

Exmoor National Park Authority

Exmoor National Park International Dark Sky Reserve

IDA Dark Sky Places Annual report October 2013 – October 2014

Emma Dennis
4/9/2014

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Introduction

Exmoor National Park Authority is committed to conserving and enhancing the special qualities of the National Park and seeks to promote the understanding and enjoyment of these, for the benefit of people that live and work within the park and visitors alike.

The Exmoor National Park is administered by the National Park Authority which exists:-

To conserve and enhance the natural beauty, wildlife and cultural heritage of the National Park.

and

To promote opportunities for the understanding and enjoyment of the special qualities of the National Park by the public.

The protection of the remaining dark night sky fulfils key elements in both of these two national objectives.

This report has been prepared in response to a request from IDA representative John Balentine for an overview of the past 12 months activity in respect of the International Dark Sky Reserve Designation.

It must be said that it is not possible for this report to encapsulate the full extent of the benefits that the IDSR status has brought to this area of the UK or to represent the appreciation of people that continue to enjoy their experiences within the reserve.

The sky quality has been maintained with some improvement in areas, improvement is gradual but in a positive direction as people's awareness and value of the IDSR becomes more widespread.

Contacts

Current information for the site IDA contact(s)

Chief Executive - Dr Nigel Stone

External Relations Manager - Clare O'Connor

Conservation Officer (Landscape) – Emma Dennis

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Tel: 01398 323665 Visit Our Website at: www.exmoor-nationalpark.gov.uk

Observations

At the present time there is no plan to apply for a tier status upgrade however this may be something that the authority or partner organization may wish to review in future.

Estimate number of site visitors in the last year. Of those, how many participated in dark-skies programming?

Exmoor National Park welcomes approximately *** visitors annually, of these *** spend at least one night within the IDSR and have the opportunity to experience the night sky.

Lighting

Overview of lighting projects

The authority processed a number of planning applications which included external lighting, through the development control processes, the number of external lighting units was reduced, with only essential lighting units permitted that were compliant with best practice, to conserve the night sky quality within the IDSR. The core area has been fully protected, with no new light fixtures introduced into this area, existing lighting has been significantly improved.

Planning for lighting with appropriate design and planning guidelines

and

Appropriate choice of lighting fixtures and correct lighting installation practice

Lighting within the Exmoor IDSR.

The authority promotes best practice for lighting management and provides accessible information to everyone to observe when repairing replacing or installing lighting within the IDSR. It is not possible to enforce the removal or replacement of lighting units, however many people have chosen to make improvements in respect of the IDSR designation. Local authorities who manage publicly owned lighting now observe IDSR lighting requirements as set out in the LMP.

The authority observes the Lighting Design Roadmap as shown in the Exmoor Lighting Management Plan and recommends the use of current best practice guidance such as that prepared by the Institute of Lighting Professionals (ILP) in the UK.

The Authority is encouraging residents to complete a 'self audit' of lighting under their management on a voluntary basis, guidance for this is provided within the LMP. Property self audit guidance will be made available through the National Park's website.

There has been no change to the extent of the IDSR area.

The Exmoor IDSR designation has had a positive influence on attitudes towards the management of artificial lighting beyond the boundaries of the National Park area.

Communities

A policy was included in the Draft Local Plan (consultation Nov-Dec 2013) which developed the existing lighting policy into a policy which reflects the importance of protecting the Exmoor National Park Dark Sky Reserve:

CE-D1 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 through seeking to reduce light spillage and eliminating all unnecessary forms of artificial outdoor lighting in the National Park by ensuring:**
 - a) The Dark Sky Core Area (as defined on the Proposals Map) is protected from permanent illumination.**
 - b) Strict controls on external lighting within the Dark Sky Critical Buffer Zone (as defined on the Proposals Map) and open countryside/areas of rural darkness including light spill from within non-residential buildings.**
 - c) Good lighting management and design throughout the National Park to reduce all forms of external light spillage, and avoiding adverse impacts on:**
 - i) the visual character of the landscape, seascape, cultural heritage and the built environment,**
 - ii) wildlife and habitats, and**
 - iii) local visual amenity and safety.**
- 2. Development proposals that involve lighting 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.**

Figure 1 Extract form recently updated ENPA planning policy document

We are pleased to report that administrative area of North Devon and Torrridge District Councils now include the protection of Exmoor's dark night sky within their Publication Draft Local Plan policies. These policies reference the Exmoor National Park International Dark Sky Reserve designation.

Since the work leading up to and following the designation of the National Park as a Dark Sky Reserve – the number of lighting conditions attached to planning permissions has substantially increased.

Sky Quality

The National Park Authority maintains a sky quality monitoring initiative. It is anticipated that the quality and quantity of survey work will develop over time to become more comprehensive in terms of extent and detail. Partnership working with other organisations will facilitate improved analysis of results. The National Park Authority is seeking partner organisations who may wish to take the opportunity to work with the organisation in achieving this. The University of Hertfordshire has now removed its permanent all sky camera from the IDSR however the information that was collected during the period of installation provides a valuable record for future monitoring. Technological problems led to the removal of the camera and it is hoped that a new one will be installed in future.

Table 1 Summary of annual survey data, collected by Dr David Brabban TMDAS

Year	Location	Memorial stone	Five Barrows cross	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	h i g h	21.41	21.45	21.46	21.67	21.80	21.78		21.50		21.63	21.66	March - May
	l o w	21.08			21.07	21.28							
2010	h i g h	21.41		(21.42)			21.31	21.50	21.46	21.35	21.47	21.49	March
	l o w	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_2 5
2013		21.40	21.38		21.49	21.34	21.47	21.44	21.45	21.51	21.49	21.50	April_5
2014	To be completed autumn winter season.												

Reassuringly annual survey data indicates that sky quality has been maintained in the majority of locations and that there has been some improvement in some monitoring stations such as Porlock and Haddon Hill.

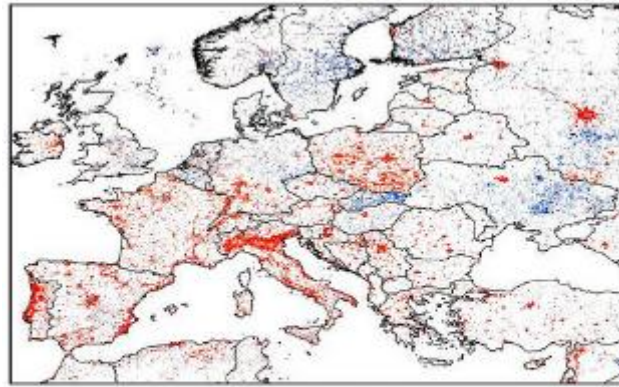
Conservation and Research

Exmoor National Park Authority of partnership working with universities to extend the monitoring and benefit of conservation and enhancement of the night sky quality within the reserve and beyond. There are some interesting projects on the horizon which include those which may arise out of the Ecolight project.

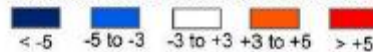
University of Exeter Environment and Sustainability Institute

Researchers track light pollution from space

Urban development and the growth of cities across Europe have resulted in a continental trend towards increasing brightness of night-time light. However, some regions show more complex patterns, and others feature large areas where the observed brightness has decreased.



Change in brightness (calibrated digital number)
between 1995-2000 and 2005-2010



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convergence
for economic
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These contrasting results are the key findings of a new study led by Professor Kevin J Gaston, and undertaken by researchers from the University of Exeter's Environment and Sustainability Institute (ESI) on the Penryn Campus.

Since the 1970s night-time satellite images of the Earth from space have provided a striking illustration of the extent of artificial light. Meanwhile, growing awareness of the adverse impacts of artificial light at night on scientific astronomy, human health, ecological processes and aesthetic enjoyment of the night sky has led to recognition of light pollution as a significant global environmental issue. Links between economic activity, population growth and artificial light are well documented in rapidly developing regions but this is the first study of its type to track both increases and decreases in light across Europe.

The team from the ESI used a novel method to analyse satellite images of European night-time lights over a 15 year period from 1995 to 2010.

Dr Jonathan Bennie, co-author of the recently published findings explained some of the key observations the team made: "Cornwall and the South West of England present fascinating examples of the changes in night-time light. While several parts of the region are getting brighter at night, mostly due to the expansion of new housing and industrial estates, some areas are getting dimmer.

"Elsewhere in Europe, many areas have shown rapid increases in brightness at night – Portugal and Italy are clear examples. These results were pretty much in line with our expectations. However, our most interesting results have identified those areas where the levels of night-time light observed have actually decreased as economic activity has been maintained or increased. Some towns in the South West have achieved this through improvement of their street light design and efficiency.

"While caution is needed in interpreting the data, an examination of the patterns of change can provide useful insights into the causes of changing brightness or levels of light pollution.

This last example shows that that it is possible to limit and even reduce the environmental impact of artificial light pollution while delivering cost and energy-saving benefits, both issues the researchers argue are of growing need and importance.

The ECOLIGHT research project exists to study the ecological effects of light pollution. It is funded by the European Research Council.

The ESI is working with businesses and enterprises across all sectors of the economy in Cornwall, the Isles of Scilly and beyond to translate research and expertise into innovative business practices, products and services in order to respond to the challenges of environmental change. It has been funded by the ERDF Convergence Programme (£22.9M) and the South West Regional Development Agency (£6.6M), with significant support from the Higher Education Funding Council for England.

Download [Contrasting trends in light pollution across Europe based on satellite observed night time lights](#)

Date: 21 February 2014

Funding

No new grants have been sought during the past 12 months. There are no plans for the Authority to apply for future grants at this time, however the National Park Authority administers a Partnership Fund and welcomes applications to fund projects that further National Park Purposes- to which conserving and enhancing the dark sky is prioritised.

Projects that have benefited from this include; PF13-05 Exmoor at Night – Guide to Exmoor' Dark Skies published by Halsgrove Press

<http://www.halsgrove.com/proddetail.php?prod=9780857100917> £2475 provided from delegated grant scheme

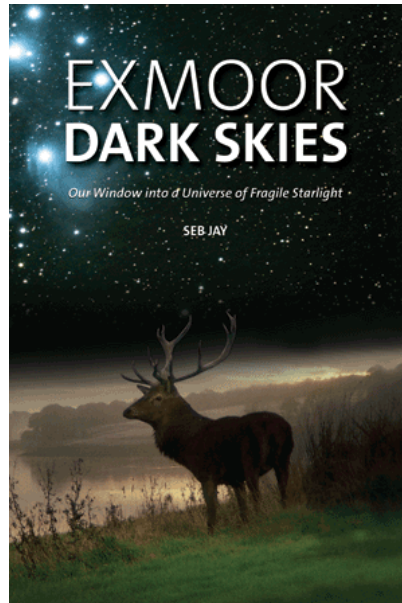


Figure 2 Seb Jay Exmoor Dark Skies

PF12-13 Dark Starry Skies – to engage 1000+ Exmoor residents and visitors to Exmoor with ENP’s Dark Sky Reserve status through artist-led workshops and community events: raising awareness of Exmoor as a Dark Skies reserve and creating with the participants a range of art works and resources that can further promote the reserve to wider audiences. Grant awarded £7,600 – project is due to complete by end of December 2014.

A follow-up project bringing together art and science of astronomy and Exmoor’s Dark Sky Reserve is being considered.

Arts and Culture

Dark skies, arts and culture activity.

National Park/IDSR Visitor Centres

The National Park is host to a vibrant and active arts and culture scene, with the area offering numerous opportunities for public and community engagement. In 2014 the National Park opened a new visitor centre at the old Lynmouth Pavilion (outside of the IDSR core zone but upon the northern edge of the Reserve), with state-of-the-art interactive technology, an Audio-Visual Theatre and an exhibition space. The Pavilion also hosts a 3 year HLF-funded heritage project aimed at revealing, interpreting and showcasing Exmoor’s heritage so as to realise the venue’s full potential.

The first exhibition held within the brand new Lynmouth Pavilion was a ‘Dark Skies’ community display, brought together by an ArtLife-funded project and local artist Frances Harrison. The Project organised a Dark Skies Storytelling event linked to this exhibition, including star shaped biscuits and starry cupcakes. Frances researched and developed a new Dark Sky story specifically for this event, based a local landscape myth. Members of the public were invited to contribute their stories and memories of Exmoor’s Dark Skies prompted by the inspiring exhibition.

Within its remit to develop partnerships with local organisations, Lynmouth Pavilion Project funded a Dark Skies Evening at Lee Abbey conference centre. Attended by over 200 people, this brought

together astronomy groups from around the region who set up telescopes at the end of a lantern walk for the public to take part in guided star-gazing. A mobile planetarium gave a rolling show of 20min-long astronomy presentations. There was an extensive programme of talks by experts and an extraordinary display of astronomical photography, including some of the surface of the sun. Dark Skies storytelling appeared again, and the Lynmouth Pavilion Art Group volunteers ran an art workshop for families to make planet collages and toilet-tube rockets! It was an extraordinary success.

Early in 2014 the Pavilion hosted one of its most successful evening talks on the topic of 'Exmoor's Night Sky through a Telescope' where regional experts came and explained how to use a telescope to view the night sky over Exmoor. It was completely spell-binding and the Pavilion hosted a record number of 51 filled seats – fully booked.

In addition to the above, there have been guided star-gazing events occurring up on Brendon Common throughout the year which were well attended.

Into the future, the Lynmouth Pavilion Project will be displaying the community ArtLife Dark Skies exhibition throughout December, together with a special open celebration evening. This is the culmination of a year's work seeking responses from the community about Exmoor's Dark Skies, including responses from local school children. Lynmouth Pavilion Project has funded the printing and display part of this Community Project exhibition.

Lynmouth Pavilion Project has already booked the astronomical planetarium to appear within Lynton Town Hall for a weekend in early November. As the Project progresses, we are looking to produce an iPad story to appear within the National Park Centre to interpret Exmoor's Dark Sky.

Lynmouth Pavilion Project will be booking another Dark Skies evening talk for this winter, and intends to continue supporting the Dark Skies heritage of Exmoor as a key theme through its remaining two years.



Figure 3 Storytelling at a dark skies event held in a venue near Wimbleball lake within the IDSR now designated as a Dark Sky Discovery Site.

Independent Arts Professionals

Artist and storyteller, Frances Harrison continues to promote awareness and celebration of the Exmoor IDSR status. She regularly works with schools and other organisations to promote dark sky related activities and engagement with people. A recent example is her engagement with the Dunster First school as part of the Art Life community arts project, Dark Starry Skies.

- Exploring photographs and poems with the common theme of stars and space.
- Ancient star stories.
- Drawing inspiration from Art such as Van Gogh's "Starry Night"
- Assisting children in creating their own dark starry night pictures.
- Supporting children in writing their own star stories based on a "story start" provided by Frances or created their own dark starry night poems.
- Event exhibitions
- the Dark Starry Skies project is sponsored by Exmoor National Park Authority, Lynmouth Pavilion, EDF and The Exmoor Trust.

Headteacher Peter Hoyland said, "Frances provided an excellent day for the children and staff at our school. Everyone was enthralled as Frances talked about the stars, space and the universe and told her beautiful star stories. The work that the children produced during the day was outstanding and some of it will be exhibited at Lynmouth Pavilion for the whole month of December 2014.... I would like to thank all those companies and organisations who sponsored this very special event."

"The sky was a glittering sea of stars, it was breathtaking..."

An Exmoor visitor's memory. Dark Starry Skies 2014

Dark Starry Skies is a year-long inclusive community arts project that reflects and enhances Exmoor's status as Europe's first International Dark Sky Reserve and seeks to promote and encourage our sense of awareness and pleasure in our nighttime environment. The project, via a range of workshops, activities and commissioned artwork, investigates and celebrates our relationship with the night sky.

Conservation and enhancement of Exmoor's natural beauty and cultural heritage is enabled through providing residents and visitors of all ages with opportunities to connect in new ways with Exmoor and its dark skies. It puts them in touch with night-time skies, landscape, mythology, folklore. Stories, artworks, deep space photographs, interactive sessions, conversations, performance, and archive material are cultivating a shared understanding of, and respect for, the nature and beauty of our landscape and history.

The "Dark Starry Skies" project is helping to kindle a sense of awe, mystery and wonder in our environment both during and after the project. The project is creating and inspiring a new archive of literary Exmoor stargazing journals which will include stories, poetry and thoughts and memories. Selections from this book archive will be made available online. Plans are under way to develop a future project and an App that will enable an international participation in this project and forge links with other International Dark Sky Reserves (subject to successful sponsorship).

Frances Harrison, the Lead Artist and co-ordinator of Dark Starry Skies, is a storyteller, visual artist and History of Art tutor. A key part of this project is the sharing of specially adapted constellation myths and the creation of original dark sky stories.

Performances, workshops and activities for all ages, which take place in schools and community venues, are accompanied by a striking array of deep space photographs and star inspired artworks as well as poetic and scientific text banners.

Also central to the project is a short film which will be made with the support of Ignite Somerset. This art documentary will promote Exmoor's beautiful night skies to residents and visitors.

During the project there will be Pop Up Starry Storytelling Cafés, illustrated talks on "The Sublime and the Beautiful" (Art, Literature and Landscape from the Romantic to now), a display of project work during Somerset Art Weeks "Open Studios" in September 2014, which will also feature Dark Starry Sky artwork by Frances.

The final public event for the project will be an exhibition in Lynmouth Pavilion for the month of December 2014 during which all the project participants' work will be displayed, and the film will be premiered. There will be a day of special activities on December 6th, which will include a talk from one of the scientists involved in the Rosetta project and a performance of a new constellation story.

Frances Harrison August 2014 www.darkstarryskies.com

francesaharrison@hotmail.com

Project funding from ARTlife, Exmoor National Park Partnership Fund, Ignite Somerset, Lynmouth Pavilion Project and the Exmoor Trust.

Outreach

Some highlights of the past year include;


- ENPA flagship National Park Centre (opened in October 2013) has a professionally produced HD film, a key interpretive component, which concludes with the International Dark Skies message.
- Three National Park Centres offer telescope hire working in partnership with the private sector – quarterly updates are provided on what can be seen in the night sky for self-guided exploration.
- Public/private partnership has piloted family friendly star gazing events.
- SWLT has delivered Astrocamps at Wimbleball Lake to engage with the public.
- Private sector is providing Star Gazing Safaris (eg Experience Exmoor)
- Accommodation providers promoting Exmoor Dark Skies as part of their offer (eg Exmoor White Horse)
- Frances Harrison is delivering Exmoor’s Dark Starry Skies arts and culture programme throughout the year with a celebration event in December 2014 (Artlife contract)
- The ENP Dark Skies Pocket Guide has proved popular resulting in an additional print run (10 000)
- The Dark Sky Reserve has been promoted through Exmoor 2014 (visitor newspaper) - print run 100 000
- Yes we have produced and delivered 12 bespoke framed Dark Sky posters (based on the Pocket Guide) for local tourism providers.

12/12/2013 13:45 | By Jane Duru, contributor, MSN Travel

Dark skies: stargazing in the UK

Dark Sky Reserves: Exmoor National Park

Share 53 Tweet 14 f Share 82



SHOW THUMBNAILS Dan James (©ENPA) < 4 of 11 >

Exmoor National Park

Head to [Exmoor National Park](#), Britain's first International Dark Sky Reserve, awarded in 2011. Grab a telescope (they're available for hire from the centres) and head for one of the numerous viewing spots – Wimbleball Lake is one of the best, where visitors can look to the skies from the lakeside, enjoying the sounds of the water lapping against the shore for company.

There's nothing like gazing up at the stars to feel as if you're a tiny speck in the corner of the universe.

On Bing: find out more about Dark Sky Reserves in the UK

National Park rangers arrange numerous events and activities, some of which focus on raising awareness of the rarity and celebrating the dark skies of the reserve.

Night time walks often combine night sky observing with other interests such as ecology. Exmoor is celebrated for its wild Red Deer and rare birds such as the Nightjar.

Four new events were offered in July this year and were well attended by the public.


Nightjar Walk

Date: 3rd Jul 2014 8:30pm

Join a National Park Ranger to seek out these elusive birds and listen to their unique calls and songs. There will also be good opportunities to spot deer, bats and enjoy the amazing starlit skies of Exmoor. Level easy walking along wide forestry trails. Bring a torch, binoculars, insect repellent and your white hanky!

Grade: easy going stroll




This event is brought to you by Exmoor National Park Authority.






Location: Nutcombe Bottom Car Park
Booking: Booking not essential but would be helpful
Charge: £3
Contact: 01398 323841

Our walk grades and suitability of events explained

Information about this event:

 Accessible Exmoor	 Great For Families	 Dark Skies
------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------

What you might see or experience

 Moorland	 Great For Wildlife	 Woodland
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Community and Media Relations

The Exmoor National Park IDSR pocket guide has been very popular with visitors (50,000 have been printed with more than 40,000 already collected by people interested in the reserve), this unique guide to the Exmoor IDSR provides visitors with an abundance of information about the IDSR and where to go to find good observing sites and tips on making the most out of the dark sky experience that the IDSR provides.

The IDSR has attracted media interest with the location, events and activities published in a number of newspapers and magazines in the last 12 months.

Funding to shed light on moor's Dark Skies

STORYTELLERS, artists and astronomers will be helping to celebrate Exmoor's designation as Europe's first dark sky reserve.

The status, which awards the skies above the national park special protection, was awarded two years ago.

But now the West Somerset arts consortium ARTlife has secured a £7,600 funding bonus to help deliver a community arts project to raise local awareness of the prestigious designation.

The cash from Exmoor National Park Authority's partnership fund will go towards the estimated £15,340 total cost.

The initiative will aim to involve more than 1,000 residents and visitors to Exmoor in artist-led workshops and community events while also creating a range of art works and resources that can be used to promote the designation to a wider audience.

A year of activities are planned, ranging from storytelling sessions and guided story walks to the production of a community film, storytelling pop-up cafes and educational talks.

The events would give people the chance to share memories, observations and ideas and to develop creative responses.

In addition to those taking part, the events

are expected to reach a much wider audience through a variety of social media.

And the project will also link with ARTlife's existing work relating to the Coleridge Way, with the poetry of Samuel Taylor Coleridge and the philosophy of the Romantic movement and its affinity to nature acting as a framework.

"The work responds to rising interest in astronomy amongst local communities and especially visitors and will encourage participants and audiences to value, protect and celebrate the night-time landscape," said a spokesman for the project.

"It will help to promote Exmoor and contribute to the long term economic potential of its dark sky reserve status."

The spokesman added: "The arts are a very direct and accessible way to engage people in thinking about their locality."

"The more people understand what is special about a place, the more connected they feel to it and the greater advocates they become for telling others."

ARTlife believes that spreading the word about the designation will potentially assist both the national park authority and individual tourism businesses in attracting more 'dark sky' visitors.

Project leaders staged a pilot event to test their ideas last September as

part of Somerset Arts Week, which featured nine days of activities and attracted 920 people aged from five to 95.

A national park spokesman said the new project represented the first major attempt to address community

engagement with the dark sky reserve status and to work with communities to develop a response to the designation that both helped people understand what it meant and to create resources to promote its tourism potential.

W. S. F. PRESS

FRIDAY, NOVEMBER 1st, 2013

Wee

Dark Skies lakeside party

A DARK Skies workshop will be held at Wimbleball Lake on Saturday (November 9).

The party-style event from 6pm until 9pm has been arranged by South West Lakes Trust and Exmoor National Park in celebration of Dark Sky Discoveries' second birthday.

Family activities include talks and presentations aimed at all levels from beginners to enthusiasts, an astronomical storyteller for kids, telescopes to use and 'From Earth to the Universe' exhibition.

There will also be Torch Transformer Workstation - for which people need to bring a torch - and a chance to walk the Star Trail.

Hot drinks, soup and a bread roll will be available in the café.

There are many positions at Wimbleball Lake where individual or group activities can take place with level hard surfaced areas overlooking the lake with clear big sky views.

Entry and activities are free, although donations will be welcome, and there will be a small charge to enter the Planetarium.

For more information call 01398 371116 or email wimbleball@swlakestrust.org.uk.

Take in 1,000 stars at moorland event

EXPERT advice and top quality telescopes will soon be on hand to those with an interest in the night sky.

Exmoor is a designated Dark Skies area and held a successful stargazing event at Wimbleball Lake for the first time last year.

On Saturday, November 9, the telescopes return with a workshop offering activities and a chance to chat to astronomy experts.

Dark Sky places are areas that have been officially recognised for their low levels of light pollution and good public access.

Wimbleball Lake was nominated as the first such site on Exmoor.

The national park as a whole has been designated



Exmoor is a dedicated Dark Skies area

an International Dark Sky Reserve - the first place in Europe to achieve this certification.

From a city centre location about 100 stars are visible with the naked eye.

The further away from the streetlights the better the view becomes and under a really dark sky, like over the valley at Wimbleball Lake, the view can take in over 1,000 stars.

Our galaxy and the Milky Way also come into vision as they stretch across the sky.

Alex Forster, Exmoor area manager for the South West Lakes Trust, said: "The event is free to get in and is open to anyone. Last year we had a whole mixture of people, from families right through to professors."

"The people who are really knowledgeable are really keen to share that knowledge so it's great."

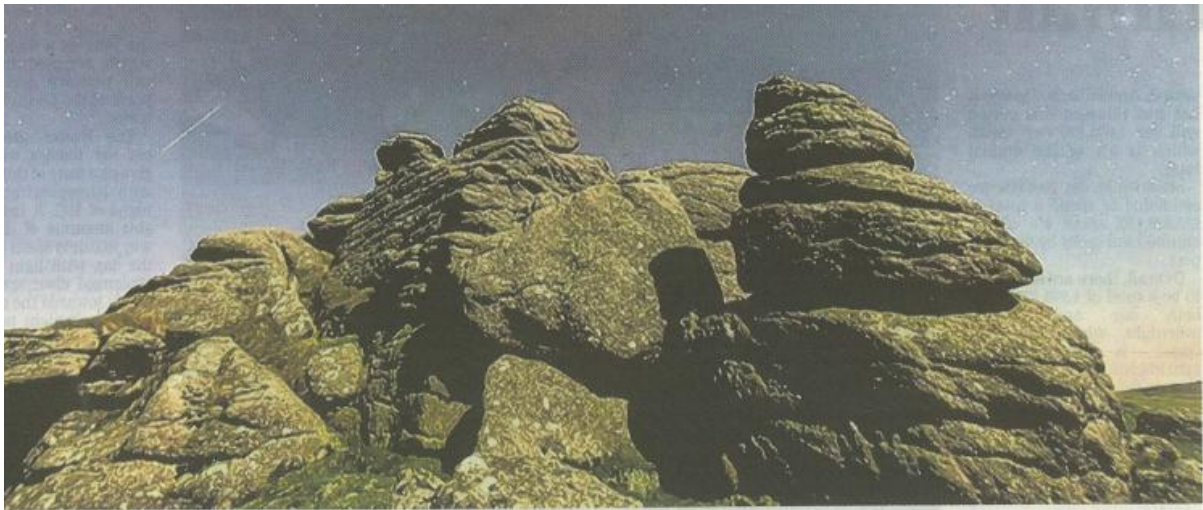
"It's in its second year and it is all quite new still but I

think it's great for local people and also for attracting people into the area too. We have an indoor planetarium or people can hire their own telescopes from the visitor centre."

Other events take place at the lake during the colder months including indoor winter activities such as climbing, archery, high ropes, orienteering and team building.

More daring adventurers who are ready to take on the elements can take part in raft building, sailing and windsurfing - all weather dependent.

The Dark Skies workshop takes place between 6pm and 9pm. There is no need to book.



...sure of a meteor shower over Dartmoor where light pollution is thankfully minimal. Below: The graphic illustrates the struggle for many to see the stars at night PICTURE: JOHN BAKER

Great light invasion leaves us unable to see stars – let alone reach for them

THESE

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...well-known bit of... to hopeful wanna... kinds that they... ach for the stars" is... of date – it seems... eople in the UK can... see any heavenly... wadays, let alone... hem.

...ng to a new survey... cent of the people in... ry are able to look... more than 30 stars... time, thanks to light

...vey, by rural cam... and astronomers... led that the propor... eople living with... t pollution around... ry has accelerated

...in recent years... the Campaign to... ral England (CPRE)... widespread changes... y local authorities... ings like street light-

...sults of the CPRE... tar Count survey... well over half (59%)... 00 people who took... d see ten stars or... in the constellation


...– indicating severe... tion in their area... the worst since 2011... 5 per cent on 2013... number of parti... ho could see more... tars overall, which

...indicates truly dark skies, fell from 5 to 4 per cent.

A Star Count map has been created to show how light pollution is affecting views of the night sky around the country and on it many parts of the rural Westcountry do retain naturally dark skies at night.

However, certain more built-up zones do badly, including the Redruth conurbation and the general Plymouth area, along with Torbay and Exeter.

By far the darkest part of the South West section of the UK map is Exmoor, which is not surprising as the national park was the first place in Europe to be designated an

Can you see more than 30 stars at anyone time?  westernmorningnews.co.uk

International Dark Sky Reserve.

In order to achieve the status, local residents, organisations and authorities had to cut light pollution – and two years ago this eventually resulted in the International Dark Sky Association (IDSA) declaring Exmoor the best place in England in which to stargaze.

Also two years ago, the Government introduced the first ever planning policy to control light pollution, and many councils are now running street light switch-off or dimming schemes in a bid to save

money and energy. But a couple of years later more than four out of five people (taking part in the Star Count survey) were still saying they wanted their local councils to do more to tackle light pollution.

Just one in ten said they lived in areas where street lights were either switched off after midnight or dimmed.

Emma Marrington, CPRE dark skies campaigner, said: "We are concerned that almost six out of ten people who took part in the Star Count saw fewer than ten stars in the Orion constellation. This suggests they have severe light pollution in their area. And the fact that 96% of respondents cannot experience truly dark skies where they live shows just how badly light pollution affects our lives.

"Light pollution ruins the countryside's tranquil character, blurs the distinction between town and country, affects wildlife and denies us the experience of a truly deep, dark and starry sky," she told the *Western Morning News*.

"We urge councils to do more to control lighting in their areas, and ensure that the right lighting is used only where and when it is needed."

However, dark sky advice does begin at home: "Everyone can do their bit to help reduce light pollution," said Ms Marrington.



"For example by ensuring that outdoor lighting on their property is directed downwards and not spilling up into the night sky.

"We need to reclaim our wondrous night skies."

Download the Star Count map at <http://ubuntuone.com/327ymaqdmnyvbb9GOhi5pg>

30 Travel

UK breaks

Stargazing: Britain's 20 best

From a cottage with its own observatory in Wales to a remote and cosy B&B in Scotland, Annabelle Thorpe picks her favourites

1 Kirroughtree House

Galloway Forest Park, Dumfries and Galloway, Scotland

Galloway became the first Dark Sky Park in the UK in 2009, and Kirroughtree House — a cosy country house hotel on the doorstep of the park — holds regular stargazing weekends, led by a local astronomer. The package includes Dark Sky Park Drives (complete with hot chocolate), offering the chance to take in the Milky Way and some 70,000 stars, all of which can be seen with the naked eye. Kirroughtree is an elegant 18th-century former private home, with 17 cosy bedrooms. **Details** Stargazing weekends cost from £199pp half-board (01671 402131, mcmillanhotels.co.uk)

2 Denbies Farmhouse

Dorking, Surrey

Settle in to the cosy farmhouse at Denbies, a sprawling wine estate near Dorking, and stock up on some of the estate's reds to warm up after an evening on nearby Headley Heath. Surrey might seem an unlikely spot for dark skies, but on clear nights thousands of stars are visible, along with the possibility of encountering deer, bats and badgers. By day, the Heath is part of the Box Hill estate, a favourite with walkers and cyclists, offering Surrey Hills views. **Details** Doubles from £98 B&B (01306 876616, denbies.co.uk)

3 Kielder Lodges

Northumberland

Hole up for a cosy winter weekend in one of the luxurious lakeside Scandi-style lodges in the heart of Kielder Forest Park. The park, together with Northumberland National Park, was last week granted dark-sky status by the International Dark-Sky Association. Lodges range from comfortable family accommodation to "executive"-style, with whirlpool baths and lovely lake views. At night the spectacular skies show



why one of the country's leading observatories has been built in the park, and there is a full programme of annual events (kielderobservatory.org) catering for families and amateur astronomers. **Details** Lodges cost from £335 per week, sleeping four (01434 251000, visitkielder.com)

4 Fronlas

Llandeilo, Wales

A gorgeous small boutique B&B in the pretty town of Llandeilo, Fronlas makes an ideal base for night-time forays to nearby Carreg Cennen, a ruined 13th-century castle that tops a limestone cliff in the northwest corner of the Brecon Beacons National Park. At night, the silhouetted castle makes a fantastic backdrop to the star-filled skies that helped the Beacons become only the fifth Dark Sky Reserve in the whole of Europe. Eva and Owain at Fronlas are perfect hosts, offering everything from picnics to tips on the park's quietest spots.

Details From £60 B&B (01558 824733, fronlas.com)

5 Beech Cottage

Ebberston, Yorkshire

A sleekly renovated cottage in the village of Ebberston, Beech is one of five houses sharing a pool and games room, making it an ideal

family base. Dalby Forest is a short drive away on the southern edge of the North York Moors National Park, where neat swaths of pine trees create a vast, lit-free zone for wonderfully dark skies. The visitor centre runs monthly stargazing nights (www.forestry.gov.uk/dalbyforest), there are walking and cycling trails, and a good adventure play area.

Details Three-night breaks from £375 for up to six (01244 356655, sykescottages.co.uk)

6 The Yorkshire Bridge Inn

Bamford, Peak District

A classic walker's pub, the Yorkshire Bridge ups its game with 14 neat, comfortable rooms and a menu of well-cooked, unfussy dishes that are the perfect fuel for an evening at the nearby Dark Sky Discovery Site, Surprise View. The large car park has a night-sky interpretation panel and there is a flat area that's perfect for telescopes, although the view is such that meteor showers, constellations and satellites can all be seen with the naked eye.

Details Doubles from £75 B&B (01433 651361, yorkshire-bridge.co.uk)

7 Low Gillerthwaite Field Centre

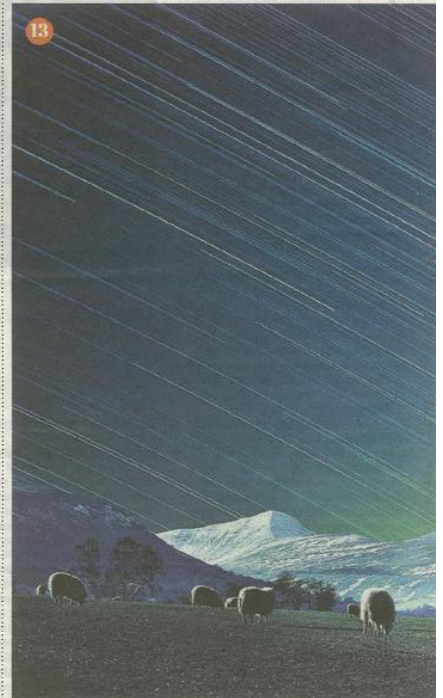
Lake District

A registered partner of BBC's Stargazing Live series, the Field Centre is squiggled away in Ennerdale, England's remotest and quietest valley. The only access is by forest track, with the nearest public road two miles away, and accommodation is in shared dorms (sleeping from four to 14). Visitors need to bring their own food and sleeping bags, but the astonishing night skies make it worth roughing it. **Details** From £14.50pp per night (01946 861229, lgfc.org.uk)

8 JSW

Petersfield, Hampshire

Ideal for a foodie break, with a bit of stargazing thrown in, JSW is a Michelin-starred restaurant with three cosy rooms above a modern British restaurant. It's an easy drive from the Queen Elizabeth Country Park, with more than 2,000 acres of unbroken Downland



countryside, making it an oasis of darkness in the South East. Butser Hill — part of a nature reserve inside the park — offers great night sky views. **Details** Doubles from £95 B&B (01730 262030, jsrestaurant.com)

9 Langley Castle

Hexham, Northumberland

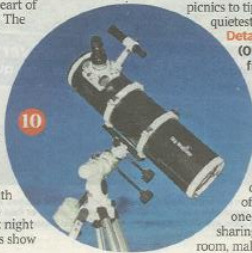
A spectacular 14th-century castle, Langley has 27 suitably grand rooms, many with four posters, as well as window-seats in the 7ft-thick walls. A short drive away lies Cawfield Quarry, a former working quarry that was filled to create a deep lake. The total absence of light pollution is fabulous, and during the day it's an easy stroll to Milecastle 42 on Hadrian's Wall.

Details Doubles from £155 B&B (01434 688888, www.langleycastle.com)

10 Dunkery Beacon Country House

Exmoor

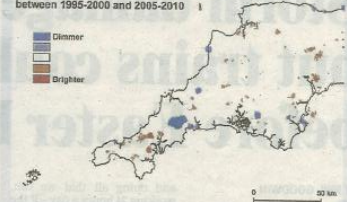
Europe's first International Dark Sky Reserve, Exmoor is famous for its night skies, and this former Edwardian hunting lodge is perfectly placed for





An Exmoor stag is shown under a starry skies in this digitally enhanced photograph used by Exmoor National Park for its dark skies awareness campaign.

Change in brightness between 1995-2000 and 2005-2010



Satellite images tell their own tale of activity

Analysis of night-time satellite images of the Westcountry taken over the last 15 years has revealed where light pollution is getting better and worse.

The new study was led by Professor Kevin J Gaston, and undertaken by researchers from the University of Exeter's Environment and Sustainability Institute at Penryn. While links between economic activity, population growth and artificial light are well documented in rapidly developing regions, it is the first study of its type to track both increases and decreases in light across Europe.

Dr Jonathan Bennie, co-author of the recently published findings, said: "Cornwall and the South West of England present fascinating examples of the changes in night-time light."

"While several parts of the region are getting brighter at night, mostly due to the expansion of new housing and industrial estates, some

areas are getting dimmer. The locations of the china clay industry near St Austell, Bodmin Moor and outside Plymouth are clearly visible in blue, representing decreasing brightness.

"It's possible to see that the night-time light associated with mineral extraction in both Cornwall and Devon has declined in line with activity at these sites."

He added: "Elsewhere in Europe, many areas have shown rapid increases in brightness at night - Portugal and Italy are clear examples. These results were pretty much in line with our expectations."

"However, our most interesting results have identified those areas where the levels of night-time light observed have actually decreased as economic activity has been maintained or increased. Some towns in the South West have achieved this through improvement of their street light design and efficiency."

Light fantastic: People are urged to join in star count

BY ANDY GREENWOOD

Chief reporter
@hackindishack

People across the Westcountry are being urged to look to the heavens for a special cosmic census to help tackle light pollution.

While some areas of Devon, Cornwall and Somerset have been officially designated for their magnificent views of the sky at night, many are blighted.

The Campaign to Protect Rural England (CPRE) now wants the region's "citizen scientists" to join in Star Count 2014 to assess if progress is being made. Last year, 40% of people in the South West who completed a CPRE survey were able to spot fewer than ten stars, indicating severe light pollution.

"The Star Count survey can help us build a picture of how light pollution is affecting views of the night sky in the South West of England," Emma Marrington, CPRE dark skies campaigner, said. "We'll use the results that local people submit to persuade ministers and local councils to reduce light pollution. This

will also help cut carbon emissions and save money through streetlight switch-off or dimming schemes and low energy lighting. If we're to reclaim our wondrous night skies, we need all councils to take action.

"Light pollution may not seem the most serious environmental threat, but it can ruin the countryside's tranquil character, blur the distinction between town and country, affect wildlife and deny us the experience of a truly deep, dark and starry sky."

"We must act now to make a difference, and our Star Count really helps us gather the evidence we need."

The survey is being organised by the CPRE and the British Astronomical Association's Campaign for Dark Skies in partnership with National Astronomy Week.

Stargazers are asked to count the number of stars they can see with the naked eye in the constellation of Orion any night from today until March 8. Reports can be logged on the CPRE's website.

Robert Massey from National Astronomy Week, said: "Too often our view of the night sky



What do you think? Do you consider light pollution a serious threat to the environment and your quality of life?

Leave your comment at
westernmorningnews.co.uk

is compromised by the scourge of light pollution, so we're delighted to be supporting the CPRE Star Count and their campaign to tackle wasted light.

"In addition we have arranged more than 170 public events for our own National Astronomy Week and together, we really hope to show people how wonderful the night sky is."

Last month, Carnevas and Bedruthan Steps, and St Agnes and Chapel Firth, were officially accredited as "Dark Sky Discovery Sites".

The designation is awarded to areas with very low, or non-existent levels of light pollution and good public access.

Both National Trust sites on the North Cornwall coast are well away from the intrusive orange glow and have few buildings or trees to obstruct the view.

The sites in Cornwall join five locations on the Isles of Scilly on the coveted list of locations in the UK. In 2011, Exmoor National Park became the first place in Europe and only the second in the world to be accorded International Dark Sky Reserve status.

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Exmoor has become a Mecca for stargazers since winning Dark Skies status

Astrocamp idea for moor dark sky area

Chance to appreciate reserve's status

by David Shepherd
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STARGAZERS will be invited to pack up their tents and sleeping bags and set up an "astrocamp" on Exmoor next year.

When the lighter nights arrive, astronomers will have to wait much longer before they can aim their telescopes skywards to catch a glimpse of the Milky Way or the nine moons of Jupiter.

This is why the South West Lakes Trust, the National Park Authority and experts on the solar system are keen to host the overnight event at Wimbleball Lake so more people



Family fun at the recent astronomy evening held at Wimbleball Lake

bring together different groups and have knowledgeable people on site. It will also be about knowing what to look out for.

Saturday, November 9, when Wimbleball Lake hosted the Dark Sky Discoveries event's second birthday.

astrological themed stories we had on offer.

"One thing that came across at this event is that the younger generation is



Dark and starry school

PUPILS at Exford First School celebrated the wonders and beauty of the night sky when they took part in a day-long series of events with local artist Frances Harrison.

She worked with children from reception through to year four, writing poetry and creating night-sky artwork as part of the Dark Starry Skies project run by Artlife and supported by Exmoor National Park Authority.

The school itself was turned into a dark starry sky using photos and fabrics to enhance the experience for the children.

The results of the workshop will be displayed later this year in Lynmouth along with work from other schools taking part in the project.

Pictured from the left are artist Frances Harrison and pupils Emily White, Emily Rose, Emma Norrish, Ellie Crockford and Patrick Chittenden.

Photo: Steve Guscott

End