25 March 2010

Dear Professor Lawton,

ARTIFICIAL LIGHT IN THE ENVIRONMENT

Thank you for your letter of 27 November 2009 concerning the report produced by the Commission on “Artificial Light in the Environment.” I apologise for the delay in responding.

The Scottish Government welcomes the report. It is a useful addition to the consideration of the issue of artificial light in the environment. Your report made several recommendations. Can I deal with each of them in turn as shown below?

Paragraph 6.4. We recommend that those responsible for the management of existing National Parks and Areas of Outstanding Natural Beauty and the equivalent National Scenic areas in Scotland seek to eliminate unnecessary outdoor light and to better design and manage that which cannot be eliminated, and also that efforts are made to retain or create dark skies over urban areas so that people in major centres of population may have access to the night sky.

National Parks and National Scenic Areas, due to their rural and sparse populations, are not suffering from high levels of light pollution. Neither are these areas close to large populations (with the exception of Loch Lomond and the Trossachs National Park). However, the low levels of light pollution in these areas are important attributes of what is special about these areas - not just our remote and wild landscapes but also in some of the more 'tranquil' areas. Recognising this as an objective for the management of these areas is therefore valid and should be supported as your report recommends. As figure 2.1 in the report illustrates, Scotland does hold much of the UK's 'light pollution free' land - 'dark skies' are a key quality of the Scottish landscape that we should seek to safeguard. This has been recognised recently in the designation of the Galloway Forest as the first Dark Sky Park in Europe. Can I add that the Loch Lomond and the Trossachs National Park Authority, located as pointed out above closer to larger populations, supports your recommendation wherever practical? As an enabling organisation and planning authority, it works with owner/occupiers and developers to try to get the best landscape fit for all new developments and this regularly includes conditioning the type and amount of external lighting to minimise light pollution.
Paragraph 6.5. We recommend that the highways authorities and local authorities reassess the lighting of roads against potential road safety and crime reduction benefits.

Transport Scotland is at present reviewing its use of street lighting and energy use. While it will look for efficiencies in energy use and minimising light spill, it also has to balance that approach with how best to manage road safety.

Paragraph 6.6. We recommend that the sale of all new external lighting and floodlighting is accompanied by best practice advice, in order to help installers to aim them correctly, so as to avoid light nuisance and minimise light pollution.

As your report points out we introduced in Scotland in 2008 nuisance provisions on light in the Public Health etc (Scotland) Act 2008. The provisions are extensive with hardly any exemptions from the nuisance regime. The approach is based on best practice being applied, for example in the installation of lighting. Guidance to ensure that this approach is followed in Scotland had been produced by the Scottish Government and can be found at http://www.scotland.gov.uk/Publications/2009/01/23142152/0

Paragraph 6.7. We recommend that there should be explicit consideration of light in planning policy. We recommend that planning guidance includes a presumption against the provision of artificial light in some areas where it may have a negative impact on species of concern. We also recommend that guidance is expanded specifically to enable local authorities to assess the likely ecological impacts of changes to the amount and quality of artificial light. Similar guidance should be provided by the Devolved Administrations.

It is already the case that Artificial light can be a material consideration in the determination of planning applications in imposing conditions and enforcement. Regarding policy, it is primarily for planning authorities to decide whether artificial light is a matter which should be addressed in their development plans and if so whether it is appropriate for the detail, for example regarding impact on species, to be covered in supplementary guidance (which in Scotland can be part of the statutory development plan). Authorities already have powers which enable them to assess the likely ecological impacts of changes to the amount and quality of artificial light. Where an Environmental Impact Assessment is required and light is an issue, the planning authority will be provided with additional information on likely significant impacts and mitigation measures where appropriate.

Scottish Government Planning Advice Note on the role of the planning system in protecting the environment can be seen at http://www.scotland.gov.uk/Publications/2006/10/20095106/0 The advice on material considerations, conditions and enforcement at paragraphs 49 - 57 is relevant and there is a section in the annex specifically about light. Detailed advice, including advice for local authorities on developing a public lighting policy and on the lighting design process, is given in Controlling Light Pollution and reducing Lighting energy consumption (see http://www.scotland.gov.uk/Publications/2007/03/14164512/13 )

Paragraph 6.8. We recommend that local authorities should develop a lighting master plan in consultation with their local communities, professional lighting designers and their own public lighting engineers.

This recommendation is a matter for the local authorities themselves although the advice referred to above in response to paragraph 6.7 addresses public lighting policy. The Commission may also be interested to see Glasgow City council's work at:

Paragraph 6.9. We recommend that the Government Departments responsible for light nuisance legislation in England, Wales and Scotland keep the legislation under review.

The comprehensive light nuisance regime that was introduced under the Public Health etc (Scotland) Act 2008 is a recent development. However as ever, with the introduction of new legislation, we are assessing how successful the approach is that we introduced in Scotland under the 2008 Act.

Paragraph 6.10. We recommend that the Natural Environment Research Council, with input from other agencies, leads a pilot programme of directed research to explore the impacts of artificial light on populations and ecosystems, and to clarify the effects of both existing and proposed lighting technologies on biological systems.

The Scottish Government supports the suggestion that the NERC carry out research as detailed in the recommendation. This is a complex area which is deserving of research. Your report referred to bats where there is a particularly good body of evidence on the effect of light pollution. A broad consensus in the literature from across the UK and elsewhere is that certain bat species may benefit from the effect of artificial external lighting whilst others are disturbed or obstructed by, and positively avoid it.

Paragraph 6.11. We recommend that the authorities responsible should carry out replacement programmes for road lighting in a way that explicitly minimises the negative impacts of stray light.

In 2007, Scottish Government/Transport Scotland published a guidance document on lighting (Controlling Light Pollution and Reducing Lighting Energy Consumption) which provides guidance on the factors to be considered to ensure that non obtrusive and energy efficient exterior lighting installations are provided and operated throughout Scotland. Transport Scotland follows this guidance in the design, specification and installation of trunk road lighting. Lighting replacement programmes for trunk road lighting are managed through and implemented within four trunk road maintenance contracts. It is Transport Scotland’s intention to ensure that minimisation of the negative effects of stray light is embedded in the requirements of all their contracts.

Paragraph 6.12 We recommend that lighting standards should require the provision of light at an intensity no greater than the minimum necessary to deliver the intended benefits and that the light should be directed at only those areas which are intended to be illuminated.

Lighting standards are developed at a UK level drawing from British and European standards, technological developments in the supply chain, and involving a range of bodies of which Transport Scotland is one stakeholder. The development of standards is subject to a range of factors, the focus on energy efficiency and reduction of carbon emissions being particularly prevalent currently and in the future. The ability to reduce light intensity in line with future standards also depends on programmes of installation for luminaires which have this capability. Transport Scotland has been active in this area, undertaking a trial of new LED lights which has involved technical measurement of different lighting levels as well as subjective assessments from public surveys. Information from the evaluation of trials such as this will be important in informing future lighting standards. The directional aspects of road lighting are also addressed through compliance with the 2007 guidance note referenced above in answer to the recommendation made in paragraph 6.11 of the Commission report

Paragraph 6.13 We recommend that, before replacement road lights using broader wavelength technologies are widely introduced, particularly in rural areas, the Department for
Environment, Food and Rural Affairs (Defra) and the Department for Transport should commission a systematic investigation of their impact on natural systems

The lighting industry has generally promoted the shift towards broader wavelength sources, and consequently responsible authorities have installed such technologies. The Scottish Government would agree with the tenets of the report and would be interested in the findings of research in this area. It would be useful, in order to continue progress in terms of planned maintenance and other initiatives, that any proposed investigation would ideally report in a relatively short timeframe. Transport Scotland would welcome the opportunity to contribute to steering any such research which is commissioned on a UK wide basis.

Paragraph 6.14. We recommend that local authorities and others responsible for the provision of road lighting should pay careful attention to the outcome of the trials currently underway to examine the impact of reducing or turning off lighting in quieter areas where there is unlikely to be any significant use of the roads by pedestrians or road traffic; and that they should consider what lessons they can draw from them to help minimise negative impacts.

Transport Scotland will pay careful attention to the outcome of the trials. Indeed they have commissioned a specific trial involving LED alternatives. Steps taken so far here have centred on the energy reduction agenda. Transport Scotland will ensure that the possible negative impacts which are the subject of the report will be fully considered as they take their work forward in this area.

Paragraph 6.15. We recommend that Defra and equivalent bodies elsewhere in the UK take the lead in co-ordinating interdepartmental activity on artificial light.

This is a sensible suggestion and is in line with the approach that we are taking here in Scotland. This response to the report has involved co-operation across the Scottish Government, led by officials on the environment side. It is worth adding in this context that as a significant user of electricity for trunk road and motorway lighting, Transport Scotland is aware of the possibilities for carbon reduction through energy efficiencies and considering renewable forms of energy. For example the agency now sources more than 20% of its electricity from a green combined heat and power tariff. They are nearing the end of a review of trunk road network energy to identify opportunities for energy reduction in lighting and traffic control systems which will have positive outcomes for carbon emissions and costs.

In conclusion, I am grateful to be given the opportunity to comment on behalf of the Scottish Government in response to the Commission report. I hope that my response demonstrates that we are already taking the issue of “Artificial Light in the Environment” seriously and will continue to do so.

Yours,

[Signature]

ROSEANNA CUNNINGHAM MSP

Minister for Environment