
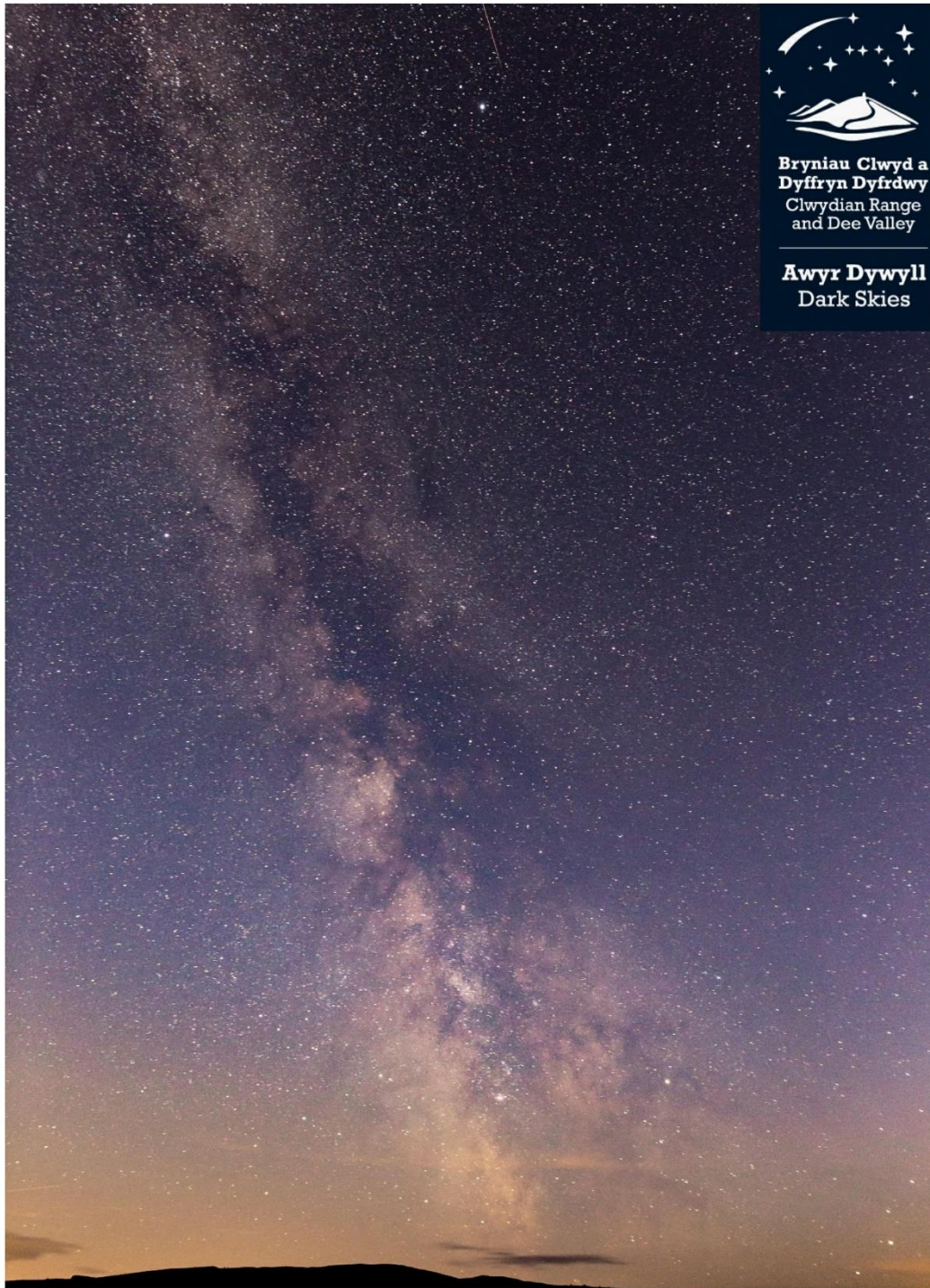


DARK SKIES SCOPING STUDY REPORT AND OUTLINE ACTION PLAN



**Bryniau Clwyd a
Dyffryn Dyfrdwy**
Clwydian Range
and Dee Valley

Awyr Dywyll
Dark Skies

EXECUTIVE SUMMARY



Asiantaeth Datblygu Gwledig
Rural Development Agency



February 2018

INTRODUCTION

In 2016, the Clwydian Range and Dee Valley AONB set about exploring the opportunities to improve the quality of its dark skies and attain appropriate designation by the International Dark Sky Association (IDA).

To progress this aim, with support from the Welsh Government Rural Communities – Rural Development Programme 2014-2020, which is funded by the European Agricultural Fund for Rural Development and Welsh Government, and the Sustainable Development Fund, Cadwyn Clwyd in January 2017 commissioned BRO and DSW to:

- ② Assess the current night sky quality within the AONB using IDA Guidelines
- ② Provide advice and guidance that could be used by communities and businesses in lighting schemes that will help to preserve the quality of the night sky whilst providing for lighting needs
- ② Engage communities and agencies to raise awareness of the importance of dark skies
- ② Explore the feasibility of Dark Sky Status and provide an outline Action Plan for pursuing the most appropriate IDA recognition

The study took place between February and December 2017.

MAIN STUDY OUTPUTS AND FINDINGS

- ② Addressing and reducing light pollution to improve the quality of the night skies in the AONB will result in significant positive social, environmental, and economic benefits.
- ② In addition to the benefits through enhanced tourism, formal IDA recognition would bring benefits in public health, biodiversity and energy efficiency.
- ② The Clwydian Range and Dee Valley AONB Management Plan (2014 – 2019) recognises the importance of dark night skies and, in particular, the tranquillity they offer. Formal Dark Sky recognition and designation is supported by a number of key, relevant AONB Management Plan policies: PoART1, PoICP3, PCO3, and LQCO4. The aims for Dark Sky recognition and designation are also supported by the Sustainable Tourism Strategy and Action Plan, including Objectives 2 and 3.
- ② Recent legislation supports the AONB's Dark Sky ambitions, especially the Wellbeing of Future Generations Act (WFGA), which seeks to improve the social, economic, environmental and cultural wellbeing of Wales.

- ② As highlighted by satellite-based desktop mapping undertaken in the study, the quality of the night skies on the eastern edges of the AONB is currently affected by light pollution from the towns of Mold and Wrexham as well as Deeside, Chester and Merseyside, with similar impacts in the north from the coastal towns. These have a significant effect upon tranquillity, particularly at night, spilling light onto the darker skies to the south and west in the AONB.
- ② Satellite-based desktop analysis indicated areas that appear to be little affected by light pollution, particularly the rural locations remote from centres of population. Conversely, the more built-up and urban areas are those where there is most light pollution which will affect the quality of the night skies and street lights and other public lighting are contributory factors to this.
- ② Combined data from the dark sky surveys undertaken in over 40 locations on two occasions by Dark Sky Wales, indicates the quality of dark skies is largely very good or excellent in large areas of the AONB with night sky brightness darker than 20 magnitudes per square arc second. These include popular areas such as the Horseshoe Pass and Moel Famau.
- ② The dark sky surveys showed that other locations closer to areas of populations do not enjoy such good quality skies, e.g. Pontcysyllte Aqueduct and Llangollen, which is seemingly due to light pollution. Resultantly, local people in those areas are currently deprived of the maximum benefits afforded by high-quality dark skies and they also impact on the tourism potential through Dark Skies in those areas.
- ② A key element in obtaining official IDA designation will be a commitment from the AONB to preserve (and improve) the night sky quality through the implementation and enforcement of quality lighting codes. Consultation with appropriate officers in the local authorities and the Trunk Road Agency indicated a mix of policy and practice amongst them together with a variety of future plans across them.
- ② A series of engagement events were held throughout the study with specific groups, as well as the general public, to raise awareness of the importance of dark skies and the AONB's aspirations. These are indicative of the type of the programme required in future to attain formal IDA designation
- ② We have produced an indicative Community Guidance Pack and Business Guidance and Toolkit. These can be amended accordingly by the AONB for a future education and engagement programme needed for formal IDA designation.

RECOMMENDATIONS

In light of the above, we propose a series of implementation recommendations to take an action plan forward to obtain formal IDA designation.

RECOMMENDATION 1

We propose that Dark Sky Community status is most appropriate if the AONB is considered on its own. We believe the best option moving forward is to apply for Dark Sky Community status with a view to establishing long-term partnerships with adjoining areas. A larger collaborative application to IDA for reserve status could then be considered in the future working in partnership with neighbouring areas. The AONB may wish to approach the IDA to see if another description of its own is more appropriate than 'community'.

RECOMMENDATION 2

To apply for Dark Sky Community (or Park) status, the AONB will need to establish a regular night sky monitoring programme, devise a progressive lighting plan that seeks to reduce and/or minimise light pollution, and establish education/training and community awareness plans.

RECOMMENDATION 3

The opportunity exists to designate specific locations within the AONB as Dark Sky Discovery Sites (DSDS). Such a route might still be available formally, but if not, it could be done informally. In seeking to attain official designation as a Dark Sky Community (or Reserve) as a more ambitious approach, there is likely merit in this as an intermediate step, and as part of the wider process.

As such, the AONB might consider whether it is worth establishing a number of Dark Sky Discovery sites within the AONB for communities and visitors and promoting these through the AONB's website and other marketing routes.

RECOMMENDATION 4

The development of a separate dedicated lighting plan to be submitted as part of the IDA application. To develop this, further to the completion of this study, we propose a specific lighting working party be established to produce it, comprising the appropriate lighting and planning officers, and perhaps led by Tony Hughes from the AONB.

This should decide on whether Supplementary Planning Guidance (or another form of guidance) can be produced by the AONB. A defined discrete piece of work

undertaken by a lighting engineer based on the evidence provided here is likely to be necessary for the actual plan.

RECOMMENDATION 5

The AONB creates an ongoing series of Dark Sky awareness events and activities in coming years as part of its Dark Skies action plan and application, based on the experiences of the activities and events undertaken as part of this study.

RECOMMENDATION 6

The AONB uses the indicative community guidance produced and amends accordingly for future use to support its Dark Sky aspirations and application.

Together with an awareness events programme, this should be used as part of ongoing community engagement and involvement and to enlist letters of support needed from community organisations for the IDA application.

RECOMMENDATION 7

As necessary, the AONB amends the indicative Business Guidance and Toolkit we have produced to support the business and tourism elements and include it as part of its Dark Sky aspirations and formal application. This could also be used to enlist letters of support from business and local and regional tourism organisations for the IDA application.

RECOMMENDATION 8

In conjunction with the events and activities, the collection of supporting materials including letters of support is undertaken from a range of interested partners and community organisations as well as the appropriate statutory authorities. A letter of support from the Future Generations Commissioner might also be a good idea in light of the WFGA.

RECOMMENDATION 9

In light of challenges, especially around lighting, political champions, who are supporters of the ambitions and recognise the benefits of dark skies, are identified amongst the elected members of each of the three local authorities to act as advocates and help drive the action plan forward.

FUTURE ACTION PLAN COSTS

We consider there are two elements to this:

1. the implementation of lighting changes and associated costs
2. the costs incurred in delivering the action plan itself (printed materials, website, events, and surveys etc.)

Lighting Costs

It is not possible at this stage to provide accurate indicative figures since this will require an agreed plan amongst the AONB and the relevant partners to move towards the IDA-compliant lighting code. As such, this funding could potentially be largely outside the direct influence of the AONB, e.g. the Trunk Road Agency. Also, as indicated in section 5, procurement could be an issue in this regard. Nevertheless, it is clear that this is likely to cost hundreds of thousands of pounds. Some of this will fall within the existing budgets of local authorities for their lighting changes in the coming years but it should be borne in mind that some of it might require additional budgets outside that allocated.

Other Action Plan Costs

These costs are comparatively more modest, but, unlike the lighting costs, where budgets will be available for at least some of the work, in this case, the AONB will have to use its own resources or may well have to apply for additional funding from external sources.

In providing an indicative figure for specific events, DSW normally charges a daily rate of £800 (+VAT) for business events and £500 (+VAT) for community events. The Brecon Beacons NPA holds 6 events each year as part of its Dark Skies programme, so at DSW rates, the average cost is around £12,000. DSW surveys to monitor dark sky quality are priced at £2500 each, so two likely to be required each year, this will be between £7,500 and £15,000 over a three-year period. With associated elements we believe an indicative total cost over three years is likely to be around £35-40,000 (+VAT).