

IDA - Annual Report 2017

Snowdonia National Park Authority

Introduction and General Overview

Snowdonia National Park is the second area in Wales to be designated as an International Dark Sky Reserve by the International Dark Sky Association (IDA). This is a highly prestigious award, given only to places with outstanding Dark Sky Quality and ones which make real efforts to preserve them. The Snowdonia National Park Authority (SNPA) staff along with various partners worked hard to build public support for the idea of protecting Snowdonia's night skies, and since its designation as an International Dark Sky Reserve back in December 2015, have subsequently made great strides in educating locals about the fragile state of dark skies in the Park and its value both as a natural resource and a tourism draw.

The whole reserve extends over more than 2,100 square kilometres, equating to around 10% of the total land area of Wales. Together with the Elan Valley Dark Sky Park, the Brecon Beacons Dark Sky Reserve, and a string of Discovery Sites along the Pembrokeshire Coast Wales has around 17% of its land committed to taking action towards the preservation of its night skies. The designation as a IDSR is not only an opportunity to protect the environment and enhance biodiversity but also an opportunity to advance further by highlighting features which link the stars to our history and our culture here in Wales.

This report provides a brief summary of our shared efforts and achievements, in compliance with the IDA guidelines for IDSR, during the past two years. If you have any enquiries, wish to share any thoughts or ideas, or want to get involved in any way, please get in touch using the contact details listed below:

Contact details

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Lighting Developments



Gwynedd Council Opts for Dark Sky Friendly Lighting

Gwynedd Council and the Highways Agency have embarked on a three-year project which aims to dim approximately 10,000 (of the 17,500) streetlights in Gwynedd. They aim to do this by replacing the original Halogen fixture with an LED lantern (around 4000k). At the end of March 2017, when they were 18 months in to the project, they had successfully dimmed 50% of the lights and are now on track to complete the project within the timeframe. Communities or areas are chosen 'ad-hoc' and of the 'pilot areas' (which were communities specifically targeted for Dark Sky promotion for the Dark Skies project) Beddgelert has not yet been

changed. However, other villages and communities within the 'core areas' of the Dark Sky Reserve have been dimmed such as Nant Peris and Betws Garmon. In summer 2017 they (Highways and Gwynedd Council) submitted a funding bid for another major investment, a three-year project to dim the remaining 7,500 street lights in Gwynedd.

National Park Authority Publishes Supplementary Planning Guidance on Obtrusive Lighting

This document is one of a series of Supplementary Planning Guidance Notes (SPGs) which provides further detailed information in support of the policies contained in the Eryri Local Development Plan (ELDP). The purpose of the Supplementary Planning Guidance on Obtrusive Lighting is:

- To provide detailed Guidance about the manner in which the National Park Planning Authority will deal with those planning applications in which the developments proposed require exterior lighting which may have a harmful effect on the night-time character and wildlife of the National Park.
- To encourage developers, architects, lighting designers and ecological consultants to provide non-obtrusive lighting designs when preparing proposals for any development which incorporates an element artificial lighting outdoors. Consideration should also be given to possible obtrusive lighting from interior lights.
- To provide Guidance to assist officers and members in determining planning applications



The revision of Eryri Local Development Plan acknowledges the designation of the Dark Sky Reserve. Also, a reference to the Reserve will made in Development Policy 2: Landscape, to ensure that any exterior lighting required in a new development will not be obtrusive and cause light pollution nuisance to neighbours, harm to biodiversity and landscape interests. It will also seek protect those areas of Snowdonia with the darkest skies.

Sky Quality Monitoring

Sky Quality Meter Readings

One of our efforts to support the preservation of the night sky is regular monitoring of the quality of the night-time sky. Using hand held Unihedron Sky Quality Meters (SQM) we record measurements of the relative brightness of the night time sky at various locations across the DSR, we then input this data in to a spreadsheet allowing us to monitor for any changes. To date, we have identified and monitored 70 sites across the Dark Sky Reserve, and we are now working on creating a QGIS layer with all this information for ease of data sharing. Snowdonia Society Volunteers and SNPA Staff have carried out monitoring of the night sky, and guidelines for how to take measurements as well as a recording form were provided. Average readings from within the core zones were 21.29 in year 2016 and are currently 20.45 for 2017, although some sites are due to be monitored in December 2017.



Steering the Way Forward

Dark Sky Steering Group

Following the designation as an IDSR, there has subsequently been a formation of a Dark Sky Partnership. The Partnership is made up of individuals who represent organisations, charities, businesses or authorities across the board who meet to share ideas, thoughts, developments and opportunities relating to dark skies within their sector. To date, the group have met three times, with a 4th meeting scheduled for December 2017.

Community and Media Relations

Discovery in the Dark (Profi'r Tywyllwch) Website launch

In Spring 2015, the National Parks of Wales received a £36,000 Visit Wales Partnership for Growth (P4G) grant to develop and deliver the Discovery in the Dark project. The aim of the project was to foster links with the business sector and to promote opportunities to enjoy Wales' night sky.

The project delivered the following elements:

- Product Development Branding of 'Dark Skies' for the National Parks of Wales
- Dark Skies activities and events
- A Discovery in the Dark marketing plan
- A short film to promoting opportunities to enjoy the night sky in the National Parks of Wales
- A Discovery in the Dark Skies website (www.discoveryinthedark.wales)

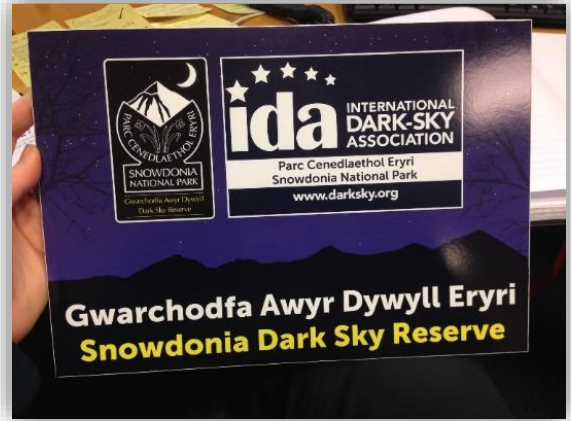


Stocking up on Dark Skies

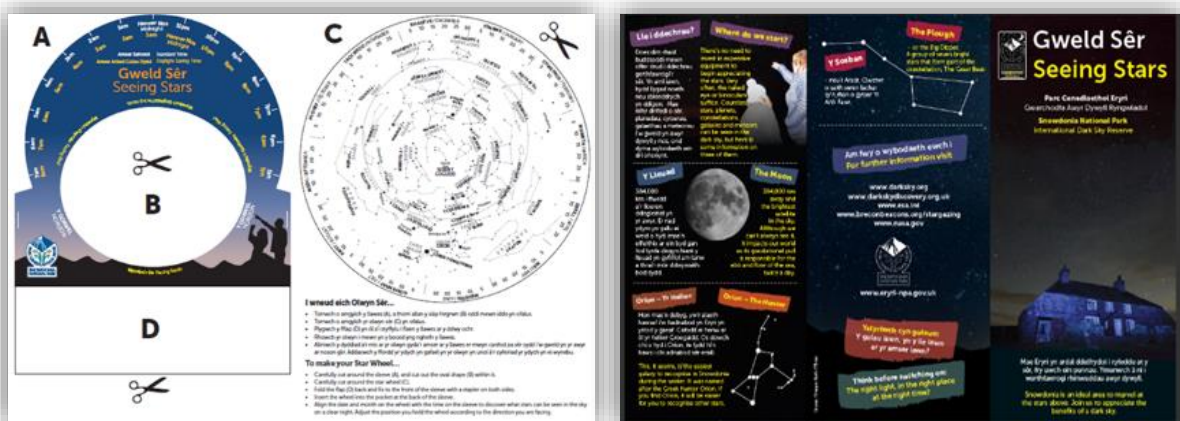
Dark Sky themed gifts are now on sale in SNPA Tourist Information Canters across the national park. These take home gifts include a 'Dark Sky' Candle Making Kit which have been carefully selected and branded with the Dark Sky Reserve Logo, and aim to increase awareness of the Dark Sky Reserve, even after returning home.

Croeso / Welcome!

Since the designation the Snowdonia National Park have designed and printed 15 aluminium signs which inform the public of the Dark Sky Reserve Status (Picture on the right). Each sign is identical and contains the IDA Dark Sky Reserve Logo and are currently in the process of being erected in various locations across the Reserve. These include tourist information centres (Beddgelert and Betws y Coed), car parks (such as Pen y Pass and Capel Curig) and areas noted for their dark sky quality (Such as Tŷ Cipar on the Migneint). Installation of signs are due to be completed before winter 2017.



Additionally, the SNPA have developed both a pocket sized guide to the night sky and a leaflet with an introduction to the Dark Sky Reserve, its importance and significance.



Dark Skies at the Eisteddfod

The National Eisteddfod is the national festival of Wales, its language and culture. This arts festival is also Wales' oldest festival; with the first Eisteddfod dating back to 1176. The festival visits North and South Wales on alternate years, takes place for eight days at the start of August, and the central festival field is a vibrant one, teeming with stands, stalls and shops, food, music, arts and crafts, design and architecture. It attracts around 160,000 people each year, from all over the world.

This year the Eisteddfod was held in Bodedern, on the Isle of Anglesey, around 20 miles for the Snowdonia National Park boundary and one of the Dark Sky Reserve core areas. The 'Dark Skies' theme took centre stage on the SNPA stand with a large print out of the winning image from the Dark Sky Photography Competition, two star-themed interactive activities, a bat-making workshop and a star wheel workshop. We also handed out leaflets on the Dark Sky Reserve and a guide to the constellations of the night sky. Interest in the Dark Skies was positive and apparent, and leftover material from the event will now be used in any future public engagement.



Spreading the Biodiversity Word

Conservation lies at the core of the SNPA's existence, thus biodiversity has been a strong theme in Dark Sky communication with the public, communities and schools. In 2016 three local schools were visited by the SNPA during the national biodiversity week; activities included moth trapping and identifying, owl pellet dissecting, and even live owl and bat handling. In addition, there have been two nocturnal bioblitzes that have taken place at separate sites, a further six pop up moth trapping sessions and numerous community talks on dark skies.



Astrophotography

Astrophotography is becoming an increasingly popular hobby, with pictures of star trails, the Milky Way and the aurora gaining significant interest on social media. In April 2016, the SNPA and Snowdonia Society arranged a night of star gazing and astrophotography in Trawsfynydd, near to one of the IDSR core areas. The night was an introductory session to the night sky and aimed at amateur photographers. Fifteen people attended the session.

In addition, back in Winter 2016, the SNPA launched a Dark Sky themed photography competition. There were two categories, one for adults over 18 and one for children 17 and under and the theme 'Snowdonia Dark Sky' was open for interpretation by the photographer. Unfortunately, there were no entries for the 17 and under categories, despite being widely publicised on social media. It was a learning process for the SNPA, and we now plan to run a series of workshops to encourage the younger generation to take an interest in the night sky. There were 12 photographs entered to the over 18s category, and the prizes for 1st, 2nd and 3rd were photography vouchers worth £400 in total. The winning picture is at the top of this report.

Book Launch

On August the 4th 2017, the SNPA hosted the launch of a book titled 'Dark Land, Dark Skies' by Martin Griffiths. Martin is professional astronomer, former senior Astronomy Lecturer at the University of South Wales and a science presenter with Dark Sky Wales. The book launch was held in Plas Tan y Bwlch, the SNPA's Education vessel, and had over 40 people attend. Following a brief introduction to the book, the attendees were then given a planetarium tour.



Getting Active

Night time stargazing is not exclusive to astronomers. There are a growing number of activities that can enhance your enjoyment and understanding of the night sky. A local Outdoor Activity company (Psyched Paddleboarding) has recently branched out to include Night Time Paddle Boarding as one of their Activities. The sessions include a brief introduction by the trainers before spending nearly 3 hours paddling and stargazing. It is an opportunity to learn more about the history of the local area including tales of the



Mabinogion, discovering more about nocturnal creatures such as bats and owls, and also a great opportunity to keep fit.

Astro Tourism Takes Off

Dark Sky Guidance for Local Businesses

EU funding was secured by Menter Môn to promote a Phase I business partnership that explored dark sky tourism and its viability for tourism providers in the Snowdonia region (Menter Môn was established to deliver European Union rural development programmes). Menter Môn engaged the services of experts in dark sky and tourism to provide training, evaluation workshops and surveys of an initial 10 business that showed interest in the Phase I scheme. These were then joined by an additional 4 businesses due to the interest, though many more businesses applied to take part in the survey, these had to be narrowed down to financial considerations on the part of Menter Môn. Many of the businesses involved with the scheme have taken the training in their stride, with some even organising Dark Sky Themed events, such as a recent stargazing weekend event in September hosted by the Welsh Highland Railway

Additionally, they have also embarked on an artistic interpretation of the night sky by recreating the Solar System within IDSR. They hope to work with artists to create planets and other qualities of the solar system such as comets and asteroid belts which will then be placed in businesses around the National Park. The model will be 'in ratio' in hope that it will effectively display the size of the Solar System in its context and adds value to the Dark Sky Reserve status in Snowdonia. For example, if the Sun is located in Blaenau Ffestiniog, the planet Saturn would be placed in Trawsfynydd and Pluto in Tywyn.

Future Plans

Onwards and Upwards

- *Lighting Inventory / Good Practice Guide* – We aim to create a user friendly 'Good Lighting Guide' which we can hand out to businesses and residents within the IDSR to advise on Dark Sky friendly outdoor lighting fixtures. The SNPA have recently had initial discussion with Siemens, located on the outskirts of the Dark Sky Reserve Boundary, who hope to change their current outdoor lighting fixtures to accommodate for the Dark Sky quality.
- *Dark Sky Photography Club* – The Dark Sky Photography Competition winner has agreed to run a series of photography workshops during winter 2017/18.
- *Mobile Observatory and telescopes*
- *Visit Wales* – Potential to promote astro-tourism through the current Year of Legends and next years' Year of the Sea through
- *Dark Sky Rangers* – Working in partnership to provide dark sky training for 'Dark Sky Rangers' who will educate and inspire the public
- *Conservation and Research* – We are currently in the process of having initial discussions with Bangor University to identify any potential research areas. We are keen to work with the Arts and Design department and hope to design a Dark Sky friendly light fixture or an artistic interpretation of the Dark Sky Reserve, which will encourage its protection. There is also potential to work with students from the Biological Sciences department to possibly monitor changes in nocturnal wildlife in response to lighting change within the Dark Sky Reserve in Snowdonia
- *Source Funding for future projects potentially from Welsh Government – Rural Development Plan (RDP)*
- Work closely with other National Parks and Dark Sky areas in the UK and elsewhere in the world to share ideas and thoughts, creating a stronger Dark Sky Community

Making Connections

In light of all past and present developments and in anticipation of potential future Dark Sky developments, the Snowdonia National Park Authority wish to thank everyone who have supported and driven the designation forward. It is clear that our Dark Skies are becoming increasingly recognised as a valuable quality, which need to be protected; for biodiversity, for tourism and for our health, wellbeing and enjoyment. Here are a few of the organisations, groups and authorities that we have worked with over the last two years.

