

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

October 2015-2016

Working  
together  
for **Exmoor**





## INTRODUCTION

Over the last 12 months many individuals and organisations have been continuing to promote and protect Exmoor's beautiful dark night time skies.

We saw the growth of a new group "Exmoor Stargazers", which held a variety of events throughout the year; the National Park Authority ran camp outs, talks and walks, while continuing to protect dark skies through the planning process.

Local astronomer Dr David Brabban continued his annual dark sky monitoring and at a national, level Exmoor National Park Authority, along with 17 other organisations, including AONBs and National Parks, supported the Campaign to Protect Rural England's research into "night blight" which highlights night sky pollution across the UK. Over the next twelve months we are looking forward to working with our many partners on a range of events and activities to continue to celebrate the Dark Sky Reserve.



Andrea Davis, Chairman of the Authority

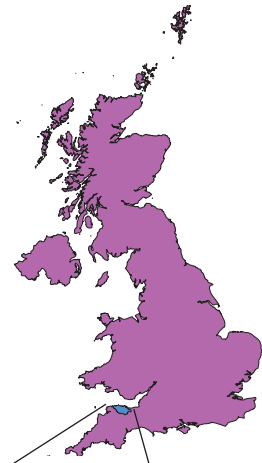
## WHERE IS EXMOOR'S DARK SKIES RESERVE?

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.

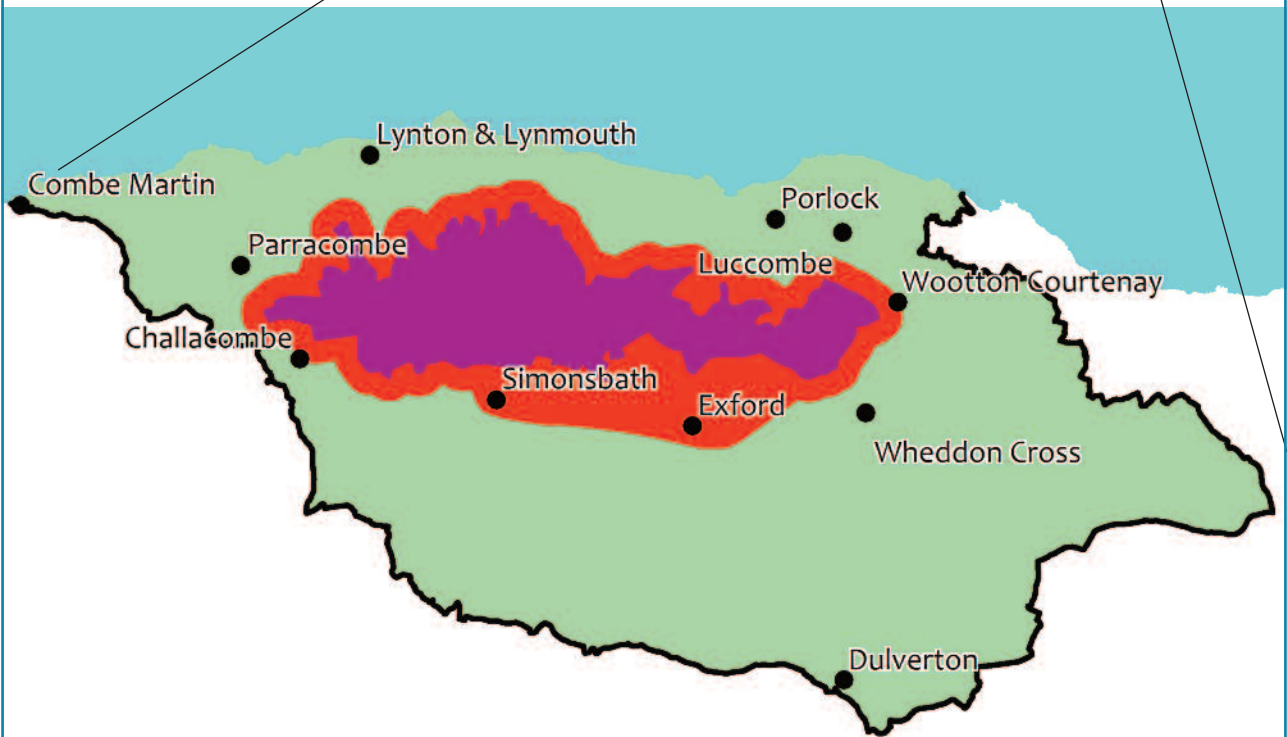
This core area is surrounded by a buffer area of 98 square kilometres of mainly farmed landscape, which includes a number of small settlements; Simonsbath, Exford, Luccombe and Wootton Courtenay.

The Reserve sits within the protected landscape of Exmoor National Park, designated in 1954 in order to conserve and enhance the natural beauty of Exmoor and to 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.



- Settlement
- Exmoor National Park Boundary
- Exmoor National Park Dark Sky Reserve
- Dark Sky Core Zone (least inhabited area)
- Critical Buffer Zone



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2015 Ordnance Survey 100024878

# EXMOOR NATIONAL PARK AUTHORITY EVENTS AND ACTIVITIES

Over the past 12 months, Ben Totterdell, Interpretation & Education Manager, and other staff have organised a variety of activities for families that celebrated Exmoor's dark skies and enabled people to enjoy exploring Exmoor at night.

## Family Camp Outs

We organised two events that supported families to experience camping out under the stars in the National Park. Based in two locations - the beautiful National Trust-owned Horner Woods, situated in the Buffer Zone of the Dark Sky Area, and Wimbleball Lake, a Dark Sky Discovery Site.



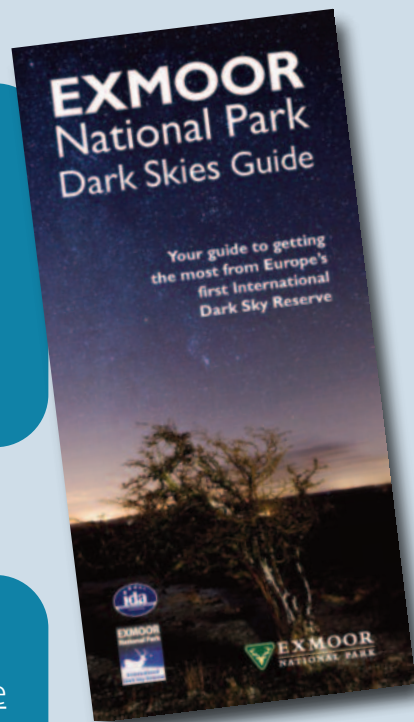
People were offered a chance to use telescopes to explore the night sky and were able to discover some of Exmoor's nocturnal wildlife. These have proved a great success with over 50 families attending and great feedback. We are doubling the number of these events for 2017.



Other Dark Sky themed events this year have included “Dunkery by Moonlight”, when around 50 people enjoyed a guided walk up Dunkery hill to enjoy the night skies; and “Discover Exmoor’s Glow Worms”, a walk around Wimbleball Lake in the dark to search for glow worms and other nocturnal wildlife. There were also evening talks, including one by Dr Andrew Morse from the Rosetta Project.

#### 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 [downloads](#).



#### Dark Skies online

Exmoor National Park's [Stargazing web page](#) has been updated with links to upcoming dark sky events, a photo gallery and video. Between January 2016 and October 2016 the page had over 11,800 page views, a small increase on the previous year.

#### Dark Skies Video

We have commissioned a young local filmmaker to produce a new short film that will explore and celebrate Exmoor's Dark Skies.

## DARK SKIES IN THE NEWS

Exmoor's Dark Sky Reserve continues to generate lots of interest, with press locally, regionally and nationally.

### "Super Blood Moon"

On 27 September 2015 a harvest moon coincided with a partial lunar eclipse creating a larger than life 'super blood moon'. BBC TV spent the night on Exmoor, joining an astronomy safari event hosted by the Luttrell Arms in Dunster. In the morning footage from the night before was shown alongside live interviews with ENPA staff, astronomers and the proprietor of the Luttrell Arms. They discussed the astronomical event and the benefits Dark Sky status brings to tourism in the area. The show reached over 8m viewers on TV and an estimated 32m online.



Other items that captured press interest included:

Three books were published which feature stargazing on Exmoor:

*'Slow Travel - North Devon & Exmoor'* by Hilary Bradt.

*'The Coleridge Way Companion Guide'* by Ian Pearson.

*'Finding a Million Star Hotel'* by Bob Mizon.

In September 2016, Outdoor Productions Ltd, featuring Julia Bradbury (right), filmed a walk from Lynmouth to Countisbury Hill. When the programme is aired on ITV in 2017 it will include an item on stargazing. The average audience for the first series, aired last year, was 3.5 million people per episode.





A selection of press coverage:



**BY PHIL GOODWIN**

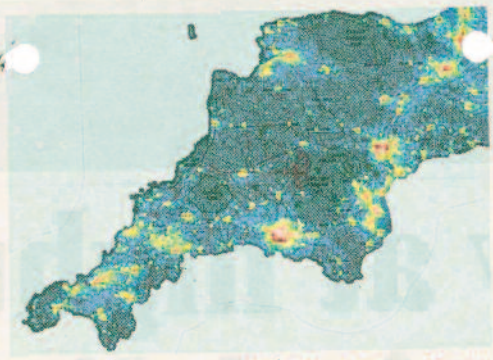
The skies above Cornwall are the fourth darkest in England, new interactive maps have revealed.

The county is bidding to become home to only the fourth International Dark Sky Park – countryside that provides outstanding views of the night sky – in the UK.

It is hoped the data from analysis of light pollution could support the attempt to have Bodmin Moor recognised as a gold standard sky park, which is comparable to World Heritage Site status.

The most detailed ever satellite maps, released today by the Campaign to Protect Rural England (CPRE), rank Cornwall ranks as the fourth darkest of the 41 counties in England.

The images, produced using satellite images cap-



New CPRE maps show the extent of light pollution in Devon and Cornwall

Only 6.6 per cent of Cornwall falls between the brightest layers of rankings of light pollution, from "brighter" to "brightest."

Anita Grice-goldsmith, dir-

corridor of pollution with Newquay on the north coast.

The maps also show also prominent upward light pollution dotted along the coastline and across the countryside. This research comes at a time of increasing awareness of the harmful effects light pollution can have on the health of people and wildlife.

The maps were produced by Land Use Consultants from data gathered by the National Oceanographic and Atmospheric Administration in America.

CPRE Cornwall is calling on Cornwall Council to use the data to identify and target the worst areas for action.

Emma Marrington, of the CPRE, said: "Many children in urban areas may not have seen the Milky Way, our own galaxy, due to the veil of light that spreads across their night skies."

W.M. NEWS 13.6.16.

# West sky at night a star gazer's delight

But map shows light pollution blight to the countryside

New interactive maps show parts of the Westcountry to have some of the darkest skies in England.

But the new images also reveal how light pollution blights the countryside.

The skies above Cornwall are the fourth darkest, accord-

ing to the most detailed ever maps, released today by the Campaign to Protect Rural England (CPRE).

It is hoped the data will support a bid to create the

fourth UK International Dark Sky Park on Bodmin Moor.

Emma Marrington, senior rural policy campaigner at the CPRE, said dark skies make the countryside so different

from urban areas. "Many children in urban areas may not have seen the Milky Way our own galaxy, due to the veil of light that spreads across their night skies," she added. The

maps show light pollution around urban areas and hot-spots along the coastline and across the countryside. In Cornwall, a corridor is spreading from coast to coast.

Full story **PAGE 2**



GUARDIAN - 10:5:16.

### Celestial accolade

## South Downs' dark skies win place in the spotlight

The South Downs national park has been named as the world's newest "international dark sky reserve" for the quality of its starry nights.

England's youngest national park won the accolade from the International Dark-Sky Association for providing dark skies within reach of nearly 17 million people living in Greater London and south-east England.

It is the second dark sky reserve in England, along with Exmoor national

park ranger Dan Oakley and volunteers spent three years mapping the quality of night skies across the park, which has 2 million people living in or within three miles of its boundaries.

Local authorities are also replacing 2,700 street lamps across the park with LED lights which direct light downwards and reduce light pollution.

The move to create a dark sky reserve

was backed by more than 70 parish, town and county councils and other organisations, and more than 1,300 people signed a "dark skies pledge". In the future, the South Downs national park authority will use its role as a planning authority to protect the skies above the park as well as the landscape.

Towns and cities on the edge of the park, which stretches through parts of Hampshire and East and West Sussex, include Portsmouth, Brighton, East-

### SOMERSET GAZETTE

countygazette.co.uk

Thursday June 16, 2016

## Pristine dark skies in Somerset are among best



The skies over Wimborne Lake. PICTURE: Paul Howell

SOMERSET is one of England's best places for stargazers, according to night-time satellite images.

Exmoor National Park is the second darkest place in England with 92 per cent pristine dark skies, helping place West Somerset as the nation's seventh blackened district out of 358.

And 95.5 per cent of the Quantock Hills ranks within the two darkest categories out of a total of nine.

The picture is less encouraging in the county's towns, with high levels of light pollution in Taunton, Yeovil and Bridgwater.

The map produced from satellite pictures captured at 1.93am throughout last September, shows only 22 per cent of England has pristine night skies.

The research follows in increasing awareness of the

harmful effects light pollution can have on the health of people and wildlife.

The Campaign to Protect Rural England (CPRE) is sending plans to primary schools to promote the enjoyment of dark skies and calling on local authorities to address the problems associated with light blight.

Chris Edwards, Quantock Hills Area of Outstanding Natural Beauty manager, said:

"The darkness of the skies in our wilder and more natural areas is so important to the unspoilt character we are trying to protect.

"Not only astronomers and stargazer groups appreciate this, but it is critical to much

of our wildlife - both resident and migratory."

Chris Lewis, chairman of CPRE Somerset, said: "Dark skies are a key characteristic of what makes the countryside so different from urban areas and they offer a sense of awe and wonder to local people and visitors lucky enough to experience them.

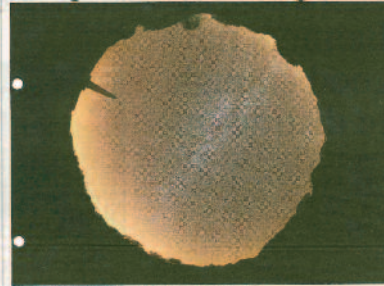
"We are really proud that Exmoor National Park is leading the way in protecting its dark skies through strong lighting policies.

"We hope CPRE's new mapping will enable other areas of Somerset to make their skies as dark as possible.

"Obviously this is more of a challenge in more populated areas, but there are steps all councils can take to reduce light levels by demanding better planning and design of new developments."

21.6.16

## New satellite maps reveal the best places for the stargazers



Light pollution is the biggest threat to the night sky, according to a new satellite map. The map shows that the best places for stargazing in Britain are in the most rural areas, where light pollution is lowest. The map also shows that light pollution is highest in the most populated areas, such as London and the southeast of England.

## Out of this world!



Report says Exmoor is one of the top ten places for stargazing in Britain - page eight

## 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.

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.

This past year has seen an increase in the number of telescope hires made across Exmoor, and in the number of stargazing experience night enquiries for Exmoor. Seb has had people from Exeter, Bristol, London and South East England contact him to arrange telescope hire or a stargazing experience night on Exmoor. He has also had overseas visitors contact him as they have heard that Exmoor is a really good place to see the night sky from the UK.

Of the people enquiring about stargazing nights on Exmoor, 68% are visitors to the area, with the remainder being residents on Exmoor or in close proximity to Exmoor where they would drive out for the night and then go back home.





Of the people enquiring about hiring a telescope on Exmoor 74% are visitors to the area, with the remainder being residents on Exmoor.

In September 2015, in celebration of 100 years of the Womens' Institute, a stargazing night was held at the Lynmouth Pavilion for a group of about fifty ladies from Wellington WI.

In April 2016, the annual stargazing night at Lynmouth Pavilion was attended by 45 people including teachers and pupils from Kingsmead School in Wiveliscombe.

## UPDATE FROM EXMOOR STARGAZERS

Exmoor Stargazers is a newly formed group made up of amateur astronomers and scientists. Its aims are to learn from each other and encourage more people to enjoy stargazing. The group has a website and Facebook page:

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

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





Feedback from stargazing nights on Exmoor:

Sept 2015

Thank you so much for last night. The Lynmouth National Park centre was a fantastic alternative to hold the indoor planetarium version of your Stargazing experience. It was lovely to walk from the car park along the river and seafront. Lynmouth is such a beautiful place. Please thank Dave for agreeing to open the centre for us.

I'm sure if we had been able to see your experience at County Gate it would have been even more spectacular but I am personally hooked on finding out more about our universe. Your knowledge and enthusiasm for the subject came across.

The ladies loved the evening and was a different way to celebrate our 100th anniversary than the usual party and a memory I'm sure they will all treasure.

Veronica Nicol  
Treasurer of Sampford Arundel WI

April 2016

Just a quick email to say thank you for a great evening last night, both Maria and I really enjoyed the couple of hours that we spent with you. It didn't take us too long to thaw out once we got home!!

Malcolm Hayllar

"Hi Seb

March 2016

Just wanted to say thank you again, despite the cold Tim and I really enjoyed our hour with you on Winsford Hill looking at the stars. Your knowledge and enthusiasm made it very interesting and we would happily recommend you to others.

Tim & Kath Mitchard

# 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 Poul 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

### Notes

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

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

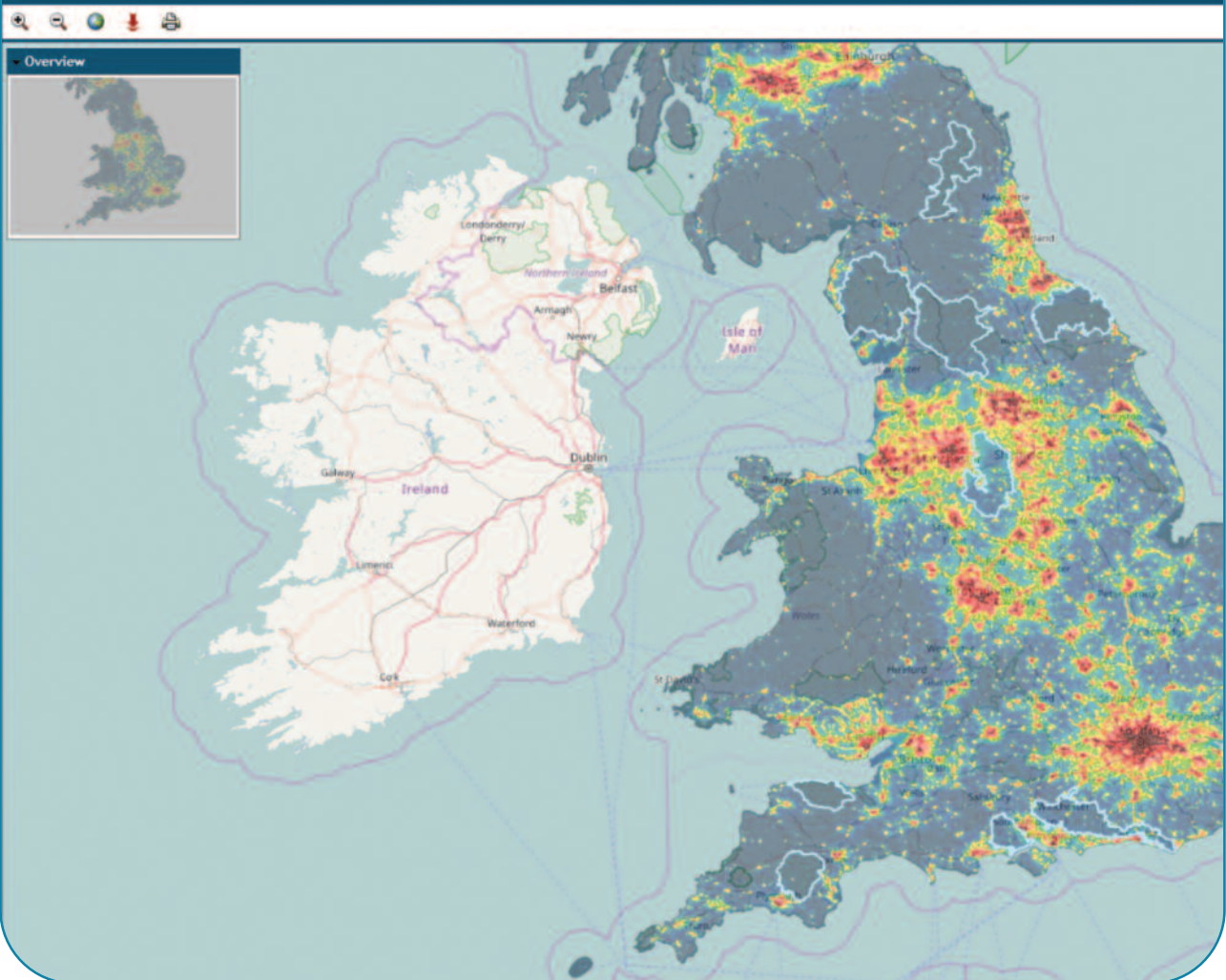
We are grateful to Dr David Brabban who continued to monitor sky quality across The Reserve during 2016. The figures in the table are Sky Quality Meter (SQM) readings taken at various points around Exmoor. The bigger the number the darker the sky. Values over 21 are good and this year's figures showed a slight improvement on 2015.

# CPRE'S NIGHTBLIGHT CAMPAIGN

In 2016 the CPRE commissioned the most detailed ever satellite maps of England's light pollution and dark skies. The study showed that Exmoor is the darkest National Park in southern England, having 92% pristine dark skies. Exmoor National Park Authority along with 17 other organisations helped to fund the report.

The full report is available [here](#).

## England's Light Pollution and Dark Skies

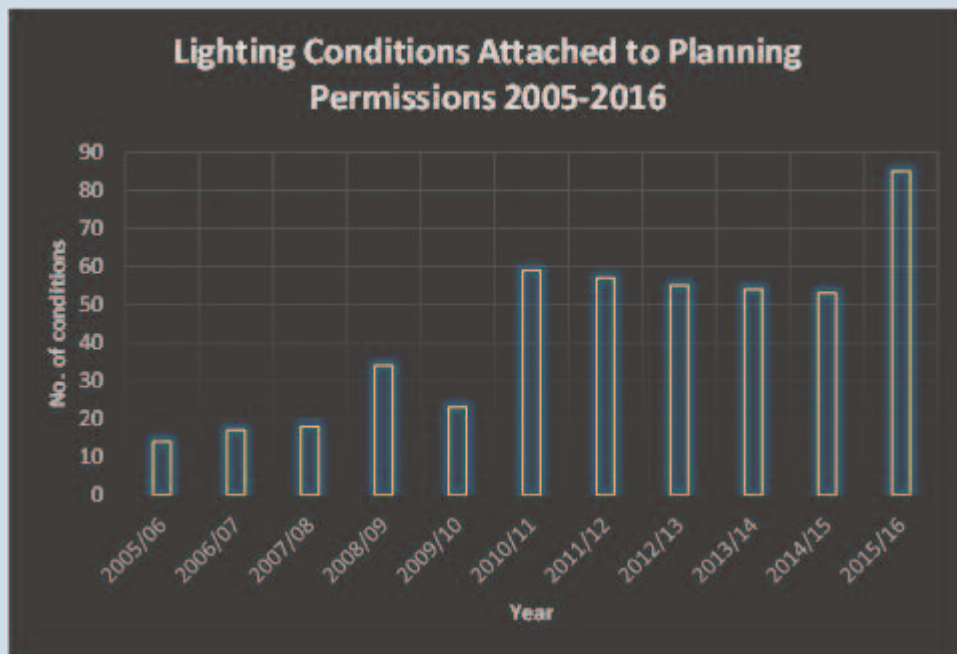




# DEVELOPMENT MANAGEMENT

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 85 development proposals permitted during 2015/16. 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.



No planning applications were approved within the Dark Sky Reserve core area. Within the critical buffer zone, 24 applications were approved. Of these, 12 applications were not considered to adversely impact on the Dark Sky Reserve or necessitate the use of external lighting due to the type of works proposed e.g. residential extensions, change of use, alterations to existing buildings etc.

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.

Publication Draft Local Plan (June 2015)

#### **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.

Development proposals that involve external lighting, outside the Dark Sky 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.

Our partner organisations, Devon and Somerset County Councils, are responsible for street lighting 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 including Monksilver, Dulverton, Winsford, Brushford, Exton, Brompton Regis, Exford, Parracombe and Lynton & Lyntonmouth. There are no settlements with the Core Reserve Area.

## LOOKING FORWARD

Throughout 2017 we will continue to support events and activities and will work closely with Exmoor Stargazers to promote and protect our dark skies.

We are currently working on the next Management Plan for the National Park which will fully recognise the importance of dark skies on Exmoor. We are exploring the potential for an observatory at our Pinkery Education and Outreach Centre, which is at the heart of the Dark Sky Reserve.

Andrea Davis

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