27 dwellings) – 0.8km to road • AP89 Residential Development (20 dwellings) – Adjacent to road • AP90 Residential Development (40 dwellings) – Adjacent to road • AP91Residential Development (35 Dwellings) – adjacent to road • AP92 Residential development (110 dwellings) – 100m • AP97 Continued employment generating uses – 4.0km to road • AP98 mixed use redevelopment (30 Dwellings) – 3.7km to site • AP99 Residential development (12 Dwellings) – 0.2km to road • AP100 Residential development (36 dwellings) – 0.4km to road	deposition rates will have declined further essentially due to expected improvements in background air quality across the UK. Potential for pollution effects from road transportation on the features of the features of the Walmore Common are considered to be low. **Conclusion** – Road pollution effects of the AP in relation to the A48 on the Severn Estuary and Walmore Common are screened out.

Figure 1 Traffic Count data for roads (2014)

Location	Count point ID	Road	Pedal Cycles	Motor-cycles	Cars Taxis	Buses Coaches	Light Goods Vehicles	All HGVs	All Motor Vehicles
M48 Severn Bridge	73548	M48	0	399	15664	116	2468	1918	20564
A48 South of Lydney (Woolaston)	46526	A48	4	103	5959	109	1328	605	8104
A48 North of Lydney (Chaxhill)	16488	A48	8	142	9257	88	1996	323	11806
A466 Redbrook	27227	A466	7	145	3004	73	554	180	3956
A4136 East of Coleford	7655	A4136	18	125	6952	100	1532	456	9165
A466 Tintern	30576	A466	35	122	3119	33	432	59	3765

Figures for 2014 http://www.dft.gov.uk/traffic-counts/