

# COTSWOLDS CONSERVATION BOARD POSITION STATEMENT

## DARK SKIES & ARTIFICIAL LIGHT



The Cotswolds AONB has a significant and extensive area of naturally dark night skies and remains an area where the wonders of the night sky can be enjoyed as an integral part of its natural beauty. Dark night skies are important for landscape, heritage, wildlife, recreation and enjoyment and health and well-being.

Dark skies are a Special Quality of the Cotswolds AONB but are under pressure from increasing light pollution from commercial and domestic security lighting, development and street lighting. The area of darkest night skies within the AONB has diminished since 1993 by more than 40%.

It is clear that pressure of light pollution affecting the quality of dark skies is still increasing in the Cotswolds. Co-ordinated proactive measures are needed to conserve the dark skies of the Cotswolds AONB and to reduce the impact of artificial lighting.

The Board recognises that there is a genuine need for artificial lighting for the purposes of ensuring safety and security, but that these needs can be met within proactive light management policies that are both sensitive and effective, using latest technology and other means to avoid, minimise and in many cases reduce unnecessary light pollution. Attached as Appendix 'B' is guidance on artificial lighting.

Conserving dark skies means ensuring the use of well-designed artificial light that is directed to where it is needed, when it is needed and not into the sky or across the landscape.

The Board fully recognises the importance of the Cotswolds AONB as a Dark Skies area and will proactively seek to promote this recognition more widely, both for residents and visitors to the area and amongst public authorities responsible for relevant aspects of its management.

The Board will proactively work with other authorities and representatives of local communities and special interest groups to adopt and promote common standards and help establish practical measures to reduce light pollution and enhance the Dark Skies of the Cotswolds AONB and to work with others to assist in monitoring this important aspect of natural beauty.

### Dark Skies Management Standards

To achieve a consistent approach to managing dark skies across the Cotswolds AONB it is desirable that recognised standards should be applied. In the longer term these could be defined in an area specific dark skies management plan (e.g. as part of the requirements for a Dark Skies Reserve) but for current purposes the widely respected sets of standards developed by the Institute of Lighting Professionals<sup>1</sup> and Commission for Dark Skies<sup>2</sup> will be used.

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<sup>1</sup> <https://www.theilp.org.uk/home/>

<sup>2</sup> <https://www.britastro.org/dark-skies/>

## Cotswolds AONB Dark Skies Policy

The Policy on Dark Skies in the Cotswolds AONB Management Plan 2018-23<sup>3</sup> seeks to achieve the national policy to enhance dark skies as well as local policies currently focussed more on controlling light pollution:

**Outcome 7 (Dark Skies):** The dark skies of the Cotswolds AONB will have been conserved and enhanced, with fewer areas being affected by light pollution.

### **POLICY CE5: DARK SKIES**

1. Proposals that are likely to impact on the dark skies of the Cotswolds AONB should have regard to these dark skies, by seeking to (i) avoid and (ii) minimise light pollution.
2. Measures should be taken to increase the area of dark skies in the Cotswolds AONB by (i) removing and (ii) reducing existing sources of light pollution.
3. Consideration will be given to seeking a formal dark sky designation for those parts of the Cotswolds AONB that are least affected by light pollution.

### **Purpose of this Position Statement**

The core purpose of this Position Statement is to establish the practical parameters by which local policy and proactive engagement will seek to match National and International Goals for Dark Skies conservation and enhancement in a consistent manner across the AONB.

This position statement provides some background to the importance of dark skies to those who live or work in the Cotswolds AONB, or who visit the area to enjoy its natural beauty. It provides broad guidance to local planning authorities, highway authorities, architects, developers and other decision makers such as householders, farmers and land managers on proactive measures to maintain and enhance the Area's dark skies.

The Statement is also intended to be used to help secure appropriate policies on this issue in the Local Development Frameworks of the local authorities whose areas include parts of the AONB.

### **Background to the issue**

The dark skies of the Cotswolds AONB have been noted by observation for some time; for example when driving along the A40 between Burford and Andoversford. Survey data from 1993 and 2000 further highlighted the dark skies and indeed their decline.

In 2016 the Board adopted revised Landscape Strategy and Guidelines. The revision provided the opportunity to include the risk of introducing lit elements into dark landscapes and clear guidelines to minimise or avoid light pollution, conserve dark landscapes and conserve areas of dark skies.

Over several years the Campaign to Protect Rural England (CPRE) supported by Land Use Consultants specialist input have been running a campaign, 'Night Blight' which seeks to raise awareness about light pollution and to map relative darkness of the night sky across England at an effective resolution down to 500m which means it is of value at local as well as regional and national levels and provides a consistent baseline mapping of the issue across the country.

<sup>3</sup> <https://www.cotswoldsaonb.org.uk/planning/cotswolds-aonb-management-plan/>

In 2016 the CPRE published their latest Night Blight report and mapping<sup>4</sup> which confirmed that a good part of the Cotswolds AONB still has good to high quality dark skies. The report also shows that dark skies are becoming increasingly rare, particularly in lowland England. CPRE have accompanied their Night Blight campaign and mapping with high level technical practical advice.

### **What is the problem?**

Light pollution of the night sky is an increasing intrusion into the countryside at night, which can have harmful effects on the health of people and wildlife. Although the Cotswolds AONB has relatively dark skies at night, compared to other parts of England (being ranked 13<sup>th</sup> in terms of the darkest skies in England), light pollution from the surrounding urban areas and the market towns of the AONB does adversely affect the dark skies of the AONB in those locations. With ever increasing levels of new housing in the AONB, light pollution is likely to get worse unless action is taken to address this issue.

Light intrusion is one of relatively few kinds of diffuse pollution that is already capable of being mapped and monitored effectively. This is demonstrated both by CPRE's national mapping initiative and more detailed measures adopted to monitor the darkness of the night sky in designated Dark Skies areas.

The CPRE has undertaken considerable work to define and map "dark skies" across England, having produced ever more refined maps in 1993, 2000 and 2016 showing the impact of light pollution. A copy of the 2016 Dark Skies/ light pollution map showing the Cotswolds AONB in its geographical context is attached as Appendix 'A'.

This shows that the Cotswolds and the AONB in particular continue to represent a large area which at its core is largely free from excessive light pollution as compared with the surrounding regions outside the AONB, especially in relation to the adjacent urban areas.<sup>5</sup> The main exceptions to this are a number of market towns which represent relatively small and mostly relatively modest sources of light pollution.

In the face of unprecedented suburbanisation of the countryside round existing settlements the case for proactive management, not just passive control, is stronger than ever.

While light pollution might not currently seem a major threat, as with other forms of diffuse pollution the impact tends to be insidious. For individual new developments the impact of lighting systems can and should be minimised by good design, but the residual light spill together with other uncontrolled lighting schemes creates a cumulative effect spread much more widely through the countryside.

### **Why do Dark Skies Matter?**

The sky at night (or by day) together with basic landform are the only physical aspects of the present day environment of inland Britain that are still fundamentally largely natural in character: vegetation, land use, fields and settlements have been shaped into their present character or created through their exploitation by people over the last 6000 years.

The conservation and enhancement of the darkness of the night sky has multiple benefits:

#### **Landscape character**

Dark skies and landscapes are a characteristic of most of the Cotswolds AONB and therefore covered by the primary purpose of 'conservation and enhancement' of the AONB.

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<sup>4</sup> CPRE Night Blight <http://www.nightblight.cpre.org.uk/>

<sup>5</sup> Notably Bath and Bristol, Gloucester and Cheltenham, Worcester, Evesham and Stratford, Banbury and Bicester, Oxford and Witney, Swindon and Trowbridge

The Cotswolds AONB Landscape Strategy and Guidelines (LS&G) included measures to conserve dark skies and landscapes in the 2016 revision and the new Cotswolds AONB Management Plan 2018 – 2023 has a specific dark sky outcome and policies. Recognition of dark skies in the Cotswolds AONB Management Plan and supported by the LS&G should encourage local authorities to take dark skies into account when developing their own policies and determining planning applications, thereby helping to conserve and enhance the AONB. Inclusion also provides the opportunity for communities, individuals and businesses to take account of dark skies and to encourage developers and consultants to adopt good lighting practices.

### **Enjoyment and understanding**

There is increasing public interest in the night sky, in part encouraged by television programmes such as Stargazing Live and the Sky at Night. Stargazing events organised by astronomical societies are proving popular and the Kielder Observatory cannot cope with demand. Around 90% of the UK population rarely experience dark skies due to light pollution. As a consequence, areas of dark skies are increasingly important for people to experience natural darkness and see a starlit sky.

### **Wildlife**

Life on earth has evolved with the natural cycle of day and night. Species have evolved to cope with and take advantage of natural darkness. Artificial lighting has an impact on species and ecosystems interrupting migration patterns, predator-prey relationships and the circadian rhythm of many organisms leading to stress and disruption of breeding patterns.

### **Heritage**

Light pollution is a very recent phenomenon in historical terms, and has only become a seriously intrusive problem in the last half century or so. The Cotswolds has a wealth of prehistoric and Roman sites for which the night sky together with natural topography are the only largely unchanged aspects of their surroundings. An important characteristic of the Cotswolds is the strong character of historic settlements set within their rural surroundings with (until recent years) little suburban expansion. Dark skies are therefore an important aspect of the setting of the AONB's historic monuments and places and how they are experienced and appreciated within the landscape.

### **Human health and well-being**

Humans have also evolved with the natural cycle of light and darkness and naturally adhere to a circadian rhythm. Photoreceptors in the human eye regulate the circadian rhythm which controls biological functions including alertness, temperature regulation and melatonin production. Melatonin is a hormone that induces sleep, boosts the immune system, lowers cholesterol and helps with the function of the thyroid, pancreas etc. Artificial light disrupts sleep and melatonin production which can lead to suppression of the immune system, increased risk of disease, mood instability and increased risk of mental illness.

Poorly designed and/or installed outdoor lighting can be a nuisance to neighbours and be a hazard to motorists, cyclist and pedestrians.

### **Economic benefit**

Evidence from existing Dark Sky Parks and Reserves show that designation has led to 'Dark Sky Tourism', particularly in the winter months. Some Hotels and B&Bs in the Northumberland National Park and Kielder Water and Forest Park Dark Sky Park are promoting the designation and offering Star Gazing packages having already ensured their lighting is dark sky compliant. This is providing business in the winter months and benefiting

the local economy in an otherwise quiet time of year. The opportunity for such benefits in the Cotswolds has yet to be widely recognised, let alone realised – though for example increased visitors and media interest at the Rollright Stones Dark Skies Discovery Site does point to this potential.

## **Policy Background**

### **Organisations formally promoting Dark Skies**

The International Dark Skies Association<sup>6</sup> (IDA) was founded in 1988 and is the recognised authority globally for night sky protection and is dedicated to protecting the night skies for present and future generations. Based in Tucson, Arizona, the IDA is a not for profit organisation funded by membership, grants, sponsorship and income from events and sales. There are three international Dark Sky Place designations; Dark Sky Sanctuary, Dark Sky Park and Dark Sky Reserve. Designation is by the IDA following a rigorous application process supported by survey evidence, a lighting inventory and a Lighting Management Plan. There is growing interest in Dark Sky Place designation in the UK with 4 Dark Skies Parks and 4 Dark Skies Reserves and further applications currently being prepared.

The lead body in the UK is the Commission for Dark Skies (CfDS)<sup>7</sup>, founded in 1989 to counter the ever-growing tide of skyglow which has tainted the night sky over Britain since the 1950s. The CfDS has published and collated information, advice and guidance aimed at government, industry, local authorities and conservation bodies encouraging them to protect and enhance dark skies and reduce light pollution

### **UK Government Policy and National and Local Planning Policies**

The Government's Rural White Paper published in 2003<sup>8</sup> observed that:

*"It is not just its physical features which give the countryside its unique character; there are also less tangible features such as ... dark skies and remoteness from the visible impact of civilisation."*

The White Paper went on to state that: *"Increased measures will be taken to promote tranquillity"*. Influences on tranquillity in the countryside identified in the White Paper included light pollution

*9.4.4. 'Light pollution' of the night sky is an increasing intrusion into the countryside at night, and it is an issue that we want all rural local authorities to take into account in their planning and other decisions. Local planning authorities have powers, for instance, to control many external lighting installations."*

DEFRA's 25 year plan (2017) states in respect of AONBs and National Parks that:

*Over the next 25 years we want to make sure they are not only conserved but enhanced. Many of the policies set out in the rest of the Plan will contribute to making all areas more beautiful.*

One of those policies is that DEFRA is committed not just to minimising additional pollution but to *'cut all forms of pollution'* – including light:

*Over the next 25 years, we must significantly cut all forms of pollution and ease the pressure on the environment. We must ensure that noise and light pollution are managed effectively.*

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<sup>6</sup> <https://www.darksky.org/>

<sup>7</sup> <https://www.britastro.org/dark-skies/index.php>

<sup>8</sup> *Our Countryside: The Future - A Fair Deal for Rural England* (Defra 2000)  
<http://www.defra.gov.uk/rural/ruralwp/whitepaper/default.htm>

Most recently, the updated National Planning Policy Framework 2018 has reaffirmed

*180. Planning policies and decisions should also ensure that new development is appropriate for its location, taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*

- *mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life*
- *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and*
- ***limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.***

The dark skies aspect of lighting, and in some cases specific lighting schemes, also have significant overlaps with statutory landscape, heritage and wildlife requirements to conserve and enhance these aspects of the environment, which carry great weight in planning terms.

A combination of increasing public awareness and technical opportunities are elevating lighting and dark skies as a policy area where more proactive management is needed – and can realistically be adopted – to make a positive difference.

### **Local context**

As of 2018, ten out of the twelve planning authorities in the Cotswolds AONB have policies for avoiding/limiting light pollution; two refer to avoiding/limiting light pollution within supporting text for policies on tranquillity or pollution. Only two, B&NES and Cherwell have policies for dark sky management or enhancement.

Only one Highway Authority out of six, Gloucestershire, has a policy within their Local Transport Plan to avoid/limit light pollution but none have policies to enhance dark skies.

There is thus a potential mismatch between the proactive policies to cut light pollution and enhance dark skies at national level, and more cautious policies to control unnecessary light intrusion at local level, which allow, but do not promote proactive management to enhance dark skies.

It is clear that local planning and highways authorities and other decision-makers are actively aware of and interested in pro-active management of dark skies, but in the absence of proactive co-ordination of effort it has proved difficult to do much more than control new light pollution on a case-by-case basis.

### **AONBs, natural beauty and dark skies**

Areas of Outstanding Natural Beauty (AONBs) are designated by the Government for the purpose of ensuring that the special qualities of the finest landscapes in England and Wales are conserved and enhanced. In policy terms they have the same planning status as National Parks. Government policy specifically recognises dark skies as a key aspect of their natural beauty that should be enhanced, not degraded.

The Cotswolds AONB Management Plan 2018-23<sup>9</sup> includes dark skies as one of the defining characteristics of its overarching vision for the Area as

*A distinctive, unique, accessible living landscape treasured for its diversity which is recognised by all for its wide open views, dry stone walls, intimate valleys, flower rich*

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<sup>9</sup> <https://www.cotswoldsaonb.org.uk/planning/cotswolds-aonb-management-plan/>

*grasslands, ancient woodlands, dark skies, tranquillity, archaeology, historic and cultural heritage and distinctive Cotswold stone architecture.*

The Plan also includes specific policies for pro-active management to enhance the Area's dark skies – see page 2 above.

## **Appendices**

### Appendix A

Night Blight Map for the Cotswolds AONB

### Appendix B

The Commission for Dark Skies Lighting Guidelines

Institute of lighting Professionals Guidance notes for the Reduction of Obtrusive Light

## **NOTES**

The Cotswolds Conservation Board has the statutory duty to pursue the following two purposes:

- a) to conserve and enhance the natural beauty of the AONB; and
- b) to increase the understanding and enjoyment of the special qualities of the AONB.

In fulfilling these roles, the Board has a duty to seek to foster the economic and social well-being of people living in the AONB.

This is one of a series of position statements published by the Board which help to expand on the Board's policies within the Cotswolds AONB Management Plan or explain the Board's approach to new and emerging issues such as renewable energy, affordable housing, tranquillity, and management of roadside verges. All position statements can be found on the Board's website at: <https://www.cotswoldsaonb.org.uk/our-landscape/position-statements-2/>

The Board is comprised of members appointed by the local authorities, elected parish council representatives and individuals appointed by the Secretary of State. The Board, formed in December 2004, is the only organisation that looks after the AONB as a whole.

The Cotswolds AONB was designated in 1966 and extended in area in 1990. It is one of 38 Areas of Outstanding Natural Beauty across England and Wales. It is the largest AONB, covering 790 sq.miles (2038 sq.km). It is a landscape of equal importance to National Parks such as Snowdonia and the Lake District.

### **For further information contact:**

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