WRITTEN STATEMENT

LINDI RICH

ON BEHALF OF

GWENT WILDLIFE TRUST

In the matter of:

Public Local Inquiry into the M4 relief road around Newport: The effects of the proposed M4 extension across the Gwent Levels

February 2017

Summary

The M4 CaN scheme as proposed will result in significant direct water pollution to the Ebbw SINC (Site of Importance for Nature Conservation) and river Usk SAC which feed into the Severn Estuary SAC. We are presenting this material to expand the Gwent Wildlife and Friends of the Earth submissions to the Welsh Government for the Draft Orders and ES consultation.

We have identified the following issues which we consider need further consideration:

- The river **Ebbw is already exceeding Water Framework Directive limits** including oil and grease, copper, zinc and Phenol odour.
- The scheme has **not provided a baseline monitoring point in the lower Ebbw** to present the current levels of pollution in the Lower Ebbw against which future impacts of the scheme can be assessed.
- The M4 CaN scheme is proposing **minimal mitigation for pollution in the Ebbw** in the form of oil interceptors.
- It is **unclear if an oil separator will be provided** for the Usk.
- The proposed outfalls into the Ebbw will therefore result in **cumulative impacts and likely exceedances**.
- The **lack of a pollution control lagoon for the Ebbw outfalls** leaves the Ebbw (which flows into the river Usk SAC) with **no emergency provision for accidental spills**.
- The scheme has used **incorrect data in its risk assessment for the Ebbw outfalls**.
- The **Usk outfall has been designed to take heavily polluted water across a piece of land proposed as a salt marsh habitat mitigation/compensation area**, thereby putting wildlife at risk.
- There are **additional risks of release of pollutants from the river bed and banks,** and cumulative impacts from existing developments which have not been thoroughly investigated.
- Insufficient consideration has been given to the **impact of pollution levels on the otter** in the lower Usk and Ebbw.

The pollution impacts of the M4 CaN scheme on the rivers Ebbw (SINC) and river Usk (SAC) are therefore such that we urge the Inspector to recommend refusal of the application. A further preconstruction baseline sample point should have been established in the lower Ebbw and the scheme redesigned to ensure pollution issues do not compromise either river, resulting in further exceedances of Water Framework Directive limits. The risk assessment needs to be recalculated as a result of the error we have identified and if results are amended, the proposals for outfalls on the Ebbw and their impact on

the River Usk (SAC) would need to be reassessed and the proposals modified. Consideration of the impact on associated pollution sensitive species such as the otter is also deficient.

Introduction

1. We wish to draw the attention of the Inspector to an issue which we consider has not been properly addressed in the Environmental Statement. The M4 CaN scheme as proposed will cause significant direct water pollution to the Ebbw SINC (Site of Importance for Nature Conservation) and river Usk SSSI/SAC which feed into the Severn Estuary SAC/Ramsar. We are presenting this material to expand the Gwent Wildlife and Friends of the Earth submissions to the Welsh Government for the Draft Orders and ES consultation.

Pollution from Traffic

2. A number of pollutants are common from road traffic. We expect increased volumes of the following pollutants from increased road traffic: cadmium, chromium, copper, lead, mercury, nickel, oil and grease, PAHs and zinc[1], and the Welsh Government is deficient in the way in which it has addressed such matters

3. It is apparent from water chemical monitoring information from Natural Resources Wales (hereafter referred to as NRW) covering the 3 year period 2013-2015[2] that road run off below Cardiff Road Bridge on the Ebbw has shown Water Framework Directive exceedences of limit values over the 3 years 2013-2015 for:
    - Oil and grease (visible) -12
    - Copper (filtered) – 9
    - Zinc (elemental) – 12
    - Phenol odour – 12

3. This demonstrates that water pollution as a result of heavy metals and polyaromatic hydrocarbons – principally arising from vehicular pollution – is a notable problem where roads cross waterways.

[1] https://www.sepa.org.uk/media/163244/vehicle_metals_polycyclic_aromatic_hydrocarbons.pdf
[2] Raw data attached in appendix 1

Water Framework Directive Exceedances and Absence of Baseline Monitoring of the Lower Ebbw

4. The Water Framework Directive requires all water bodies to achieve good qualitative status by 2015, which includes a requirement for water bodies to be of **good chemical quality**. If one limit value is exceeded, good ecological status is unattainable. Thus the Ebbw is already failing to meet the standards required under the Water Framework Directive, and this application would exacerbate that.

5. The Ebbw already has a road-related water pollution problem. This is clear from the road sampling point below Cardiff Road Bridge, yet there are further existing road crossings downstream of this point, notably the A48, which also runs close to the river for over 1km. We note that at least 4 NRW discharge consents have been issued for this stretch of the Ebbw[3]. The lack of water sampling data from this section of the Ebbw downstream of the Cardiff Road Bridge leaves the unanswered questions of how high are the existing pollution levels in the Ebbw at the point where the M4 Can scheme is proposed to cross the river? Without any effective baseline for the section of the Ebbw under the proposed M4 CaN scheme, it is not possible to make a sound judgement as to the magnitude of impact of the M4 CaN on the Ebbw. It is clear to us that an additional baseline monitoring station should have been set up for this specific purpose.

6. On the basis that no appropriately located baseline monitoring station has been established for the Ebbw at the point where the M4 CaN crosses the river and the Cardiff Road Bridge carries considerably fewer road movements than the proposed new motorway yet run off exceeds water framework directive limits, it is difficult to see how the Welsh Government's assessment for the M4 CaN concluded that:

'all discharges to the affected surface water bodies are predicted to represent acceptable discharges… therefore, no further assessment of operational impacts resulting from the new section of motorway, in terms of routine highway run-off, on WFD water bodies is required'[4].

[3] M4 CaN Hydrology Figure 16.4b
[4] http://gov.wales/docs/det/policy/160310-m4-es-a16-4-water-framework-directive-compliance.pdf 4.2.15

Insufficient Mitigation

7. Our concerns are heightened due to the fact that the Welsh Government is prepared to deploy only minimal mitigation for operational pollution into the River Ebbw:

   'Discharges to the Usk and Ebbw being tidal do not require flood compensation lagoons but will be provided with oil interceptors[5]'.

8. It appears that the sole mitigation to the Ebbw for runoff from a motorway carrying 30,000 vehicles a day is oil interceptors.

9. The uncertainty as to the existing pollution levels in the lower Ebbw is unacceptable, given the minimal mitigation proposed.

10. Provision of oil interceptors alone is insufficient to secure no deterioration in water quality, and will not ensure compliance with the Water Framework Directive.

11. We also wish to draw attention to the fact that the Ebbw East runoff outfall for the M4 CaN is to cover a total length of road of 1,550m and this represents an impermeable area of 11ha.[6] Combined with the nearby outfall Ebbw West, the impermeable contributing area is 12.3ha. This exceeds the contributing impermeable area of 13 of the 15 water treatment areas which are proposed to mitigate runoff along the rest of the M4 CaN scheme. This therefore represents a significant output of polluted runoff.

12. We note that there is no plan to include a pollution control lagoon for this lengthy section, thereby leaving the Ebbw which flows into the river Usk SAC with **no emergency provision for accidental spills.**

[5] http://gov.wales/docs/det/policy/160310-m4-es-c16-drainage-water-environment.pdf 16.5.8 and 16.8.8

[6] M4 CaN Environmental Statement Volume 3: Appendix 16.3 section 4.6.7 Table 4.7

13. It is unacceptable that the nearest water sampling stations to the Lower Ebbw for the scheme are in fact in the Usk upstream of the confluence with the Ebbw[7] with the nearest one apparently in Julian's Gout and north of the Usk CaN proposed river bridge over 2km away. The section of the Ebbw with the highest likely pollution impact from the scheme has thereby been omitted from the baseline. This makes it impossible fully to assess environmental impact or appropriately to monitor the impact of the scheme. The cumulative impacts of pollution in the river Ebbw have therefore not been adequately assessed or addressed.

Error in Existing Calculations

14. We also wish to draw the attention of the Inspector to the fact that a serious error has been included in the Annex A – HAWRAT calculation sheets[8]. The risk assessment sheet which has been prepared for the combined Ebbw west and Ebbw East outfalls gives a figure of 5.3ha for the impermeable road area drained. This is **incorrect** as the figures given in all other drainage documents are 11.0 ha for the Ebbw East outfall and 1.3 ha for Ebbw West outfall giving a total of 12.3ha. This incorrect figure has presumably then been used for the calculations in the risk assessment.

It is critical that the Welsh Government re-assess the construction and operational impacts of the new motorway on the portion of the River Ebbw directly intersecting with it.

The River Usk

15. We wish to highlight that provisions for motorway run-off for the Usk and docks bridge crossing are equally unsatisfactory:

16.8.8 states:

'The Usk outfall would not be flow attenuated but would include the provision of a pollution control lagoon to capture and retain significant pollution resulting from road accidents that may otherwise flow uncontrolled to the Usk Estuary. No significant effects would arise from chloride within road runoff due to the Rivers Usk and Ebbw being tidal and therefore already brackish or saline in nature. Furthermore, the risk associated with pollution from spillages would be mitigated to below 0.5% as prescribed by the DMRB and, as such, can be considered to have negligible magnitude of impact on both watercourses'.[9]

[7] M4 CaN Environmental statement Hydrology figure 6.3 and 8.3

[8] M4 CaN Environmental Statement Volume 3: Appendix 16.3 Water Treatment Area DMRB Risk Assessments

[9] http://gov.wales/docs/det/policy/160310-m4-es-c16-drainage-water-environment.pdf 16.5.8 and 16.8.8

16. There is also a lack of clarity as to whether the Usk will be provided with an oil interceptor, compare the statement quoted in point 7 (above) and the statement in point 16 which describes a 'pollution control lagoon' for accidental spillages but no oil interceptor is mentioned.

17. We note that the proposed road water outfall into the Usk takes a route flowing through a piece of land being put forward as a saltmarsh compensation area for lost saltmarsh habitat elsewhere[10]. The polluted water would significantly damage its value for wildlife, and pollution sensitive species such as the otter could be adversely affected. We therefore highlight that this combination of pollution discharge and salt marsh mitigation/compensation land cannot be justified.

18. The lack of a pollution control lagoon for the Ebbw presumably means that a serious spill on the 1,550m or 11 ha of drained length of the M4 (Ebbw East) and 1.3ha (Ebbw West) will go straight into the Ebbw SINC with only an oil separator in operation. Therefore spills of any other chemical nature not captured by an oil separator will not be prevented from entering the Ebbw SINC watercourse which then flows to a confluence with the Usk SAC and the Severn Estuary SAC.

Other Sources of Pollution

19. In addition to the issue of direct pollution to the rivers from motorway run off there are further pollution issues concerns for the Usk and Ebbw and the M4 CaN scheme:

    16.7.27: states:

    'A commitment has been made to ensure piers are kept outside of the wetted channel of the River Usk. Only the eastern tower of the River Usk bridged section would be situated on natural saltmarsh, but would remain outside of the wetted channel for that tidal waterbody. The construction of piled tower foundations may require the use of dewatered cofferdams to facilitate safe excavation in these areas. The construction of bridge tower foundations therefore has the potential to generate a considerable amount of potentially contaminated sediments/soils, which could have an impact on the tidal waterbodies crossed, either directly or via the surface water drainage system potentially affected.'

[10] M4 CaN Environmental Statement Figure 2.5 Landscape Environmental Master plan sheet 6

20. The release of heavy metals and other pollutants into the Usk has been a longstanding problem in the Newport area. It is clear that this report has identified that the construction work for the scheme has the potential to increase pollution of this type and cumulative impacts should have been fully assessed. We take the view that developments in the north part of the city have not been included in the cumulative (in combination with other developments) impacts assessment as highlighted in our objection response to the scheme and some of these have been shown to have pollution risks from previous site use and previously dumped material. We take the view that the full length of the urban section of the Usk and Ebbw needs to be included in the cumulative impacts assessment in relation to pollution of the Usk River.

Likely Significant Adverse Impacts on Protected Species

Otters are a feature of the Usk SAC and are using the Ebbw. All impacts upon the species must be thoroughly reassessed to ensure scheme effects and in-combination effects on this feature of the SAC have been completed in an appropriate and thorough manner. The inadequate baseline and failure to adequately assess the impact of road runoff on the Ebbw and potentially also the Lower Usk also signifies a failure to provide adequate impact assessments for the otter and other species sensitive to pollution levels. In relation to otters, The Design Manual for Roads and Bridges[11] states:

8.13: 'Pollution of the water course can cause long term damage to the productivity and diversity of a habitat, adversely affecting otters and their food supply. Being a large carnivore, they are vulnerable to changes in food availability at all levels in the food chain and suffer the most through the bio-accumulation of contaminants and the loss of prey. Certain compounds, such as heavy metals or pesticides, that enter the water course may affect otters directly, through lethal levels of toxicity and sub lethal effects on reproduction and fitness, as well as indirectly, through degradation and contamination of the food chain. Pollutants such as oil or petrol will reduce the waterproofing properties of the otter's fur which will affect its ability to control its body temperature whilst swimming.'

[11] Design Manual for Roads and Bridges, The Highways Agency Volume 10, Section 4 Nature Conservation part 4 Nature Conservation Advice in relation to Otters

Conclusion

21. The pollution impacts of the M4 CaN scheme on the rivers Ebbw (SINC) and river Usk (SAC), and therefore the scheme itself need urgent reconsideration. A further preconstruction baseline sample point should be established in the lower Ebbw, and the scheme redesigned to ensure pollution issues do not compromise the Ebbw and Usk rivers, resulting in further exceedances of Water Framework Directive limits. The risk assessment would need to be recalculated as a result of the error we have identified and if results are amended, the proposals for outfalls on the Ebbw and their impact on the River Usk (SAC) would need to be reassessed and the proposals modified. Further consideration of the impact of these proposals for outfalls on associated pollution sensitive species such as the otter would be required.