

Exmoor National Park International Dark Sky Reserve IDSA Dark Sky Places Annual Report

INTRODUCTION

The last 12 months have seen the continued promotion and protection of Exmoor's amazing dark skies. In partnership with a number of external organisations and individuals, Exmoor National Park Authority has continued to celebrate, monitor and protect the quality of Exmoor's dark sky.

By inspiring people, residents and visitors alike, to better understand and appreciate the rare qualities that the dark sky above Exmoor has to offer, the National Park seeks to maintain its status as one of the eleven International Dark Sky Reserves recognised worldwide by the International Dark Sky Association.

This October will see the introduction of our very first 'Dark Skies Festival'. Between the 19th and 29th October 2017, this new festival will be offering an exciting variety of events and opportunities for people to experience and appreciate the special qualities that the dark skies of Exmoor have to offer.

We look forward to continuing to work with our many partners on opportunities and activities to continue to celebrate the dark night skies.

> Robin Milton Chairman of Exmoor National Park Authority



WHERE IS EXMOOR'S DARK SKIES RESERVE?

Exmoor Dark Sky Reserve was designated by the International Dark Skies Association in 2011. The core area covers 83 square kilometres from Brockwell Farm near Wootton Courtenay in the east, to Challacombe Common in the west. It is a landscape of heather and grass moors, virtually all of which is Open Access land. There are only two occupied buildings within the Core Area -Blackpitts bungalow and the Pinkery Education Centre, both owned by the National Park Authority.

This core area is surrounded by a buffer area of 98 square kilometres of mainly farmed landscape, which includes a number of small settlements; Simonsbath, Exford, Luccombe and Wootton Courtenay.

The reserve sits within the protected landscape of Exmoor National Park, designated in 1952 in order to conserve and enhance the natural beauty of Exmoor and promote opportunities for the understanding and enjoyment of its special qualities by the public. It is administered by the National Park Authority from its offices in Dulverton.

Dark night skies have been identified as one of the special qualities of the National Park and continue to be protected and promoted by the Authority, along with many of its residents and businesses.

Key Core Dark S Buffer Zone Suggested 4 National Par



EXMOOR NATIONAL PARK AUTHORITY EVENTS AND ACTIVITIES

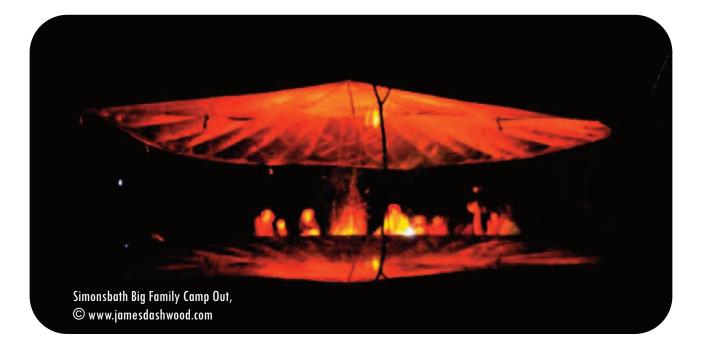
During 2017 ENPA delivered a number of events that celebrate Exmoor's dark skies and allow people to enjoy exploring Exmoor at Night.

Family Camp Outs

Following on from the success of last year's Big Adventure Family Camp Outs, we doubled the number and length of events to 4 over the summer months that supported families to experience camping out under the dark skies and stars in the National Park. Based in four different locations across the National Park – Horner Woods, Simonsbath (both in the Buffer



Zone of the Dark Sky Area, Wimbleball Reservoir (a Dark Sky Discovery Site) and Heddons Mouth (to the north of the buffer zone), these weekends offered a chance to experience the dark night skies and to observe the nocturnal wildlife. These have been fully booked, attended by over 300 people across the summer months and have been a great success with some families attending every weekend.



Dark Sky Themed Events

Other Dark Sky themed events this year have included a "Forest Night Walk" in May, searching for wildlife in the woods of Croydon. Species to look out for included deer, bats, glow worms and the elusive night jar.

The Discover Exmoor's Glow Worms event was led by a National Park expert and was attended by 30 people. This late night walk around Wimbleball Lake, situated in the eastern side of the National Park, searched for glow worms and other nocturnal creatures in the darkness.

The popular **Dunkery by Moonlight** walk in early August to watch the full moon rise from this highest point in the National Park unfortunately had to be cancelled due to bad weather.

Dark Skies Pocket Guide This free information leaflet continues to prove very popular. So far we have distributed 40,000 as well as many online <u>downloads</u>. EXMOOR National Park Dark Skies Guide

> Your guide to getting the most from Europe's first International Dark Sky Reserve

Dark Skies online

Exmoor National Park's <u>Stargazing section of</u> <u>our website</u> has been updated to include booking information and links to events in the upcoming Dark Skies Festival and has had over 16,000 page views since January 2017

Dark Skies Video

We have commissioned a young local filmmaker to produce a new short film called Exmoor's Dark Sky: Gateway To The cosmos which will receive its premier at the opening evening of the Exmoor Dark Skies Festival (see below).



The First Exmoor Dark Skies Festival October 2017

Exmoor is busy planning for its first 'Dark Skies Festival' scheduled to run from the 19th -29th October. This will be taking place at a range of venues across the park and will include for family events, planetarium sessions, astronomy events, adventure and walking tours and visits. It is anticipated the 10 day event will engage with over 2000 people.

The first weekend will include the festival launch and an evening talk by Will Gater, astronomy journalist, author and presenter. This will be followed by an Astro Party at Wimbleball Lake where the 'Space Detectives' will be running a fun 'Our Place in Space' workshop with interaction and audience participation, space crafts, experiments and Virtual Reality headsets.

The Space Odyssey mobile planetarium will offer 360° 3D digital dome experiences for children and adults of all ages at a number of venues including Lynton, Dulverton and Dunster.

Other events include opportunities to celebrate darkness with a ghostly gardens walk at Dunster Castle, star gazing adventures with astronomer Seb Jay, night navigation led by a National Park Ranger and a childrens night bike ride to name but a few!

We have had 7500 Festival programmes printed (right) and bookings are already filling up so we hope to be reporting very positively in the next annual report on this festival.



PARTNERSHIP WORKING

South West Astro Fair

Exmoor National Park Authority attended the South West Astro Fair, held at the Norman Lockyer Observatory in Sidmouth. As one of 20 plus stall holders, this event attracted over 500 amateur astronomers and enabled Exmoor to promote its range of Dark Sky related opportunities and events and to engage with a wider and interested audience of future visitors.

Intereg Project

Exmoor National Park Authority has been successful in a partnership bid for Intereg funding with lead partner Alentejo in Portugal, to work collaboratively with a range of partners in the Atlantic Area territories, including Visit Cornwall, in developing a network of natural sites with Dark Sky designation (IDSA and 'Starlight'. Once launched this would provide up to 150k Euros in funding for the development of astro tourism initiatives. The project objectives will seek to attract new visitors and diversify the tourism offer. Collaborative working will be a key part in the success of this project, sharing knowledge and experience, using new communication tools to do so.

Visit England Funding

Exmoor has worked with other English National Parks to submit a bid to Visit England's **Discover England** Fund to develop themed experiences and tailormade visitor experiences for international visitors to National Parks. If the bid is successful Astro Tourism and Dark Skies is likely to form one of the experiences to be developed through this. Working closely with local businesses to offer and provide comprehensive packages centred around astro tourism would help extend the visitor season from the spring months and into the autumn.

International Dark Skies Conference September 2017

This was conference was attended by a representative from Exmoor National Park Authority and provided a comprehensive opportunity to learn and network with an international group of very keen and committed astronomers, scientists, tourism providers, artists, ecologists, tourism and marketing managers to name a few. Held in the Dark Sky Park of the Galloway Forest Park in Dumfries and Galloway, this three day event enabled the topics of light pollution/ night blight, the environmental impact of losing dark skies and the continuing development of astro tourism to be fully debated and engaged with by all those attending.

Importantly it also provided for future positive collaboration on a national and international scale to address all of these topics.

DARK SKIES IN THE NEWS

A selection of press coverage from 2017:

Early Dark Skies Festival tickets

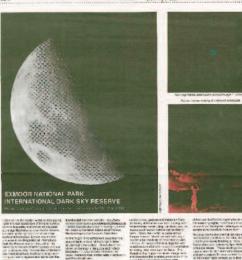
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Arts & Ent

Galaxy of activities at the first Exmoor **Dark Skies Festiva**

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experienced M ers deep into said director Redm i: "It's a g

HE TIMES Saturday September 17 2006

Opportunity for businesses and groups or Dark Skies Festival sday 19 to Sunday 29 October 2017

Authority is pleased to con-m that we will running moor Dark Skles Festival an Thursday 19 October to nday 29 October 2017 - a ten of activit for on Hill

businesses may wish to use the festival in their own marketing o attract more visitors in this cultor season. There will be bookable ses-sions in our pop-up planetarium and informative and enquiring talks, nature walks and chi-chication tasem and ranges. You may want to view the night sky houch telescores in an evening Wimbleball Lake. xmoor National Park hority will oversee the festi-and deliver some activities sciebrate Exmoor's Interna-tal Durk Sky Reserve desig-tion, but we would also come ofter organisations tourism businesses to take ups may wish to host their yent or support others and

EXMOOR MINGAZINE AUTUMN' 17



for Exmoor's first Dark Skies Festival are progressing erest from the public, local groups and the media. val, which runs from 19 to 29 October, celebrates Famoor's status as first international Dark Sky Reserve.

na Munro, Sconomy Project Officer for Exmoon National Park Authority, said, timoless landscapes, far-teaching views and some of the clarkest skes in de make Exmoon the perfect place to stargaze and discover more about the night sky

In various events to appear to arming and children as a need in watching the stars. Will Gater, TV and radio prese giving a talk about Exmoor's dark sizes and rarer phenor to think they could see or photograph from so far soul m Lights. At the start of the festival over 500 schoolchild Nommon Ligns: A the start of the featual over 500 schoolchilden will be on Stomour to learn about the night deals. For familes there are sessions all atourd formour to an anoble planetarum, an annaing adrup family at Winholehall take whi will have fun hundi-on aessions and virtual reality experiences, as well as tradition suggering and a night-time foretr wak and campline. For the more ademunous, there is a night-time mountain biking expedition, a night tree: climb, an schlasatt night-ravegring mould with a National Park Range and a guided night walk up to Durkery Bescori – the highest point on Somon.

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Dark Skies

enjoy a round evening. If you are interested in ning an event or using the l satract more visitors diacuss i

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Uncovering

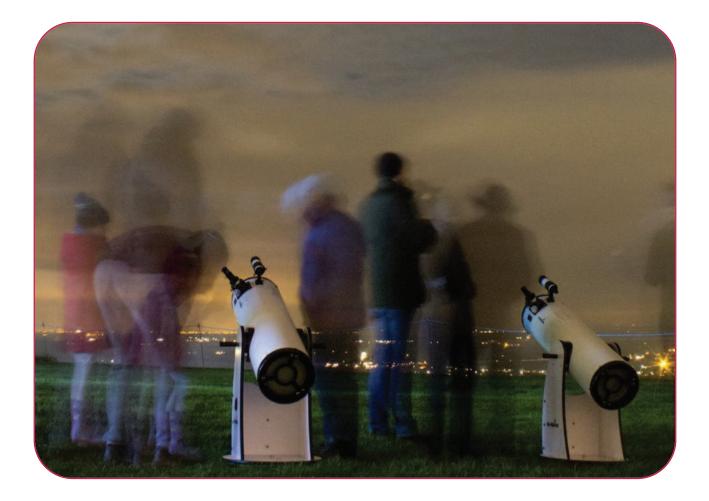


DARK SKY TELESCOPE HIRE

Dark Sky Telescope Hire provides telescopes for use on Exmoor through the National Park Centres at Dunster, Dulverton and Lynmouth as well as at West Withy Farm near Wimbleball Lake. All telescopes are supplied with a folder of stargazing information to help users navigate their way around the night sky. We have also produced a short video showing how to use the telescopes which is on the Stargazing page on our website

We have hired out telescopes on 20 occasions October 2016 to Sept 2017.

Seb Jay who owns the company also provides stargazing experience nights on Exmoor. They start with a laser-guided tour of the stars and constellations that can be seen from Exmoor, and then use one of the portable telescopes to explore the night skies.





UPDATE FROM EXMOOR STARGAZERS

Exmoor Stargazers continues to flourish as a group of amateur astronomers and scientists. With aims to learn from each other and encourage more people to enjoy star gazing, the group currently numbers around 25 members and holds

monthly meetings, operating with support from local businesses. It offers observing sessions to members across the National Park in addition to its monthly meetings. The group has also been responsible for providing 12 talks on Exmoor's Dark Skies to visitors via a locally based holiday company. This increases visitor engagement and experience of both Exmoor and its dark skies.

For those not able to attend monthly meetings a facebook page offers a range of up to date information. This currently has 500 followers.

Exmoor Stargazers are actively involved in the preparations for the Dark Skies Festival and will be offering an opportunity to use a solar telescope as well.

http://www.exmoorstargazers.co.uk/

https://www.facebook.com/ExmoorStargazers/



SKY QUALITY DATA

Summary of annual survey data, collected by Dr David Brabban TMDAS

		Memorial Stone	Kinsford Gate	Winsford Hill	Halse Farm	Prayway Head	Brendon Two Gates	Robbers Bridge	Porlock Common	Porlock Post	Heath Poult Cross	Haddon Hill Car Park	Observing Dates
2009	high	21.41	21.45	21.46	21.67	21.80	21.78		21.50		21.63	21.66	March - May
	low	21.08			21.07	21.28							
2010	high	21.41		(21.42)			21.31	21.50	21.46	21.35	21.47	21.49	March
	low	21.21							21.36		21.20		
2011		21.40	mist	21.39	21.49	21.47	21.53	21.49	21.46	21.52	21.49	21.53	April 3-4
		21.45	21.47	21.44	21.43	21.48	21.49	21.43	21.36	21.43	21.39	21.44	April 28-9
2012		21.30	21.25	21.53		21.49	21.51	21.42	21.36	21.40	21.33	21.35	March 25
2013		21.40	21.38		21.49	21.34	21.47	21.44	21.45	21.51	21.49	21.50	April 5
2014													
2015		21.20	21.40		21.55	21.50	21.50			21.50	21.53	21.58	April 22
2016		21.50	21.60		21.70	21.60	21.60	21.70	21.55	21.70	21.60	21.70	May 3
2017			21.30		21.40	21.40	21.35	21.40	21.35	21.40	21.40	21.40	Mar 25

Notes

2014 No data collected (poor weather at the wrong times)

2015 Some interference from moon (small), especially at Memorial Stone & Kinsford Gate

2017 No data for Memorial Stone; moorland on fire in area

Annual monitoring of the night sky quality has continued to be carried out by long term National Park volunteer, Dr David Brabban, to whom we are very grateful. This has provided a consistent data set over the last 8 years and indicates that Exmoor's skies continue to be exceptionally dark.

The readings are taken from a number of locations across the park, and return consistent readings indicating that Exmoor has a night sky brightness that is regularly darker than 21 mag/ arcsecond squared.

Sky glow is experienced from all neighbouring major local towns and cities including Barnstaple, Taunton, South Molton, Exeter and along the South Wales coastline. Any significant improvement in data readings to seek to increase our tier status (currently silver) would require actions from these neighbouring communities to reduce nighttime light spill.

DEVELOPMENT MANAGEMENT

Exmoor National Park Authority is the Planning Authority for the area and has worked hard through the planning process to reduce light pollution.

Lighting conditions to control the impact of light pollution have been attached to 108 development proposals permitted during the 2016/17 monitoring period. This is a substantial rise in the number of conditions attached since monitoring began in 2005/06; and represents the significance the designation of the International Dark Sky Reserve has had on the National Park and the associated importance of maintaining and enhancing the experience of tranquillity on Exmoor.



The adopted Local Plan 2011-2031 policy on lighting (CE-S2 Protecting Exmoor's Dark Night Sky) reinforces the Dark Sky Reserve status of the National Park through applying discrete criteria to the Dark Sky Reserve core area, the buffer zone, and the remaining area of the National Park.

The National Park Authority has recently drafted a new Local Plan. New policies reinforce the Dark Sky Reserve status of the National Park through applying discrete criteria to protect the Dark Sky Reserve core area, the buffer zone, and the remaining area of the National Park.

Exmoor National Park Local Plan 2011-2031

CE-S2 PROTECTING EXMOOR'S DARK NIGHT SKY

- 1. The tranquillity and dark sky experience of the National Park, and its status as an International Dark Sky Reserve, will be maintained and improved.
- 2. Development proposals should seek to reduce light spillage and eliminate all unnecessary forms of artificial outdoor lighting in the National Park by ensuring that:
 - a) The Dark Sky Core Zone is protected from permanent illumination.
 - b) External lighting within the Dark Sky Critical Buffer Zone is strictly controlled.
 - c) Good lighting management and design is applied throughout the National Park to avoid unacceptable adverse impacts on:
 - i) the visual character of the landscape, seascape, and historic built environment;
 - ii) wildlife and habitats; and
 - iii) local visual amenity and safety.
- 3. Development proposals that involve external lighting, outside the Dark Sky Reserve Core Zone, will only be permitted where it can be demonstrated that they are required for safety, security or community reasons and where the details minimise light spillage; having regard to the Lighting Management Plan guidance.

The Lighting Management Plan is specifically identified in the Local Plan to assist applicants with submitting lighting compliant applications.



There were two applications permitted within the Dark Sky Reserve core area during the period 1st April 2016 to 31st March 2017. The first for a change of use to staff accommodation did not have a condition attached; given the existing use as hostel accommodation. The property is managed and in the ownership of the Authority and therefore there is negligible risk of any external lighting being installed. The second application concerned the erection of an extension to an existing dwelling within the core area where a condition was applied to ensure that the installation of any external lighting would need to be approved by the National Park Authority.

Within the critical buffer zone, 40 applications were approved during the monitoring period. Of these, 23 applications did not have conditions attached to control the installation of external lighting to control the impact of light pollution on the Dark Sky Reserve due to the type of works proposed e.g. some residential extensions, changes of use, certificates of lawfulness and erection of telecommunication masts. Ten telecommunications masts were permitted within the critical buffer zone as part of the roll out of superfast broadband

across the National Park, using fixed wireless technology. These are timber telegraph poles ranging in height from 5-12m high above ground, with supporting radio equipment and cabinets. The proposals do not feature any form of external lighting. The single small external light needed for new public toilets in Exford was considered to be acceptable as the light would be designed to only switch on when people pass close to the building and would automatically switch off; being located within Exford village was judged to have a non-material impact on the locality.

The remaining 17 applications were considered to be of a type that either may lead to, or proposed, the installation of external lighting. The decision notices for these applications had a planning condition attached to ensure that no external lighting is installed on the building or the defined application area without approval by the local planning authority. It is a matter of planning judgement regarding whether conditions should be applied for external lighting or not and this is dependent on the nature of the development proposed, its scale and location. A large number of the developments permitted with lighting conditions within the critical buffer zone were agricultural or equestrian buildings, one of which also included a condition controlling the internal lighting of the building due to the inclusion of rooflights in the approved building. The conditions also require that the external lighting shall thereafter be installed and operated fully in accordance with the approved scheme.

Both Devon and Somerset County Councils are responsible for street lighting across Devon and Somerset, and are both reducing the environmental impact of street lighting through light dimming, converting lamps to more efficient bulbs, and part-night lighting. Part night-lighting has already been implemented in several communities across Exmoor. There are no communities within the Dark Sky Reserve area, and of those within the 'Critical Buffer Zone' only Exford has street lights (totalling 8). The West Somerset Free Press reported in September 2012 that "Lights in Monksilver, Dulverton, Winsford, Brushford, Exton, Brompton Regis and Exford will be either dimmed, turned off or removed altogether in a cost-saving exercise spearheaded by Somerset County Council".

Devon County Council has also reported on the communities where part-night lighting has been introduced – this includes the settlements of Parracombe and Lynton & Lynmouth within the National Park. However, a number of other settlements close to the National Park boundary are also included, such as Brayford, Bratton Fleming, Combe Martin, Kentisbury and North Molton.

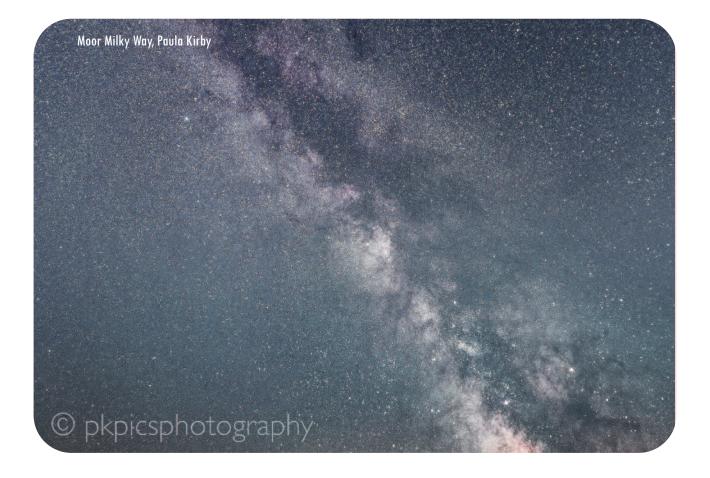
Exmoor Landscape Character Assessment report.

This year has seen the development of the 2017 Exmoor National Park Landscape Character Assessment report. This draft document provides a detailed update on the 2007 Landscape Character Assessment report and incorporates significant new evidence and research to provide a comprehensive assessment of the character of the diverse and distinctive landscapes of Exmoor National Park. This includes recognition of the special qualities of these landscapes including dark skies and tranquillity and seeks to conserve and enhance these as per the first purpose of the National Park designation.

It is intended this document will be approved in late 2017 as a Supplementary Planning Document which will give greater recognition and protection to the dark skies of Exmoor.

Proposed Review of External Lighting Planning Guidance.

We will be carrying out this review for Exmoor National Park Authority in relation to Dark Skies over the next 12 months.



LOOKING FORWARD

We will continue to support events and activities and to work closely with local businesses and interest groups, including Exmoor Stargazers, to promote, protect and celebrate our dark skies.

The draft Exmoor Partnership Plan 2018 - 2023 which is currently out to public consultation will fully recognise the importance of dark skies on Exmoor and will actively plan to conserve and enhance these as special quality of this National Park.

We will seek to work in partnership with the family of National Parks in England and Wales and other neighbouring organisations to address night sky pollution.

We continue to explore the potential for an observatory at our Education and Outreach Centre, Pinkery, at the very heart of the Dark Sky Reserve, with this is mind the Chief Executive and Interpretation & Education Manager recently went on a fact-finding mission to Kielder Observatory.

We are also talking to local astronomers about running a themed astronomy weekend at Pinkery in March 2018.

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