Written Representation:

Ecology and the Natural Environment

regarding the application for Development consent to complete the Heysham to M6 Link Road

IPC Reference: TR010008

On behalf of Transport Solutions for Lancaster and Morecambe (TSLM)

Unique Reference: 10015381

April 2012

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1.0 Introduction

1.1 My name is Michael Porter and I am a local resident who strongly objects to the proposed scheme. The report that I present relates to the significant effects the scheme has on biodiversity. I have previously contributed to the interpretation of published documents and to the various written responses to them submitted TSLM.

1.2 My ability to discuss these issues is based on having attained the Degree of Batchelor of Science (BSc Hons) in Ecology from the University of Lancaster. I have also satisfied examination entry criteria for Associate Membership of the Institute of Environmental Management and Assessment (AIEMA).

1.3 Biodiversity data is taken from the Application Documents Environmental Statement, with particular reference to Volume 3 Part B - Ecology and Nature Species Reports. The scope, content and accuracy of the individual reports submitted by ADAS are not contested as a reflection of the existing biodiversity status.

1.4 Not only must the Application for Development Consent comply with Government guidance as found in PPS 9, it must also be in conformity with the current and emerging policies at national, regional and local level. All of these documents reflect the Government position that all conservation areas are important irrespective of statutory designation.

1.5 Within this proof it will be demonstrated that the proposed scheme contradicts many elements of planning guidance, particularly with reference to PPS 9. Furthermore, it will be shown that the scheme fails to support environmental policy at regional, county and local level.

1.6 The evidence will also highlight areas where the scheme fails to comply with European Directives that are designed to protect important species and their habitats. The primary European references include the Council Directive on the Conservation of Wild Birds 1979 (79/409/EEC) (Birds Directive 1979), and the Council Directive on the Conservation of Habitats and Wild Fauna and Flora (92/43/EEC) (Habitats Directive 1992).

1.7 European Directives are enacted through UK legislation and references will include, Wildlife and Countryside Act 1981 (as amended), Conservation (Natural Habitats etc) Regulations 1994, Countryside and Rights of Way Act 2000 and Hedgerow Regulations 1997.

1.8 The IPC Scoping Opinion produced in May 2011 gave important guidance in the way that the ES and the topics within it were presented in the Application Documents. Paragraph 2.42 states: "*It is important that any necessary updates apply to the whole of the proposed development and any associated development, and are not limited to areas which have been the subject of changes since the submission of the previous application*."

1.9 Paragraph 3.4 says that: "*The Commission recommends that baseline data, including any survey work, is comprehensive, relevant and up-to-date*." However, TSLM find that some of the ES Ecology and Nature Species reports are substandard in that they have not been updated, even though their facing pages have been amended to imply that it has.

1.10 Several species reports have a generic new facing page which indicates publication in 2011, with an introductory text that concludes that conditions haven't changed and there is no need for a further survey. The question remains, if there has been no further survey, how can it be determined that the conditions haven't changed?

1.11 Species reports, originally produced in 2003/2004 prior to the Major Scheme Business Case submission, which have not been updated include:

Brown Hare	*Freshwater Invertebrates*	*Otters*
Bryophytes	*Freshwater Mussel*	*Ponds*
Butterfly	*Lichens*	*Reptiles*
Deer	*Molluscs*	*Terrestrial Invertebrates*
Fish	*Moths*	*Vascular Plants*

1.12 By referring to the Infrastructure Planning (EIA) Regulations 2009 we find that Regulation 17 deals with the situation where an application for Development Consent has been accepted but the Environmental statement is inadequate.

1.13 The passage goes further in the way the Planning Inspector should respond where Regulation 17.1 (c) states:

"*the application should be suspended until further appropriate information has been provided*".

TSLM contend that this sanction should apply to this application.

2.0 Bats

2.1 Bats were previously recorded with moderate activity, predominantly in the western section and along the Lancaster Canal. They are European Protected Species, listed under Annex IIa and Annex IVa to the EU Habitats and Species Directive 1992, which require conservation status to be restored and maintained. They are strictly protected under UK law.

2.2 The bat survey was updated in 2009 and appears to have used an updated methodology using bat detectors at a range of locations across the scheme footprint. This shows a much more complete picture with substantial activity recorded in most of the recording site clusters.

2.3 The pre-mitigation impact recognises that there will be an offence committed of destroying a roost at Cottam's Farm. It goes on to say "*The conservation status of bats will not be maintained by removing hedgerows and fragmenting the feeding and commuting opportunities for bats*".

2.4 Mitigation proposals amount to providing an alternative roost opportunity at Cottam's Farm and replacement hedgerows along the route of the scheme. There is no further description of the alternative bat roosts or their proposed location and securing a licence to destroy the roost is therefore tenuous.

2.5 The mitigation proposals for hedgerows suggest that the replacements will be of greater length and of better quality than the existing situation. This fails to recognise that a substantial number of notable trees with potential roost sites will be destroyed, denying the bats alternative opportunities.

2.6 However this mitigation will only occur several years later when the hedgerows are mature, and the ADAS report recognises that monitoring would best be done 10 years later once significant growth had been established.

2.7 The width and scale of the road, with embankments, additional traffic and lighting, will have a significant adverse effect on the bat population. The physical presence of the route will constrain the bats roosting to the south from reaching the foraging areas to the north with the ADAS report admitting to their restriction.

2.8 Bats are nocturnal and adapted to low-light conditions meaning that most bat species find artificial light disturbing. The Bat Conservation Trust guidelines (www.bats.org.uk) suggest that artificial light shining on roosts, their access points and flight pathways must be avoided.

2.9 Artificial lighting disrupts the 24 hour pattern of light and dark which will affect the natural behaviour of bats. BCT say that studies have shown that continuous lighting along roads creates barriers which some species cannot cross, e.g. Daubenton's bats move their flight paths to avoid street lamps.[Appendix 1]

2.10 There is discussion within the mitigation of the ADAS report that there will be "enhanced" mitigation applied to the areas of significant activity within the scheme footprint. There are no indications of what that entails or where it will be applied, merely the statement that details will be agreed with LCC and form part of the Environmental Management Plan.

2.11 The adverse effects of removing hedgerows and potential roost sites, coupled to the linear barrier of the well lit road and conflicts with road traffic would create permanent adverse impacts which were very significant for the local population. The suggested eventual positive impact following what would be a severe short-term negative impact is speculative.

2.12 Because of the relatively modest local populations of bats any adverse impact would cause a proportionately greater loss from which it would be difficult to recover. TSLM believe that the proposals fail to provide measures would be sufficient to at least maintain the current population in a favourable conservation status, as required by the Conservation (Natural Habitats etc.) Regulations 1994.

3.0 Birds

3.1 All wild birds are protected at various levels to some degree, but some are afforded special protection. Species recorded along the route with National or Local BAP status include Lapwing, Skylark, Linnet, Song Thrush and Bullfinch. Hawfinch is included in Schedule 1 of the Wildlife and Countryside Act 1981, and Kingfisher receives added European Protected status under the Birds Directive 1979.

3.2 If the construction work of the proposed road takes place during the nesting season, usually between March to August inclusive, there will be a risk of damage to birds and their nests. This is particularly important if removing vegetation, such as hedgerows, trees or other scrub, during this time. Damaging a bird's nest or its contents whilst occupied or being built is an offence under the Wildlife and Countryside Act (1981).

3.3 An updated report was produced in September 2011 which assessed breeding bird across the scheme footprint. This report divided the route into four sections and identified key breeding species that were considered priority species on the UK Biodiversity Action Plan (BAP). Species are listed as "Red" or "Amber" levels of conservation concern depending on their population decline within the last 25 years.

3.4 According to latest Breeding Bird survey the four sections have varying species that will be compromised by the destruction of habitat:
A - Lapwing (Red), Song Thrush (Red), Oystercatcher (Amber).
B - Song Thrush (Red), Willow Warbler (Amber).
C - Herring Gull (Red), House Sparrow (Red), Kestrel (Amber).
D - Lapwing (Red), Song Thrush (Red), House Sparrow (Red), Linnet (Red), Wheatear (Amber), Curlew (Amber).

3.5 Except for a relatively small urban section the scheme crosses Green Belt which by it's very nature comprises open fields, trees, hedgerows, and various scrubland areas. Key nesting sites will be adversely affected on a permanent basis.

3.6 There is no mitigation for open fields and the replacement hedgerows will be immature for several years. This provides extremely limited habitat for species such as Linnet, Song Thrush, and the more common species such as Robin, Blackbird, Blue Tit, and Wren. The avian biodiversity will be severely degraded by the scheme.

4.0 Bryophytes

4.1 Bryophyte species (mosses) are also affected. There is no updated survey although there are several references to them in general within the Notable Trees survey. The Environmental Statement therefore relies on the previous surveys completed prior to 2005 submissions to DfT.

4.2 ADAS previously reports 3 examples that are rare at County level are at risk. Removal of the supporting trees to 2 examples results in major negative impacts that are permanent. Bryophytes *Syntrichia laevipila*, *Cryphaea heteromalla* and *Orthotrichum pulchellum* are recorded notable species, and whilst not protected under the Wildlife and Countryside Act, are recognised as scarce or rare at County level.

4.3 Comments regarding the Ormskirk bypass suggest that the two prime species concerned are increasing, but this is not shown in Lancaster district, where the single record of *Syntrichia* would be removed completely. ADAS commentary points out that one previous site has already disappeared, and only 4 recorded sites remain in the county.

4.4 *Syntrichia laevipila* is listed under species Guideline Br3 in the Biological Heritage Sites Guidelines for Site Selection 1998, where "species recorded at more than 3 sites, but which could be at risk because of small populations, recent rapid decline, or habitat loss or change is eligible as a Biological Heritage Site".

4.5 LCC comments about favourable chances of colonisation in the Lancaster area are very speculative. The potential for species to expand when the base population in a district is destroyed has no logical basis. Similarly, suggestions that Biological Heritage status may be reviewed is misleading because ADAS and LCC then speculate wildly about future colonisation by mosses and lichens without any evidence this would be so.

4.6 The mitigation proposed within the Notable trees survey is for the felled trees to be salvaged and placed next to other trees of the same species in the locality. This approach is speculative in that the bryophytes have a particular micro-climate within the living tree in which they thrive.

4.7 Felling the tree and placing it next to a much younger specimen is a speculative approach where the bryophytes are likely to die before the appropriate conditions can be replicated. These negative impacts fail to be addressed.

5.0 Fish

5.1 There is no updated survey for Fish and the ES relies on the original report from October 2005. The report is therefore inadequate in that it takes no account of the updated Lune West bridge design or of the Drainage Management report.

5.2 Pillars will still intrude into the bed of the river on the southern bank with disruption to Salmon and Crayfish from a change to flow pattern and riverbed erosion. Holding ponds for salmon, and siltation beds for the crayfish will be especially vulnerable.

5.2 Salmon are protected species under Annex II(a) and Annex V(a) of the EC Habitats Directive (92/43/EEC). ADAS suggests effects are of "major to critical" importance on one of the top 5 sporting rivers in the UK.

5.3 This issue contradicts current Local Development Framework Development Control Policy statements. Of particular concern are policies E7 relating to Water Resources, E8 relating to Groundwater, E11 relating to Areas of Flood Risk and E18 relating to Protected Species.

5.4 The Environment Agency specifically highlighted potential for damage to the riverbank, caused by poor design and intrusion. The new pier design directly destroys actual bank on both sides of the Lune. The footprint of the pillars extend for almost 33 metres along the bank and intrude into it by 6.5 metres excluding bank protection work. The coffer-dam will intrude significantly beyond that.

5.5 Final design choice is for three individual columns, which is noted as having the least hydrodynamic efficiency (Revised Planning Application Report. Lune Bridge. Second Paragraph.) The disturbance of flow around columns will be accentuated with higher winter water levels and other flood events.

5.6 In the original ES, but missing from the Application documents, Volume 3 Part A of the original Planning Application contains the ADAS Fisheries Environmental Impact Study This recognises that construction impacts may release silts into the water, stir up sediment that could smother the fluvial reaches and have a de-oxygenating affect.

5.7 It also notes that vibration damage from piling for bridge construction has been recorded at Carquinez Straits in San Francisco Bay, California resulting from hydraulic hammers. A study by the Department of Fish and Game discovered that salmon were being killed up to half a mile from the site.

5.8 ADAS comments regarding the construction phase conclude: "*The total time for construction would be 12 months with "in river" works time being 11 months. It follows that sheet piling driving and extraction will be taking place during the majority of the salmonid migratory periods*".

5.9 Long term impacts would include pollution from road salt during the winter periods with possible fish mortalities. Motor vehicle accidents could release oil and other pollutants with potentially devastating results. Stream diversions and culverts could obstruct local migrations of fish seeking refuge or feeding, spawning or nursery areas. These impacts would have significant adverse effects on a European protected species.

5.10 There is no lighting assessment provided with the Application documents but has been provided on previous occasions. A Lighting Assessment was provided in Section 6.1 of the Response to Objections and Comments which actually verified EA concerns rather than allayed them.

5.11 The adverse effects of artificial lighting on plant and animal diurnal rhythms that were being anticipated are fully supported by the investigations. The response therefore does not address this aspect of the EA requirements and actually exacerbates fears expressed.

5.12 Street lighting calculations show that there will be significant light pollution across the environmentally sensitive river area. This crucial element was clearly identified in the Lighting Assessment but offered no mitigation measures. The Revised Planning Application Report concludes that the only feasible way to reduce lighting spillage on the river surface is to have no lighting at all.

5.13 On safety grounds, the proposal then adopts Option 1, which is exactly the opposite and produces intense lighting spillage with no mitigation. The option to provide limited light for pedestrians and cyclists (Option 10), which has no spillage to the eastern side and low spillage to the west, is ignored.

5.14 The latest Drainage Management report also confirms that the River Lune will receive traffic related pollution through outfalls even though there is meant to be mitigation. TSLM consider the massive disruption to European protected species habitats and the pollution that will affect the River Lune water environment is unacceptable.

5.15 The 2005 survey assesses the impacts on Lamprey, Bullhead and Salmon (all European protected species) through a series of appendices to the report. Appendices 3 to 5 describe the likely consequences and assign a significance of impact, but many of the outcomes seem contradictory to the classifications.

5.16 Appendix 8 relates to the Summary Impacts on Salmon where direct disturbance of the Salmon holding ponds is one of the impacts identified. This is described as "negative" with "major" significance, with "moderate" certainty that this will occur. But the later column suggests "low" probability, even though the text in Appendix 5 notes that the bridge crosses a major holding area for salmon.

5.17 This indicates that the descriptions may have been understated because the probability must be much higher than stated and therefore the potential for permanent damage (as defined by the "low" reversibility classification) therefore contradicts the suggestion of "high" likely success of mitigation.

5.18 There are several other contradictions within these appendices across several categories. The series of negative to major negative impacts, with critical to major critical significance, show predominantly permanent consequences. The potential and likely success for mitigation shown in Appendices 6 to 8 is listed as "high" in every category.

5.19 However the text admits that much is not known about the potential impacts, especially the impacts on the river bed, the Lamprey nursery beds, the Bullhead gravel breeding sites, the salmon holding ponds or the effects of the predicted traffic pollution run-off discussed further in the TSLM Flood Risk and Drainage Management report.

6.0 Fungi

6.1 Previous surveys had identified six species being listed in the Provisional British Red Data List or Provisional European Red Data List. Most notable was a species of Principal Importance, the Pink Wax Cap (*Hygrocybe calyptriformis*). Fungi are important components in the diversity of Valley Meadow, where permanent negative impacts occur.

6.2 The status of the Pink Wax Cap has been downgraded to the placement of the species on a list of "Additional Species of Conservation Concern - Annex". An annex will list BAP or Schedule 8 species which no longer meet the new Red List criteria, together with some other species of conservation concern in Europe for which Britain is a stronghold with international responsibility, and whose conservation importance nevertheless needs highlighting.

6.3 In the light of this amendment, a further Wax Cap survey was conducted over two winters which produced a comprehensive series of maps. The predicted impacts show that 5 species would have major negative impacts of moderate significance.

6.4 The Wax Cap survey defines the County Council's position: "*The maintenance of this resource is regarded by Lancashire County Council as a priority mitigation obligation for the scheme. A management agreement was produced to provide guidance on the principles that should be adopted in order to ensure at least maintenance of the populations that are currently present, and potentially an enhancement of the extent of Wax Cap fungi on the fields in the Valley Meadow complex.*"

6.5 However, the LCC rationale for undertaking this mitigation exercise is unclear, particularly when the report itself offers this comment in 5.4 Post Mitigation Impact: "As the success may not be measurable within the 20 year aftercare programme and the expert opinion generally suggests failure is the more likely outcome, the post mitigation impact is potentially the same as the pre-mitigation impact."

6.6 Transferring turf from existing fungi-rich meadow to an adjacent location is an unproven and speculative species management concept, shown by the need to undertake additional surveys. The geological, hydrological and ecological surveys that were requested in the original Fungus Survey are not presented. Assessment of the extensive future monitoring likely to be necessary is not available.

7.0 Great Crested Newt

7.1 The IPC Scoping Opinion states in 3.16 "*The EIA Methodology outlined in section 6 of the Scoping Report is not provided in great detail. The Applicant should be explicit in describing the survey and assessment methodologies to be applied for each topic.*"

7.2 Section 3.17 continues "*Methodologies should be outlined for each topic heading in the ES and should, as a minimum, clearly define the study area, sources of baseline information, survey methodologies, approach and criteria for classifying potential environmental impacts, any standards, legislation or guidance followed, and any data gaps or limitations to the study*."

7.3 The update provided for Great Crested Newt in the ES informs us that surveys have been conducted in 2009, 2010 and 2011. These are not in the Application Documents. The update text indicates that it is currently absent from the scheme corridor and falls back on the original report for methodologies etc.

7.4 The methodology described does outline precise protocols used for "bottle trapping" studies of newt populations in ponds within the scheme corridor. This fails to address concerns that using this method alone does not reflect an adequate investigation as described in the English Nature Mitigation Guidelines.

7.5 Great Crested Newts breed in ponds but spend a great deal of time on land, sometimes venturing several hundred metres from the breeding zone. General survey points found in Section 5.2 of the Mitigation Guidelines note that Great Crested Newts may be found in refuge sites up to 500 metres from ponds, and may be in grassland, scrub, woodland or hedgerows.

7.6 Considering the general landscape of the scheme, a strong possibility exists that individuals may be found out of the ponds, and Guidelines suggested refuge searches. These have not been carried out and a singular method of "bottle trapping" does not appear consistent with the methods advocated in the English Nature guidelines.

7.7 Great Crested Newts are afforded protection as Strictly Protected Fauna in Appendix II of the Bern Convention 1979, Schedule 5 of The Wildlife and Countryside Act 1981, Annex II and IVa of the Habitats Directive 1992 and Schedule 2 of the Habitats Regulations 1994. By not addressing the Specialist Advisor comments regarding a European protected species, LCC become vulnerable to legal opinion similar to the ill-fated Western Route.

8.0 Hedgerows

8.1 Over 11 kilometres of hedgerows will be removed by the scheme, 87% of which are protected under Hedgerow Regulations 1997 and losing what is recognised as one of the most important habitat types for numerous flora and fauna. Hedgerows will have no acceptable mitigation habitat for about 15 years and the ultimate ecological structure of hedgerow networks may be considerably different from the original.

8.2 PPS 9 (Paragraph 12) discusses networks and states: *"Local authorities should aim to maintain networks by avoiding or repairing the fragmentation and isolation of natural habitats through policies in plans. Such networks should be protected from development, and, where possible, strengthened by or integrated within it"*.

8.3 While the Environmental Statement proposes replacing the hedgerow lost, the LCC Specialist Adviser suggests that it is debatable whether this could be considered as *"no net loss"*. (*Ecological Response to Consultation. Dr Sarah J Manchester, April 2006*).

8.4 The update survey has expanded on the mitigation strategy proposed by surveying the species content of the hedgerows in more detail. The ADAS Non-Technical Summary in the original ES comments that the proposed creation of an equivalent length of hedgerow cannot be assumed to adequately compensate for the connections severed.

8.5 Translocation methodology is described in detail, but there are no comments with regard to subsequent management of these fragile habitats. Similarly, there is no consideration to questions posed regarding the interim care of the retained sections that are meant to be transposed following construction.

8.6 Networks of natural habitat and navigation corridors are recognised as very important wildlife resources. The scheme has an abundance of hedgerows and trees considered Habitats of Principal Importance (defined in response to Section 74(2) of the Countryside and Rights of Way Act 2000) that merit material consideration beyond that normally afforded.

8.7 The scheme severs important ecological areas and creates a barrier to wildlife movement. Mitigation, however complex, will always be with an immature replacement that does not afford the same wildlife habitat resource that was originally there.

9.0 Notable Trees

9.1 An update of the previous "Veteran Tree" report was produced during 2009 and 2010. Some 29 notable trees were noted as affected by the scheme, and most of those are predicted as permanently lost. This is significant permanent loss of regional importance, which cannot be mitigated for.

9.2 All trees have significant ecological value, are associated closely with hedgerows and valued as host as possible breeding sites and food sources for many higher species, some of which may be protected.

9.3 Major concerns are expressed about the approach towards mitigation for loss of mature trees. LCC comments refer back to original statements that other trees will be planted in greater numbers as replacement. This ignores ADAS cautionary notes that veteran trees outside ancient woodland are particularly valuable for biodiversity and their loss should be avoided.

9.4 PPS 9 (Paragraph 10) states: "*Aged or 'veteran' trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Planning authorities should encourage the conservation of such trees as part of development proposals*".

9.5 LCC's application for Development Consent fails to take into account clear and unambiguous guidance. Similarly, by removing a substantial resource structure the scheme also fails to support woodland targets identified in the Local Development Framework documents.

9.6 Young trees are veteran trees of the future and loss represents a significant impact. Proposals to plant four new trees for the loss of one veteran tree cannot be considered as adequate compensation. It is illogical for LCC to also identify a younger tree already in situ as the sole long-term replacement for a veteran as it cannot be assumed that any particular replacement would actually achieve veteran status.

9.7 Previous response proposals were limited to suggesting mitigation may be afforded by the Environmental Stewardship scheme. This presents additional issues whereby responsibility for management of biodiversity impacts is delegated to others. The scheme severs farmland, and therefore may jeopardise the future of the very farms that would have to deliver the Environmental Stewardship schemes.

10.0 Otters

10.1 There has been no updated survey even though the report text acknowledges: "*Records from the Environmental Agency and local residents confirm the presence of this species. The original survey failed to confirm a presence and a recent Water Vole survey (dated Nov 2009) also failed to confirm a presence.*"

10.2 The conclusion was that: "*No further dedicated Otter surveys are justified as the likely impact on the species, even if present, from construction is predicted to be negligible. Immediately prior to construct there will be an inspection for Otter holts or resting places at the Lune crossing point. An Otter holt will be constructed on the southern bank of the River Lune as an enhancement.*"

10.3 TSLM consider this to be an inappropriate response for a European protected species which is known to frequent the area of the Lune West Bridge. Otters are listed as Annex II(a) and IV(a) species under the Habitats Directive. The species is also listed on Appendix 1 of CITES, and Appendix II of the Bern Convention.

10.4 Protection in the UK is enacted through the Wildlife and Countryside Act 1981, the Conservation (Natural Habitats) Regulations 1994, and more recently Conservation of Habitats and Species Regulations 2010.

10.5 The reluctance to update the original survey is puzzling due to the extensive local knowledge from Halton residents that has been offered to LCC over a period of time. This is supported by Environment Agency (EA) records and reports, and more recently by an independent survey commissioned by the Halton residents (and presented in their Written Representation).

10.6 The EA have published the "5th Otter Survey of England" during 2010 [Appendix 2] which investigates the current status of the various catchments where otters may be found. The report separates out the River Lune and discusses this catchment separately and within the context of the North West region.

10.7 Comments for the Lune begin: "*The results from surveys and the alternate squares spot-checks show that otters are now found throughout the catchment.*" It continues with: "*The Lune provides one of the main corridors for re-colonisation of the area north of the urban area Manchester/Warrington/Liverpool.*"

10.8 The improving signs for otters on the Lune are best represented by comparing the 5 survey results as found in the report:

River Lune: Positive sites

Survey Dates	77/79	84/86	91/94	00/02	09/10
Positive / Total	0/18	1/18	3/18	5/18	10/18

10.9 This series of sightings clearly shows how the population of otters associated with the Lune has increased dramatically, especially since the early 90's. The report also recognises that the Lune is an important gateway for otters to colonise other areas, possibly using Lancaster Canal as a movement corridor.

10.10 The recent otter survey commissioned by Halton residents is particularly revealing in that the dismissive checks made by ADAS are contradicted when a dedicated survey is conducted. A holt has been located but it's exact position is with-held. It is logged by Police Wildlife Protection Officers who acted to prevent illegal felling of trees close to the holt.

10.11 The otter report by John McMinn and Hugh Woods [Appendix 3] provided several points in conclusion:

- There is a healthy and varied population
- Holts may be some distance from the river
- There are spraint sites in the line of the proposed bridge
- The northern bank has the most activity
- Lack of thick vegetative cover affects movement

10.12 The ES survey is inadequate because it fails to apply the required importance to a European protected species even when presented with appropriate local evidence of he situation. There is insufficient mitigation in that the proposed bridge will destroy a resting place and fragile vegetative cover for the otter's movements.

10.13 The provision of an artificial holt on the south bank seems very ineffective when the movement is associated with the north bank and the south bank has minimal use due to the proximity of the Lune Cycle Path. By not addressing the Specialist Advisor comments regarding a European protected species, LCC become vulnerable to legal opinion similar to the ill-fated Western Route.

11.0 Management Plans

11.1 LCC have responded to questions on the Environmental Management plans by saying that it is a working document, expected to be *"reviewed and updated as the project proceeds"*. Questions then arise about how reviews would take place, and by whom, with what critical appraisal, and how they (and any other management plans) are accommodated in the financial budgeting of the scheme.

11.2 By responding in a dismissive manner that suggests future reviews will be sufficient, LCC Highways show how they are continuing to go against both expert advice and guidelines at national, regional and district level. All of these points merit more detailed appraisal before any further progression of the scheme.

11.3 Principal causes for concern are that there is insufficient attempt to provide adequate environmental replacement or compensation in many areas. Suggestions for poorly researched compensatory measures (such as with fungi meadows, bryophytes and Howgill Brook) and missing background data (otter surveys plus many others) cannot be considered adequate compensation for the scale of environmental impacts indicated.

11.4 The Construction Environmental Management Plan is found in Section 9.2 of the Application Documents. This then refers us back to the Environmental Statement in Section 6.3, more precisely to the ES Volume 1, Part C, Appendices. This is the Landscape and Ecology management Plan produced by ADAS, but without any date reference.

11.5 The proposed Section 106 Unilateral Undertaking, which is the legal enforcement of the Landscape and Ecology Management Plan, has a defined period of 20 years, but the provision of an Ecology Manger lasts for only 10 years. There is no further indication of what controls LCC has over the second period.

11.6 The ADAS report begins with basic principles for the proposed mitigation measure and discusses the key habitats in order. The woodland habitat management comments include a statement that "*Towards the end of the 20 year management period install bird and bat boxes on suitable specimens*". This then prompts the question about what the birds, (some of which are protected species) and the bats, (all of which are European protected species), do during the 20 year wait.

11.7 The open water element of the habitat is determined to have no maintenance requirement except in the attenuation pond. This approach suggests that invasive species such as Common Reed and Reed Canary grass be introduced to create reed-bed. However, TSLM believe this is an error as the rapid growth associated with the species will soon compromise the intended function of the pond.

11.8 The maintenance of such vegetation will be compromised due to their uptake of polluted surface waters which will flow through the attenuation pond. The sediment attached to roots, and indeed the vegetation itself, may be so polluted with heavy metals that it could be classified as hazardous under the Hazardous Waste Regulations 2005.

11.9 The phased approach to the Management Plan is set out in tabular form from page 29 onwards. At page 34, in the Design & Advanced Mitigation Phase it considers Fish. It seeks to restore a fish spawning pool downstream of Lune West Bridge prior to construction. TSLM consider this to be inappropriate as the construction phase will generate substantial siltation which would affect the pools after the cleaning had been completed.

11.10 The plan on page 36 to "*make the proposed attenuation pond of some value to wildlife*" is tenuous at best. The toxic nature of the soluble and sediment bound pollutants means that the attenuation pond will have extremely limited value as an ecological resource.

11.11 Within the vegetation notes on page 46 it is noted that the Park and Ride site has had little consideration with regard to the landscape and ecology mitigation required. The plan merely expects something to be produced for the woodland planting, grassland mix, wetland construction and new hedgerows. This was designated to happen at the design stage but has not been updated at this stage.

12.0 Conclusions

12.1 The IPC Scoping Opinion produced in May 2011 gave important guidance in the way that the ES and the topics within it were presented in the Application Documents. Paragraph 2.42 states: "*It is important that any necessary updates apply to the whole of the proposed development and any associated development, and are not limited to areas which have been the subject of changes since the submission of the previous application.*"

12.2 Species reports which have not been updated include:

Brown Hare	*Freshwater Invertebrates*	*Otters*
Bryophytes	*Freshwater Mussel*	*Ponds*
Butterfly	*Lichens*	*Reptiles*
Deer	*Molluscs*	*Terrestrial Invertebrates*
Fish	*Moths*	*Vascular Plants*

12.3 Bats were previously recorded with moderate activity in the western section and the Lancaster Canal. They are European Protected Species, listed under Annex IIa and Annex IVa to the EU Habitats and Species Directive. They are strictly protected under UK law.

12.4 Bats are nocturnal and adapted to low-light conditions meaning that most bat species find artificial light disturbing. The Bat Conservation Trust guidelines (www.bats.org.uk) suggest that artificial light shining on roosts, their access points and flight pathways must be avoided.

12.5 The adverse effects of removing hedgerows and potential roost sites, coupled to the linear barrier of the well lit road and conflicts with road traffic would create permanent adverse impacts which were very significant for the local population.

12.6 All wild birds are protected to some degree, but some are afforded special protection. Species recorded along the route with National or Local BAP status include Lapwing, Skylark, Linnet, Song Thrush and Bullfinch. Hawfinch is included in the Wildlife and Countryside Act 1981, and Kingfisher receives added European Protected status under the Birds Directive.

12.7 According to latest Breeding Bird survey the four sections have varying species that will be compromised by the destruction of habitat:

A - Lapwing (Red), Song Thrush (Red), Oystercatcher (Amber).
B - Song Thrush (Red), Willow Warbler (Amber).
C - Herring Gull (Red), House Sparrow (Red), Kestrel (Amber).
D - Lapwing (Red), Song Thrush (Red), House Sparrow (Red), Linnet (Red), Wheatear (Amber), Curlew (Amber).

12.8 Bryophyte species (mosses) are also affected. There is no updated survey although there are several references to them in general within the Notable Trees survey. The Environmental Statement therefore relies on the previous surveys completed prior to 2005 submissions to DfT.

12.9 ADAS previously reports 3 examples that are rare at County level are at risk. Removal of the supporting trees to 2 examples results in major negative impacts that are permanent. Bryophytes *Syntrichia laevipila*, *Cryphaea heteromalla* and *Orthotrichum pulchellum* are recorded notable species, and whilst not protected under the Wildlife and Countryside Act, are recognised as scarce or rare at County level.

12.10 Salmon are protected species under Annex II(a) and Annex V(a) of the EC Habitats Directive (92/43/EEC). ADAS suggests effects are of "major to critical" importance on one of the top 5 sporting rivers in the UK.

12.11 Long term impacts would include pollution from road salt during the winter periods with possible fish mortalities. Motor vehicle accidents could release oil and other pollutants with potentially devastating results. Stream diversions and culverts could obstruct local migrations of fish seeking refuge or feeding, spawning or nursery areas. These impacts have significant adverse effects on a European protected species.

12.12 The latest Drainage Management report also confirms that the River Lune will receive traffic related pollution through outfalls. TSLM consider the massive disruption to European protected species habitats and the pollution that will affect the River Lune water environment is unacceptable.

12.13 Previous surveys had identified six species of fungi being listed in the British Red Data List or Provisional European Red Data List. Most notable was a species of Principal Importance, the Pink Wax Cap. Fungi are important components in the diversity of Valley Meadow, where negative impacts occur. The status of the Pink Wax Cap has been downgraded to "Additional Species of Conservation Concern".

12.14 Transferring turf from existing fungi-rich meadow to an adjacent location is an unproven and speculative species management concept, shown by the need to undertake additional surveys. The geological, hydrological and ecological surveys that were requested in the original Fungus Survey are not presented.

12.15 The IPC Scoping Opinion states in 3.16 "*The EIA Methodology outlined in section 6 of the Scoping Report is not provided in great detail. The Applicant should be explicit in describing the survey and assessment methodologies to be applied for each topic.*"

12.16 Section 3.17 continues "*Methodologies should be outlined for each topic heading in the ES and should, as a minimum, clearly define the study area, sources of baseline information, survey methodologies, approach and criteria for classifying potential environmental impacts, any standards, legislation or guidance followed, and any data gaps or limitations to the study.*"

12.17 The update provided for Great Crested Newt in the ES informs us that surveys have been conducted in 2009, 2010 and 2011. These are not in the Application Documents. The update text indicates that it is currently absent from the scheme corridor and falls back on the original report for methodologies etc.

12.18 The methodology described does outline precise protocols used for "bottle trapping" studies of newt populations in ponds within the scheme corridor. This fails to address concerns that using this method alone does not reflect an adequate investigation as described in the English Nature Mitigation Guidelines.

12.19 Great Crested Newts are afforded protection as Strictly Protected Fauna in Appendix II of the Bern Convention 1979, Schedule 5 of The Wildlife and Countryside Act 1981, Annex II and IVa of the Habitats Directive 1992 and Schedule 2 of the Habitats Regulations 1994. LCC have become vulnerable to legal opinion similar to the ill-fated Western Route.

12.20 Over 11 kilometres of hedgerow will be removed by the scheme, 87% of which are protected under Hedgerow Regulations 1997 and losing what is recognised as one of the most important habitat types for numerous flora and fauna. Hedgerows will have no acceptable mitigation habitat for about 15 years and the ultimate ecological structure of hedgerow networks may be considerably different from the original.

12.21 An update of the previous "Veteran Tree" report was produced during 2009 and 2010. Some 29 notable trees were noted as affected by the scheme, and most of those are predicted as permanently lost. This is significant permanent loss of regional importance, which cannot be mitigated for.

12.22 Young trees are veteran trees of the future and loss represents a significant impact. Proposals to plant four new trees for the loss of one veteran tree cannot be considered as adequate compensation. It is illogical for LCC to also identify a younger tree already in situ as the sole long-term replacement for a veteran as it cannot be assumed that any particular replacement would actually achieve veteran status.

12.23 There has been no updated survey for otters even though the report text acknowledges: "*Records from the Environmental Agency and local residents confirm the presence of this species. The original survey failed to confirm a presence and a recent Water Vole survey (dated Nov 2009) also failed to confirm a presence.*"

12.24 TSLM consider this to be an inappropriate response for a European protected species which is known to frequent the area of the Lune West Bridge. Otters are listed as Annex II(a) and IV(a) species under the Habitats Directive. The species is also listed on Appendix 1 of CITES, and Appendix II of the Bern Convention.

12.25 The recent otter survey commissioned by Halton residents is particularly revealing in that the dismissive checks made by ADAS are contradicted when a dedicated survey is conducted. A holt has been located but it's exact position is with-held It is logged by Police Wildlife Protection Officers who acted to prevent illegal felling of trees close to the holt.

12.26 LCC have responded to questions on the Environmental Management plans by saying that it is a working document, expected to be *"reviewed and updated as the project proceeds"*. Questions then arise about how reviews would take place, and by whom, with what critical appraisal, and how they are accommodated in the financial budgeting of the scheme.

12.27 By referring to the Infrastructure Planning (EIA) Regulations 2009 we find that Regulation 17 deals with the situation where an application for Development Consent has been accepted but the Environmental statement is inadequate.

12.28 The passage goes further in the way the Planning Inspector should respond where Regulation 17.1 (c) states:

"*the application should be suspended until further appropriate information has been provided*".

TSLM contend that this sanction should apply to this application.