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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

Dark Skies in Parliament - progress

Many CfDS members and non-members within the BAA made submissions to the **All-Party Parliamentary Dark Skies Group of MPs'** public consultation on light pollution last September: appgdarksbies.co.uk. Other astronomical and environmental organisations, groups and individuals contributed their views. Typical is that from CfDS member **Nigel Jacklin** (E. Sussex), who stressed the effects of wasted light on the night sky because of poor planning practice and lack of regulation, intrusion of light into neighbouring premises, and leakage into rural areas hastening biodiversity collapse. The CfDS is supporting the APPG's work closely. The common goal is that when we return to normality, or a 'new normality' where the harm caused by pollution and climate-changing agents will be more strongly dealt with, there will be real and mandatory legal controls on light pollution. This would be good news indeed for the environment and our precious heritage of starry skies.

The APPG has produced its policy agenda, and will press for ten policies to be adopted by the Government, all of which were part of the CfDS submission: 1) Expand the scope of the planning permission process; 2) Strengthen Statutory Nuisance provisions; 3) Strengthen the National Planning Policy Framework; 4) Set standards for the brightness and colour temperature of lighting; 5) Set standards for the direction and density of lighting; 6) Legislate for the appropriate times of use for lighting; 7) Establish a regulatory standards body; 8) Create a 'Dark Sky Cities' initiative; 9) Entrench the responsibility for dark skies within government; 10) Emphasise the role of education. The Policy Paper was launched on December 9th and a House of Commons debate secured on the 14th (youtu.be/oKIMRtkKtAU). Details of the Government's response will appear on the CfDS website and in the next newsletter.

Encouraging Star-Quality Lighting

The **United Nations Office for Outer Space Affairs** (UNOOSA) staged its five-day *Dark and Quiet Skies* Zoom conference on October 5-9 2020. More than 300 delegates from all around the world, representing many environmental, astronomical and political bodies, participated in webinars on *Dark Sky Places*, *Lighting and Biodiversity*, *Protecting Optical and Radio Observatories* from light and radio pollution, and the *Challenge of the New Satellite Constellations*. **Dr Chris Baddiley**, **Howard Lawrence** and **Bob Mizon** attended for the CfDS. The event led to the planning of several new international initiatives, and large numbers of new contacts and connections being forged in the continuing battle against stray light and other electromagnetic pollution.
www.unoosa.org/oosa/en/ourwork/psa/schedule/2020/2020_dark_skies.html

ON THE CAMPAIGN TRAIL

The CfDS lost two great supporters in 2020. Retired committee member **Mike Tabb** (CfDS Bath and NE Somerset) sadly passed away in November after three decades of involvement, having set the standard for the measured and collaborative approach that the CfDS takes. His advice on technical and planning matters was vital to its progress. We will miss Mike greatly. **Arthur Davis**, known to astronomy groups all over the south-west for his tireless contributions to their work, sadly passed away in September. His unfailing support for the cause will be fondly remembered.

The Chase for stars

We are pleased to report that **Steve Tonkin**, one of the CfDS' most ardent supporters, is the new dark sky advisor for the starry **Cranborne Chase AONB International Dark Sky Reserve**. He is a worthy successor to the indefatigable **Amanda Scott** who was instrumental in establishing Reserve status. Members of the Wessex and Fordingbridge astronomical societies will be backing Steve with night sky measurements of the Reserve's star-strewn night sky.

Less acceptable Christmas tree lights

CfDS supporter **Robin Scagell** wrote in December 2019 to the **Westonbirt National Arboretum** in Gloucestershire about uplighting of trees, in addition to two searchlights shining into the sky, as part of their Christmas activities. Robin made the point that trees devoid of leaves allow light through, causing skyglow visible for miles. He suggested that if they altered their approach they "could mention in publicity that, in order to reduce the effects of light pollution in the countryside, you have redesigned your strategy, and that the new approach is much more environmentally aware. This would emphasise the message that uplighting of trees is undesirable." Many rural attractions and individual householders in both rural and urban places uplight trees, without a thought for the circadian cycles of countless organisms both small and large that live in them, and the night sky above.

Glasshouse Blues

Our long-term partners the **CPRE** report in their Kent section newsletter that: "light pollution doesn't get much worse than in east Kent, where the glasshouse complex of **Thanet Earth** has been recorded as the second-worst offender in the country, only the Tata Steel plant in Rotherham emitting more nocturnal light." 90-hectare Thanet Earth is the UK's largest greenhouse complex. In 1980, when it was under construction, a CfDS delegation was assured during a site visit that there would be no light spill. Spokespersons continue to claim that the company is willing to discuss solutions, but 40 years on, its "mushroom cloud" of waste light, as the CPRE calls it, continues to blight Kentish night skies.

Journeys into darkness

CfDS supporter **Isabelle Ficker** draws our attention to **Asif Islam's** short video "Where are the Stars?", inspired by the 1994 Los Angeles power cut, during which city dwellers were unnerved by the sight of 'strange lights in the sky' (stars and the Milky Way). vimeo.com/237351617. The video is reminiscent of **Ian Cheney's** longer film from 2011, "The City Dark", to the London premiere of which CfDS members were invited and where they met Mr Cheney. archive.pov.org/citydark

Starlit in Somerset

One of the local dark-skies initiatives supported by the CfDS is the **Bath Starlit Skies Alliance**, whose members come from many disciplines. The Alliance is submitting evidence to Bath and NE Somerset Council, including material from its panel of experts in environment, physics, astronomy and lighting practice. The CfDS' recent APPG submissions on dark skies and the threat from stray light to biodiversity are included in the Starlit Skies Alliance's approach and we continue to support their efforts.

DARK SKIES AROUND THE WORLD

Recent correspondence to the CfDS has come from Australia, Austria, Brazil, the Czech Republic, France, Germany, Italy, Ireland, Malta, The Netherlands, Saudi Arabia, Slovenia, Spain, Turkey, the USA.

Canada:

The legalisation of recreational marijuana production and sale in parts of North America has had the unexpected effect of increasing skyglow. Skywatchers in Grosse Pointe Park in Wayne County, Michigan have reported new multicoloured lights in the night sky 20 miles away across the Canadian border. This emanates from greenhouses near Leamington and Kingsville, Ontario, used for cultivating vegetables, fruit and, in new extensions, marijuana.

John C. Barentine, director of public policy for the International Dark-Sky Association, said "Municipalities and greenhouse operators are working to resolve the light pollution problem. About two-thirds of our (U.S.) states don't have any restrictions regarding outdoor lights and those that do are... removed from many light sources and have more reduction of light".

Search "far-reaching greenhouse lights Ontario" for a video showing the breathtaking amounts of light spill that greenhouses can cause.

India:

Research in 2020 by Zeeshan Ahmad Khan, Thangal Yumnachcha et al.

(www.frontiersin.org/articles/10.3389/fendo.2020.00622/full)

reviews large numbers of source articles in order to correlate the development of artificial light at night (ALAN) and the emergence of human coronaviruses (HCovs). Conclusion (shortened): "The influence of ALAN on bats including inappropriate foraging and commuting, roosting, untimely emergence from roosts, breeding, and impaired physiology has put them under threatened status in the IUCN list. ALAN-induced behavioural and physiological stress might have exerted an immense amount of selection pressure on the diverse form of Covs in bats and their transmission to humans. The authors recommend a global surveillance network needed to monitor potential sources for the emergence of other highly pathogenic CoVs. Presently, we are exposed to ALAN more than ever in the history of mankind. Strict measures should be taken to minimize this exposure."

USA

The **University of Utah** has established the first formal academic educational programme solely for dark sky studies and protection. Its new twice-yearly *Journal of Dark Sky Studies* is the only academic publication in the world solely dedicated to understanding and protecting the night sky. Each issue will consist of three sections: the cultural side of dark skies, conservation efforts around the world and peer-reviewed articles on the impacts of artificial lighting from across a range of disciplines, from ecology to human health. The W.M. Keck Foundation has awarded \$250,000 to the University to develop a new undergraduate course in dark sky studies. unews.utah.edu/journal-of-dark-sky-studies

Mexico

On January 18 2021 the Mexican Government published details of a law entitled "Reform on the Control of Light Pollution in the Atmosphere", to come into force the following day. It mentions astronomical observations in the first instance and "the recovery of the transparency of the sky and the reduction of spending on electricity consumption for the supply of the public lighting service, through the use of appropriate lighting and, consequently, the reduction of greenhouse gas emissions causing global warming." Also mentioned are the effects of inappropriate lighting on the health of humans and other species, and "regulations to establish procedures to prevent and control contamination by intrusive light; and establishment of emission limits". More on this in the next issue.

Saudi Arabia

CfDS' Saudi Arabian correspondent **Abdulrahim Hakami** is co-author of a new study (December 2020): *Impact of artificial light intensity on nocturnal insect diversity in urban and rural areas of the Asir province, Saudi Arabia* (Hakami, Khan, Ghramh, Ahmad and Al-zaydin, [journal.pone.0242315](https://doi.org/10.1371/journal.pone.0242315)). Using insect traps in towns and rural locations over a two-month period, together with sky quality meter readings, photography →

and artificial light metering, they concluded that insects fare worse under blue-rich light and are negatively affected by stray light. "Natural areas with low-level artificial light are valuable to maintain a healthy ecosystem and balanced insect diversity. In rural areas, seven insect orders were observed compared to four insect orders in urban areas. Artificial illumination attracted large numbers of nocturnal flying insects. Light sources function as an ecological trap for many insects (especially) during swarming events, when very large numbers are attracted. If not killed immediately, insects are often unable to disperse and migrate elsewhere".

New stocks of the CfDS' 40-page 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.*

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, Nigel Buchanan, Bill Cobb, the late Arthur Davis, Matt Dugas, Hugh Hale, Richard Howson, Francis Marchant, Leonard Matula, Marcus Price, Alan Snook, Bob Stuckey, Steve Tonkin, Somerset Levels Stargazers. Apologies to any donor inadvertently omitted.

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Queries to the CfDS

Queries and comments 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.

To all astronomical societies

Do you have a dedicated light pollution officer? Most societies don't. Please consider this, as it is important to have a national picture of the extent of light pollution and local trends in night sky visibility. Keep in touch and support our work.

www.spacerocksuk.com supports the CfDS.

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