



ISSUE NO. 60 Spring 2022

COMMISSION for DARK SKIES



PROTECT THE NIGHT

NEWSLETTER OF THE BRITISH ASTRONOMICAL ASSOCIATION'S COMMISSION FOR DARK SKIES

www.britastro.org/dark-skies

This twice-yearly newsletter now appears free of charge on the BAA website. Any queries from former subscribers: contact_office@britastro.org

COP26: THREADING IN LIGHT WASTE

In a recent talk and in a later article in the lighting press, a lighting consultant and prominent member of the Institution of Lighting Professionals stated that light pollution is probably the third most telling factor in the worldwide biodiversity crash. The photo shows a grassy bank in the English countryside where a thriving glow-worm population has been eradicated by stray light from a nearby industrial estate relit with blue-rich LEDs.

The CfDS emphasised this topic, and also the role of wasted light-energy in climate change, in a series of submissions to the All-Party Dark Skies Group of MPs with a view to threading these themes into DEFRA ministers' November 2021 COP26 dossiers.

Our social media team of **Howard Lawrence**, **Elizabeth Mizon** and **Carolyn Bedwell** ensured that they were also well aired on Facebook and Twitter streams.

Any discussion involving dark skies and lighting should mention that waste light belongs not only on the list of astronomers' problems with current technology, but also figures on the climate and threatened wildlife agendas.



Photo courtesy of Robin Scagell

"There is no need to shine blue light on life at night."

This is the conclusion of a new CfDS leaflet by **Dr Robert A. E. Fosbury**, Bath and Surrounds Dark Sky Alliance. **Blue light and living things** is a brief but learned examination of the fact that "For billions of years, life has evolved to exploit the absence of blue light at night. Introducing it via high colour-temperature LED lighting results in damaging biological effects."

Dr Fosbury's credentials are impressive: Astronomer Emeritus, European Southern Observatory and Honorary Professor at the University College London Institute of Ophthalmology. See this informative and the authoritative new leaflet at <https://britastro.org/dark-skies/downloads.php>.

Sadly, the death occurred in March 2022 of one of the CfDS' founder members and Hampshire local officer Ron Arbour, best known in the BAA for his sterling work in hunting down supernovae.

Encouraging Star-Quality Lighting

Art for dark skies

Proceeds to the CfDS

Go to
[britastro.org/dark-skies/
cfds_about.php?topic=art](http://britastro.org/dark-skies/cfds_about.php?topic=art)
to see our selection of paintings
for hire **at a rate you choose.**



Featured:
Night Thoughts
by **Kathryn Thomas**

*Cosmic-inspired forms and imagination merge to create a window into the experience of the macrocosm.
Framed limited-edition print, frame 74 cm x 73 cm.*

ON THE CAMPAIGN TRAIL

APPG of MPs for Dark Skies

In its February newsletter the All-Party Parliamentary Dark Skies Group reported on the efforts of their representatives **Baroness Bakewell** of Hardington Mandeville, **Lord Taylor** of Holbeach and **Lord Carrington** to support an amendment to the Environment Bill, which would commit the Government to producing targets to reduce levels of light pollution in England. Although the amendment was not moved, the APPG is actively watching for further opportunities to make the case for better regulation of light pollution.

In November 2021 the APPG won the International Dark-Sky Association's Director's Discretionary Award with special mention of their ten-point Policy Plan. APPG Chair **Andrew Griffith** MP (Arundel and S. Downs) collected the award on behalf of the APPG at an IDA virtual award ceremony. The IDA recently certified Latin America's first International Dark Sky Park in Brazil, and Asia's first International Dark Sky Community in Japan.

Darkness with Dani

Many readers will have seen Dani Robertson, Snowdonia National Park Dark Sky Officer, on

BBC's *Countryfile* in February. Dani reported after the programme had aired: "In a rather excellent turn of events, after last night's *Countryfile* I've been inundated with people wanting to change their lights to dark-sky friendly ones! With energy bills set to soar, changing your lights is one of the easiest and cheapest ways to save money". The Snowdonia Dark Sky Reserve, established in 2015, has seen increased tourism especially in winter. Plan your trip at www.snowdonia.gov.wales/looking-after/dark-skies/5-places-to-see-the-stars

Sêr Ynys Môn

In preparation for the presentation of the CfDS' Good Lighting Award (Gwobr Goleuo Da) to the new, well-lit primary school at Corn Hir, Llangefni, Ynys Môn (Anglesey), our local officer **John Rowlands** has created a bilingual certificate. John has been in the CfDS' ranks since its inception in 1989, writing articles on light pollution and collaborating in the Commission's activities in Wales, for example in contributing a Welsh-language commentary for a presentation to the Senedd/Welsh Parliament and rewarding good lighting practice in various places.

DARK SKIES AROUND THE WORLD

Recent correspondence to the CfDS has come from Australia, Austria, Canada, France, Germany, Italy, Ireland, Malta, Saudi Arabia, Slovenia, Turkey, the USA.

Australia:

White and Amber Light at Night Disrupt Sleep Physiology in Birds, a report in 2020 by Aulsebrook, Connelly *et al* of the University of Melbourne and La Trobe University, is the first study of neurological activity in the generality of animals thought to be affected by light pollution. Investigating evidence that city lights could seriously disrupt the sleeping patterns of birds, the researchers used miniaturised sensors to record brain activity in two species, pigeons and magpies. In an indoor aviary the birds were exposed to lights with a similar intensity to street lights. As well as white light, which is increasingly being installed in urban settings, the study looked at amber light which previous studies had suggested could have less impact on sleep. Lighting affected both REM (rapid eye-movement) and non-REM sleep. Magpies were more affected by white light than amber light, losing a striking 70% of their non-REM sleep, while pigeons lost about four hours of sleep in total, whichever the lighting type (*Current Biology*, [doi.org/d4wm](https://doi.org/10.1016/j.cub.2020.08.011)) “Sleep loss can cause problems in bird behaviour, health and development so if birds can’t adapt or tolerate light at night they might suffer poor health, produce fewer offspring or have to find new habitats “ said Anne Aulsebrook. The CfDS has over the years received many reports of birds singing at dead of night, responding to the false dawn of stray artificial light. We reported an article in *New Scientist*, March 1995, in which Fred Pearce considered the plight of exhausted songbirds, singing all night long as ‘security’ lights constantly triggered their dawn response, the rhythms of millions of years overturned by thoughtless lighting. The supposedly decorative floodlighting of trees, often by local authorities, and by arboretums who claim to be guardians of the environment, not only robs local bird populations of a secure roost, but also plays havoc with the day-night responses of the literally thousands of different organisms, both complex and humble, to which trees are a home. See also www.bbc.com/future/article/20210719-why-light-pollution-is-harming-our-wildlife

USA

In 2021 Pittsburgh City Council passed a new “Dark Sky Ordinance covering parks, facilities, and all streetlights”. This will replace, by the end of 2023, 35,000 old high-pressure sodium streetlights with new well directed, dark-sky-friendly luminaires. Interestingly, the ordinance also targets over-bright and blue-rich 5,000-kelvin LED streetlights installed ten years earlier. Dark-sky expert Diane Durnshek (Carnegie Mellon University) commented: “About a decade ago, 4,297 streetlights were replaced with LEDs. These bright, blue-white lights turn night into day, and are a leading cause of the world’s growing light pollution, so Pittsburgh will replace them with lower-temperature, amber-colored LEDs”.

Worldwide: best observing sites

As Covid releases its bite and world travel begins to be a reality for many, the Commission for Dark Skies is receiving a growing number of requests for information about the best observing sites for places as near as Birmingham (prospects not great from the city centre) and as far away as Mongolia (undoubtedly better). One resource we have never mentioned but is worth a visit is **Dark Site Finder**

<https://darksitefinder.com/maps/world.html#2/42.4/8.1>

based on light pollution data updated by David Lorenz and based on original data from *The World Atlas of Artificial Night Sky Brightness* by P. Cinzano, F. Falchi, and C.D. Elvidge. The site has links to a Sortable Dark Site Listing, Adding A New Dark Site, How to See the Milky Way, How to See the Aurora and Other Astronomy Links.

Austria

As part of the Eighth European Dark Sky Symposium in Vienna in 2008, Bob Mizon and Dr Chris Baddiley joined other delegates in a ‘dark walk’ through the Austrian countryside near the village of Grossmügl, north of the city, to the atmospheric site of the Leeberg, an enormous ancient burial mound (circa 500 BC) and a dark-sky site for local amateur astronomers. The site has now been officially renamed the Grossmügl Starlight Oasis, part of a wider protected area with a clear view of the Milky Way and thousands of individual stars (with a dependable visual limiting magnitude of 6), as the hills diminish Vienna’s light halo. The Starlight Oasis is used by local schools and universities as well as amateur astronomers. By-laws to protect the night sky have been passed by the city council, with particular reference to the Starlight Reserve.

Germany

Our German colleague **Dr Andreas Haenel** tells us that, depending on how Covid-19 develops this spring, the **15th European Symposium for the Protection of the Night Sky** will be held as a face-to-face event at the Vonderau Museum in the International Dark Sky Community town of Fulda, east of Cologne, on May 1st – 2nd 2022. CfDS delegates will attend.

A team of observers from the **Cranborne Chase** AONB Dark Sky Reserve and the local **Wessex Astronomical Society** has been re-measuring the darkness of the night sky over the area, with the aim of establishing trends in light pollution. The photo shows dark skies near Berwick St Leonard, one of the starriest villages in the northern part of the AONB. The instruments used were Unihedron SQM-L sky meters.

cranbornechase.org.uk/chaseandchalke/starry-starry-nights
(Photo: Bob Mizon)



New stocks of the CfDS' 40-page A4 handbook '**Blinded by the Light?**' are available.

Prices: **£3.50** direct purchase without postage; **£5.00** (incl. postage) for UK, and £3.50 each extra copy. Contents include: The Environment Problem, The Disappearing Universe, Environmental Aspects, Lighting and Crime, Light Pollution and Human Health, The Cold Light of Night: LED Lighting, Action that can be taken about Light Nuisance, Monitoring Light Pollution, Bad Lighting – the Problems. Appendices: Lighting Assessment Principles and a sample letter for complainants about poor-quality lighting.

Hidden Stars, our new A5 12-page children's guide to protecting the starry sky, is also available. It is designed for older primary and all secondary levels and is beautifully illustrated by CfDS committee member and graphic artist **Kerem Asfuroglu** and by astrophotographers who support the cause. **£2.50** inc. postage. Contact Bob (see below) to order.

CfDS Fighting Fund

Standing orders or donations are always welcome. Please notify Bob Mizon on 01202 887084 if you can support the CfDS in this way.

CfDS thanks recent donors: Anon., Archant, Gerry Bond, Matt Bray, B-Side Multimedia, Bill Cobb, Martin Davies, Matt Dugas, Isabelle Ficker, Gerard Gilligan, the late Professor Roger Griffin, Jane H., Hugh Hale, Richard Howson, Mark Pennell, Alan Pickering, Sally Revell, Alan Snook, Bob Stuckey, Steve Tonkin, Wessex AS, Yarn Market Hotel. Apologies to any donor inadvertently omitted.

***CfDS coordinator:** Bob Mizon, 38 The Vineries, Colehill, Wimborne BH21 2PX. Tel: 01202 887084.

Contact the CfDS

Queries, comments and donations to the CfDS can be made via the form on www.britastro.org/dark-skies/enquiries.php

You will be directed to an appropriate member of the CfDS team.

The website for the new UK Dark Skies Partnership, which includes the CfDS, is now live.

ukdarkskies.org.uk

The partners in this new venture, mostly National Parks and AONBs, raise awareness among the general public and in Parliament of the need to curb light pollution. Website pages feature strategies, documents and links.

www.spacerocksuk.com supports the CfDS.

Meteorites, tektites and impactites: Sikhote-Alin, Canyon Diablo, Barwell, lunar meteorites, Martian meteorites...