

North York Moors National Park Authority

# APPLICATION FOR IDA DESIGNATION

North York Moors National Park  
International Dark Sky Reserve

25 September 2020



North York Moors  
National Park

Cover image: Polly A Baldwin

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## Foreword

As leaders of the North York Moors and Yorkshire Dales National Park Authorities we are delighted that our organisations are submitting concurrent and complementary applications to the International Dark-Sky Association for our two National Parks to be given Dark Sky Reserve status.

The North York Moors and Yorkshire Dales have much in common; both are sparsely populated and deeply rural areas typified by intricate farmed valley landscapes separated by expansive upland areas comprising heather moorland and common land. We have recognised the significance of our dark skies for many years and as residents and farmers of the Dales and Moors we regularly experience the awe of our night sky illuminated only by thousands of stars. We want to be sure that future residents and visitors alike can also experience the beauty and tranquillity of a truly dark sky, but we recognise that this will only happen if we work to protect them from the threat of light pollution, whether the source is within our National Parks, or from the glare of development beyond their boundaries.

As adjacent National Park Authorities we have a long history of joint working and indeed have developed and promoted our Dark Skies Festival together for the last five years. Simultaneous designation as Dark Sky Reserves will enable us to broaden this work in 2021 and beyond, and to further reduce light pollution throughout our protected landscapes.

We will work with local authorities, businesses, developers and residents to increase awareness and understanding of the impact of light spill, whilst also inspiring people to learn about, celebrate and enjoy the starscape above them.

Collectively our two National Parks extend to more than 3,600km<sup>2</sup>, divided only by the rich agricultural land of the Vale of York and stretching from the coast of Robin Hood's Bay in the east, across North Yorkshire, one of England's darkest counties, to Tebay in Cumbria in the west. With Northumberland National Park already designated and applications from other adjacent protected landscapes being developed, success for both our National Parks' applications will be a major step towards securing Dark Sky Reserve status across a great swathe of northern England and a 'Great North Dark Sky'.

Mr Jim Bailey



Chairman  
North York Moors  
National Park Authority

Mr Neil Heseltine



Chairman  
Yorkshire Dales  
National Park Authority

# 1 Executive Summary



The Moors National Park Centre under Pole Star/Martin Whipp

## The Darker The Sky

*In praise of darker skies and lighter thinking*

The darker the sky, the more you can see;  
The blacker the night, the brighter the Moon,  
The dimmer the streets, the stronger the glow  
The deeper the shade, the lighter the view.

The map of the heavens, the time and the space  
The distance they travel, the cities of stars,  
The trail of a comet, the satellite's stroll  
The football of Venus, the beach ball of Mars.

The blindness of headlights, the dazzling fire  
The hint of a sunrise, the dawn's subtle kiss,  
The straining of tired eyes, the lamp in the face  
The struggle to notice, the sights we all miss.

The hope for the future: the sky's welcome gleam,  
The Milky Way's jewels, the meteor's trail  
The old constellations, the space-station's glint.  
The inky sea's waiting; the night boat sets sail!

*A poem for the North Yorkshire Dark Skies Festival,  
by Ian McMillan*

Broadcaster Ian McMillan is a much loved 'poet of the people' in the UK and a Yorkshire man down to his boot-straps. He was moved to pen his eulogy to starry nights to help us promote the second Dark Skies Festival (2017) in North Yorkshire. In its short life it has become the biggest such stargazing celebration of its kind in Great Britain. Nearly 150 events took place in the North York Moors alone over a two week period in 2020. For some people it was the first time they had ever seen a properly dark sky.

That would be motivation enough for us to pursue IDA dark sky designation for the North York Moors, helping ensure that this carnival of the heavens continues to be true to its word. But our application to join the global family of dark sky places, supported by the Astronomer Royal for England, Sir Martin Rees, is driven by more than just this.

We are the custodian of some of the darkest places in England and some of its most cherished landscapes. Yet over 6.5 million people live within a 90-minute drive, most of them under a permanent 'fog' of light pollution. As Professor Carole Haswell, Head of Astronomy at the UK's Open University, states in her letter of support for this application, some of the most economically deprived neighbourhoods in the UK are a short journey away. Recently a Government review into designated landscapes also asserted that every child should enjoy at least one night under the stars\*, something we are making possible with our various programmes.

We have a long track record in outreach astronomy. Public star parties began in Dalby Forest in the North York Moors in the early 1990s and have continued ever since. It is also home to one of the UK's biggest and longest running star camps. These events provided the template to launch public astronomy in Kielder Forest, now part of England's first dark sky park. Over

\*Landscapes Review: Final Report [www.gov.uk/government/publications/designated-landscapes-national-parks-and-aonbs-2018-review](http://www.gov.uk/government/publications/designated-landscapes-national-parks-and-aonbs-2018-review)

recent years accommodation providers have increasingly been promoting stargazing to guests. Many have adopted the National Park's Dark Sky Friendly marque.

However, the North York Moors, whilst a protected landscape, is not immune to threats which could diminish the quality of the night sky, so we are committed to putting a far reaching Lighting Management Plan into operation. We've also launched a £100,000 grant scheme, unprecedented in its scale in the UK, to encourage a switch to dark sky friendly lighting, working directly with lighting designers, distributors and manufacturers. Importantly, this will strengthen our efforts to curb light intrusion into key wildlife habitats.

We are also aware that we are part of a wider movement to protect dark places.

Our friends in the Yorkshire Dales are submitting their own application and colleagues in the North Pennines Area of Outstanding Natural Beauty (AONB) and the Lake District are considering bids. If these are successful, a huge swathe of northern England will fall under dark sky protection, joining with Northumberland International Dark Sky Park.

What a worthy legacy that would be for everyone who loves the tranquillity of a starry night, as eloquently described here by stargazer Stuart Atkinson, author of the award-winning 'Cat's Guide to the Night Sky'.

***'It's not until you've been somewhere like the North York Moors that you truly appreciate the beauty – and rarity – of a genuinely dark sky. To stand there, in the middle of a big field, with a huge sky above you, dwarfing you, pressing down on you under the weight of the stars... to see the Milky Way looking like a great fat speckly mottled vapour trail cutting the sky in half...to actually lose familiar constellations because suddenly they are being drowned by myriad fainter stars around them is quite magical. All you can do is stand there, look up, look around you, and drink in the view.'***



## 1.1 Letter from North York Moors National Park Authority Interim CEO, Chris France

Adam Dalton  
International Dark Sky Places Program Manager  
International Dark-Sky Association  
3223 North First Ave  
Tucson, AZ 85719, USA

8 July 2020

Dear Mr Dalton,

### International Dark Sky Reserve designation for North York Moors National Park

As Chief Executive of the North York Moors National Park Authority I would like to outline but a few of many reasons why the North York Moors National Park should be designated as an International Dark Sky Reserve.

The North York Moors is one of Britain's breathing spaces, a treasured landscape protected and conserved for the benefit of all. Here at the National Park we truly recognise the significance of having access to unpolluted dark skies. For it is when we are staring out at a far-off distant constellation that we can revel freely beyond our own narrow concerns and for a moment appreciate our minute place against the grandest scale of existence.

Whether we are staring out at the great North Sea as the vibrant Northern Lights sweep through the sky or looking beyond the depths of Dalby Forest and into the complex haze of the Milky Way – the North York Moors is a wonderful place

to witness such precious moments. Such acts of reverence towards our dark skies are qualities deeply engrained within the history of the North York Moors as for centuries we have been seen as a place of spiritual refreshment and remoteness, echoed by our strong religious past and present.

Our dedication towards the appreciation of our dark skies dates back nearly 30 years and we were one of the first areas in the UK to hold stargazing events, predating similar schemes held in an area now recognised as an International Dark Sky Park. Since 2016, we have also been running our hugely successful annual Dark Skies Festival in partnership with the Yorkshire Dales National Park and two Areas of Outstanding Natural Beauty. In 2020, this included nearly 150 different events with thousands of visitors enjoying our night sky.

Our education team has also increased its outreach work to develop stargazing sessions for schools and other groups primarily within the Teesside area, which is beyond the borders of the National Park and where light pollution is a problem. The fact that we are able to offer such extensive and remote tracts of wild and unspoilt scenery within such an easy reach of populated areas is something we are renowned for and has even more potential to raise the profile of and opportunities for stargazing for everyone, including the many who live close by.

We are also leading the way towards the future protection and enhancement of our dark skies. We were lauded by the national press as 'pioneering' when we made headlines for our Dark Sky Lighting Scheme, which is a £100,000 grant-based initiative to help National Park residents and businesses switch to dark sky friendly fixtures. We also successfully lobbied our County Council Highways Department to install only dark sky friendly lighting in designated landscapes.

The National Park Authority has also shown its commitment to protecting its dark skies through its planning powers – in July 2020 a new Local Plan was formally adopted which includes for the first time a specific Dark Night Skies Policy (Policy ENV4). This will require planning proposals to meet the lighting standards set out in the Lighting Management Plan (LMP). It is due to follow this up with guidance to help those applying for planning permission meet the LMP standards.

It is for all this and more that we hope the North York Moors National Park will be designated as an International Dark Sky Reserve and we look forward with eager anticipation to achieving this.

Yours sincerely,

**Chris France**  
Interim Chief Executive  
North York Moors National Park Authority

## 1.2 Nomination

### **The British Astronomical Association's Commission for Dark Skies**

Working towards star-quality lighting  
[www.britastro.org/dark-skies](http://www.britastro.org/dark-skies)

Bob Mizon MBE FRAS  
CfDS Co-ordinator  
38 The Vineries, Colehill  
Wimborne, Dorset BH21 2PX  
01202 887084  
e-mail: [bob.mizon@yahoo.co.uk](mailto:bob.mizon@yahoo.co.uk)

Adam Dalton  
International Dark Sky Places Program Manager  
International Dark-Sky Association  
3223 North First Ave  
Tucson, AZ 85719, USA

8 July 2020

Dear Adam,

### **Proposed North York Moors National Park Dark Sky Reserve**

I am writing to you to express my support of the application by the North York Moors National Park for International Dark Sky Reserve status.

The existing quality of its starry night skies can be appreciated, for example, through the fact that this area is home to one of the UK's biggest and longest-running star camps, AstroFest. Over the past three years the National Park has invested

resources in commissioning an IDA standard audit of external lighting and has organised its own Lighting Management Plan and Dark Sky Lighting Scheme.

Moreover, a dark sky survey has been carried out there since February 2018.

The proposed Reserve would cover the entire 1,436 km<sup>2</sup> of the National Park.

Since the early 1990s the Park has had a praiseworthy history in public outreach astronomy, involving public star parties, its Dark Skies Festival and other events, encouragement of star-friendly accommodation within its boundaries and publicising its starry skies to the 6.5 million people living within 90 minutes' drive of its boundaries.

It is exciting to see so many dark-sky initiatives happening in the North of England: the North York Moors National Park is working closely with the Yorkshire Dales National Park, the North Pennines Area of Outstanding Natural Beauty, the Lake District National Park and the Northumberland International Dark Sky Park to protect the night sky. This means that, potentially, an enormous area of northern England will in the future lie beneath good-quality starry skies.

The National Park staff have informed me of their unstinting efforts in pursuit of their dark-sky goal and these must have made their contribution to what I consider to be a growing national trend in the public mind here in the UK to want to enjoy real astronomy rather than watch it on screens at home.

I heartily commend this application to you. Its success will potentially increase the quality of life for many, and move

Britain further along the road towards night skies the nation can be proud of.

With best wishes,

**Bob Mizon**

Coordinator

British Astronomical Association's Commission for Dark Skies

*IDA lifetime member*

*Holder of the IDA's Executive Director's Award, Lifetime*

*Achievement Award and IDA Europe Galileo Award*

## 1.3 Meeting Eligibility and Minimum Requirements

Meeting the Eligibility Criteria	Comments
The core must be a public or a private land protected for scientific, natural, educational, cultural, heritage and/or public enjoyment.	The core is on protected moorland, or on the publicly run Forestry England estate (formerly Forestry Commission). It embraces in whole, or part, nine Sites of Special Scientific Interest (SSSI) and three areas of special protection/conservation (Europe's top nature designation). Planning policy in England confers the highest status of protection to National Parks on issues of landscape and scenic beauty. See page 14.
The core must provide an opportunity for regular public night time access, with or without supervision.	Most of the core is forest with freedom to roam and the remainder is open access moorland. There are numerous car parks and viewpoints. Free star parties in Dalby Forest, which has two observatories, began in 1993 and run monthly. It is also a Milky Way class Dark Sky Discovery Site. One of the UK's biggest annual star camps takes place in Dalby. Many events are staged in the core during the North Yorkshire Dark Skies Festival. See page 51.
If the core includes a publicly protected area, it should strive to fully encompass the boundaries of that area. The core boundaries may not be arbitrarily drawn to omit areas that would increase the difficulty of achieving approval.	The core encompasses the boundaries of Cropton, Dalby, Langdale, Wykeham and Broxa Forests, providing a natural contour, plus eight villages and two holiday cabin complexes. See page 17.
The peripheral area should encompass a minimum of 700km <sup>2</sup> around the core.	The total area of the dark sky reserve is 1,436 km <sup>2</sup> of which the core comprises 179 km <sup>2</sup> . The peripheral area is 1,257 km <sup>2</sup> . See page 14.
The core must provide an exceptional dark sky resource, relative to the communities and cities that surround it.	The core SQM-L average is 21.33, rising to 21.61 in the darkest locations. See page 31.

Meeting Minimum Requirements	Comments
A quality Lighting Management Plan (LMP) should be adopted by a sufficient number of communities within the reserve.	The North York Moors National Park Authority is the sole planning body for the whole reserve area. An LMP has been drawn up by the UK's leading dark sky lighting engineer. As of July 2020 the guidance in the LMP has been used to inform decisions on planning applications under a new Local Plan, which includes a specific policy on dark skies (Policy ENV4) requiring applications to comply with the LMP. It will also be cited in the next Management Plan, set for renewal in 2022. See page 45.
67% of external lights in the core must be compliant at the time of application.	An audit found that 84% of core lighting is compliant and 69% across the proposed reserve. See page 45.
Street lights exceeding 3,000K are not permitted in the reserve.	North Yorkshire County Council Highways Department has committed to install only 3,000K (or below) street lighting in the National Park. See page 46.
Each participating municipality should have completed at least one highly visible demonstration project with night sky friendly lighting consisting of at least 10 lighting fixtures for each 5,000 residents.	Dark sky friendly lighting schemes are underway, or completed, at Cropton Cabins holiday complex, Sutton Bank National Park Centre and Dalby Forest, all funded by the National Park's Dark Sky Lighting Scheme. See page 63.
Participating communities must have a programme, either through education, economic incentives, permitting or regulation, to encourage all new outdoor lighting fixtures to conform to the relevant regulation or guidelines for night sky friendly lighting.	A UK first £100,000 Dark Sky Lighting Scheme has been launched to encourage a switch to dark sky friendly lighting in the National Park. Grants will be targeted in and around the dark sky core, which may be continued in future years. This will be accompanied by website and social media information. See page 48.
A commitment to public education and staging events.	A stargazing module is now part of our Education programme. National Park media channels feature dark sky messages. Regular venues for public events include Sutton Bank National Park Centre, Dalby Forest, The Moors National Park Centre in Danby, Boggle Hole Youth Hostel and Cober Hill Hotel, near Scarborough. See page 51.

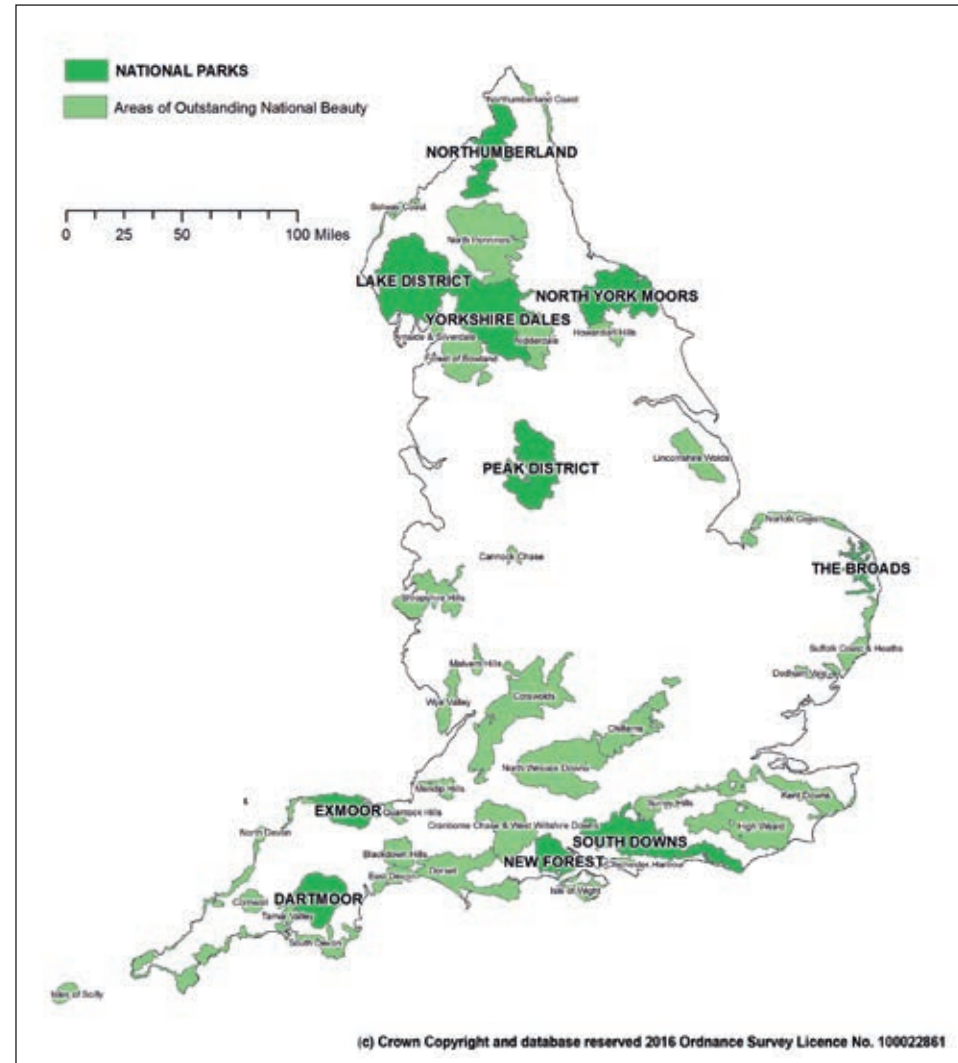
## 1.4 North York Moors National Park International Dark Sky Reserve

The National Park is one of 44 designated landscapes in England and Wales, as shown.

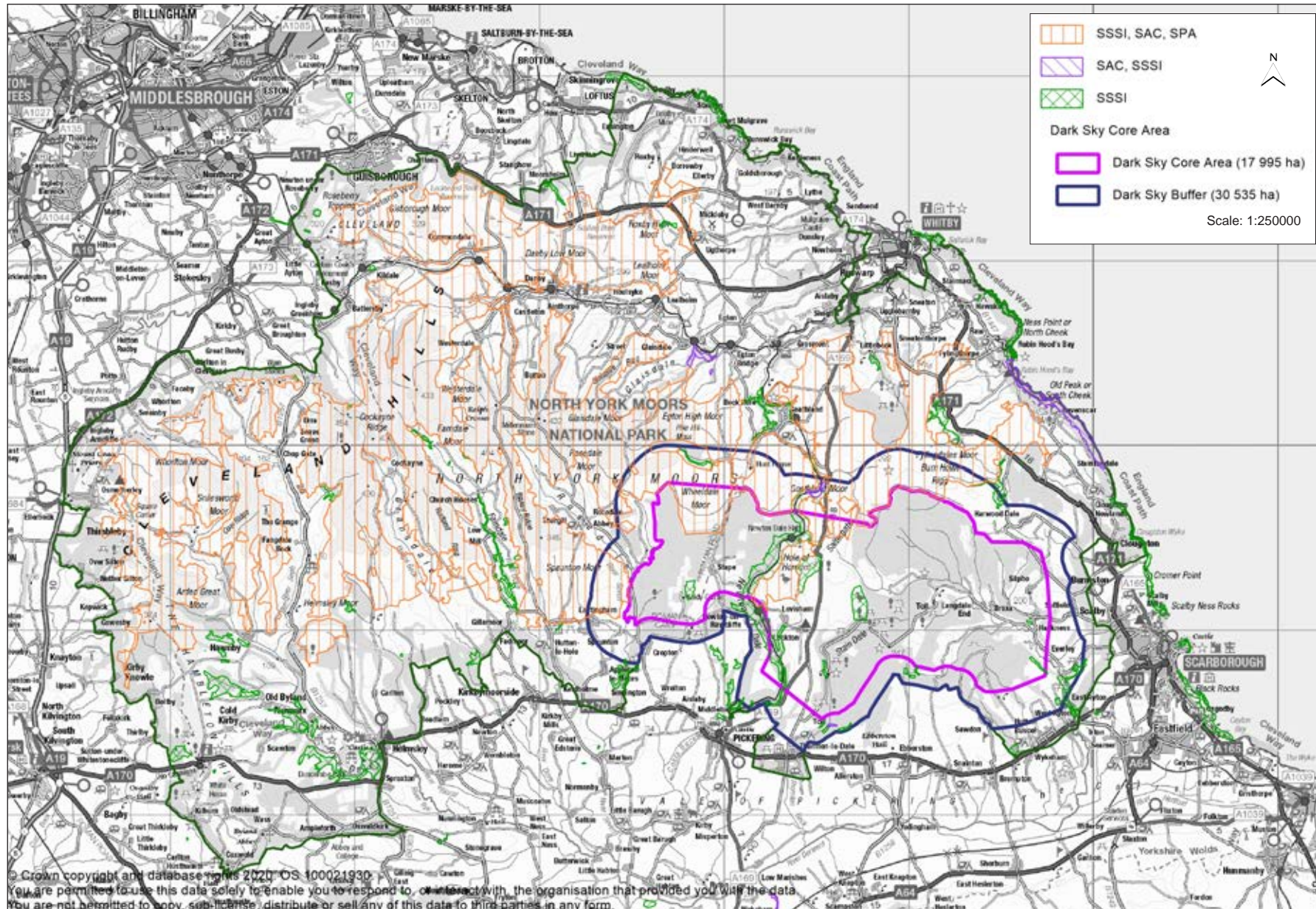
### Choosing the core zone

The dark sky reserve covers the entire National Park, an area of 1,436 km<sup>2</sup>. The core is located in the south east quadrant, where our darkest skies are to be found, comprising 179km<sup>2</sup>, or 12.4% of the reserve. Surrounding it is the critical buffer zone. We were fortunate in that this core zone is largely enclosed by the boundaries of the public forest estate, comprising Yorkshire's two largest woodlands, Dalby and Cropton, plus Langdale, Wykeham and Broxa Forests, along with parts of Newtondale, a classic U-shaped glacial valley, and Wheeldale Moor. This forms a logical contour for our choice of core size and shape when combined with SQM-L readings, which averaged 21.33, rising to 21.61. Within this area there are eight villages and two forest cabin holiday complexes, along with nine SSSIs, in whole or part, and three areas of special protection and conservation. Core communities, with populations, include:

- Low Dalby (60)
- Stape (120)
- Levisham and Lockton (332)
- Broxa (50)
- Silpho (30)
- Langdale End (50)
- Hackness (110)



National Parks and equivalent areas, and Areas of Outstanding Natural Beauty in England and Wales



Boundaries of the National Park (green) along with the core (purple) and critical buffer zone (blue)

Around this core a critical buffer zone of up to 2km will be formed, comprising four villages, plus RAF Fylingdales, and covering 125km<sup>2</sup>. These communities are:

- Newton on Rawcliffe (76)
- Lastingham (79)
- Harwood Dale (134)
- Everley

The critical buffer zone is slightly narrower in sections along the south side of the core, where the National Park boundary is formed on, or very near, the edge of the public forest estate. This area is plantation forestry and uninhabited, presenting few if any potential lighting issues. Rather than needlessly reduce the size of the core, a somewhat narrower buffer zone was deemed a more sensible option.

## 1.5 Policy Context

This application is the culmination of efforts to protect the North York Moors skies going back over two decades. In 1998 the National Park's Management Plan pledged to raise awareness of the impact of noise and light pollution on the special qualities of the North York Moors and its communities and encourage measures to minimise impacts. Tranquillity and dark skies were listed as important factors in planning decisions. The Authority's current Management Plan, updated in 2016, reiterated this policy stating:

***“Dark skies will be protected and improved. New development in the National Park will not cause unacceptable light or noise pollution.”***

Another milestone came in 2017 when the National Park

published a consultation paper, Tranquillity, a Strong Feeling of Remoteness and Dark Night Skies, based, in part, on an extensive tranquillity mapping project and forming part of a new Draft Local Plan. It proposed this policy statement (Policy ENV4 - Dark Night Skies):

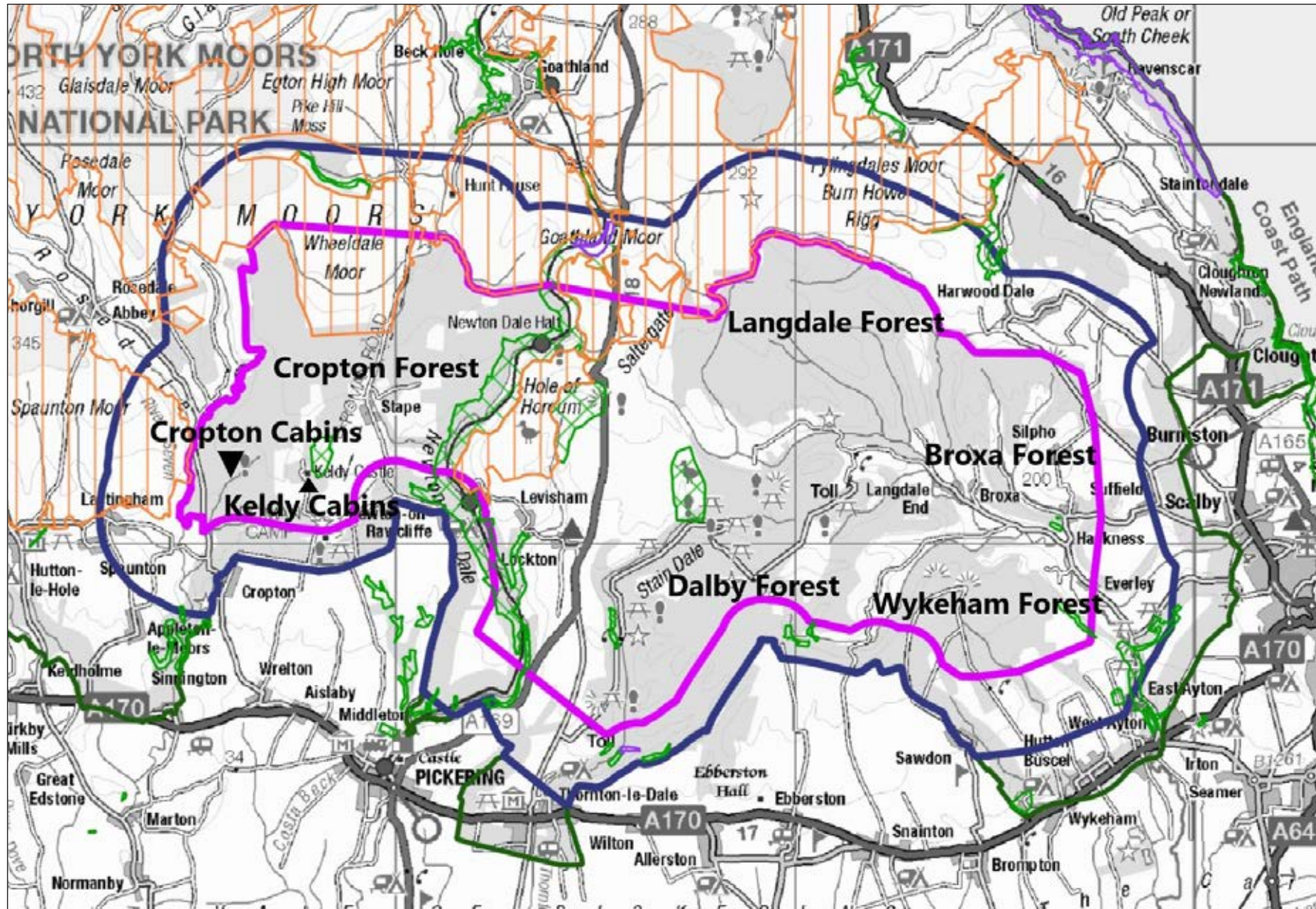
***“The darkness of the night skies above the National Park will be maintained and where possible enhanced. All development proposals will be expected to minimise light spillage through good design and lighting management and the following lighting principles will be applied:***

- 1. No external lighting will be permitted in remote areas;***
- 2. In open countryside proposals that involve external lighting will only be permitted where it can be demonstrated that the lighting is essential for safety or security reasons and the lighting details meet or exceed those set out in any lighting guidelines adopted by the Authority;***
- 3. Within settlements listed in the Authority's settlement hierarchy, proposals that involve external lighting will be permitted where it can be demonstrated that the lighting is essential for safety, security, or community reasons and the lighting details meet or exceed those set out in any lighting guidelines adopted by the Authority.”***

Following public consultation and independent review, the plan, together with this policy, was adopted in July 2020. This application's Lighting Management Plan was also included.

The Authority receives around 750-800 planning applications each year, many of which are for minor or householder development. As a demonstration of our commitment to





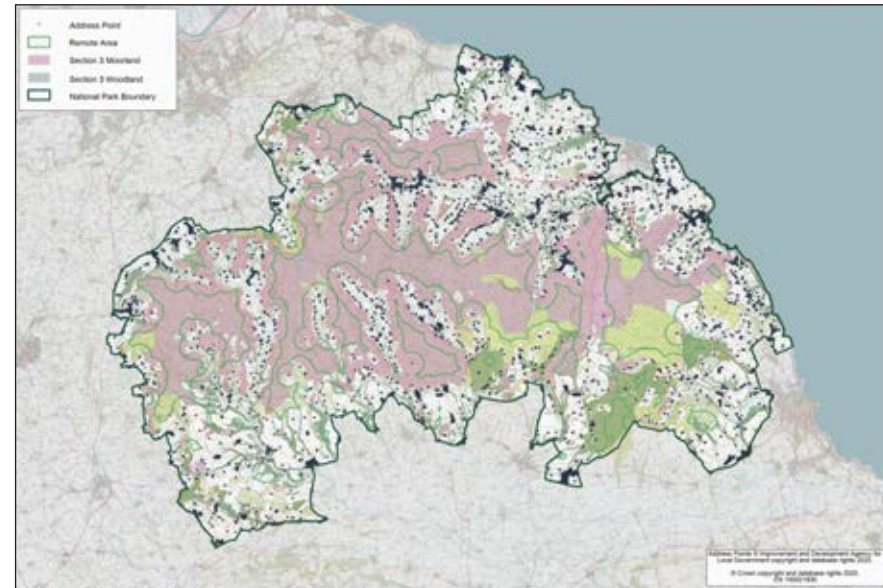
Close up of the core and buffer zone

to preserve dark skies, we have ensured that 350 planning permissions issued over the past five years have included a standard condition requiring the developer to seek our approval for the lighting to be installed. The National Park's Ecologist is also routinely consulted on all planning applications involving external lighting.

### Remote area mapping

In its Management Plan, the National Park Authority has defined 'tranquillity' as one of the National Park's 'special qualities' together with dark night skies. As part of the review of our Local Plan, we mapped 'remote areas' where the policy now requires that any new development is prohibited, or very strictly restricted. We looked carefully at this map as a starting point to see how it might inform the position of our dark sky core, as there should be a strong correlation between starry skies and remote undeveloped areas. But of special relevance was the distance to the nearest significant source of light pollution, Teesside. Our light meter survey placed the core well to the south east. Nonetheless, the mapping project reinforced that dark skies are part of the character of much of the National Park, adding to the sense of remoteness. Strengthened lighting policies will help protect these qualities.

In summary, this application, along with its Lighting Management Plan and new policies, builds on work already done, carrying it forward by stating unambiguously how dark skies will be monitored, promoted and safeguarded through planning regulation and guidance.




The map depicts remote locations, defined as being 1km or further from a postal address or public road



# 2 North York Moors National Park

Cyclists stargazing at Sutton Bank/Steve Bell

A photograph capturing two cyclists at Sutton Bank National Park under a starry night sky. The cyclists, wearing helmets and jackets, stand with their bicycles on a dirt path, looking up at the stars. A large, dark tree stands between them, its branches silhouetted against the night sky. The overall scene is dark and atmospheric, with the stars providing the primary light source.

The North York Moors became a National Park on 28 November 1952 and is one of 15 such protected landscapes in the UK. It covers an area of 1,436 km<sup>2</sup> and has 42 km of coastline. Within its bounds lies a landscape of great diversity and sudden dramatic contrasts. Recommending it for National Park status the post-war National Parks Committee noted that:

*“...it contains, within a relatively small compass, an amazing wealth and variety of beauty. Indeed there are few places elsewhere in Britain which can offer such extensive and remote tracts of wild and unspoilt scenery within such easy reach of populated areas.”*

The National Park’s western boundary is formed by the Sutton Bank escarpment, rising 330 metres above the Vale of Mowbray. Author Alf Wight (pen name James Herriot), who wrote ‘All Creatures Great and Small’, proclaimed the view from the top as the finest in England. In the east, the National Park traverses huge tracts of heather moorland before tumbling over sea cliffs down to the North Sea, where tight-knit historic fishing villages nestle into the coastline. It was here that Bram Stoker imagined Count Dracula, transformed into a fierce dog, leaping ashore amidst a storm from his soon-to-be-shipwrecked boat, The Demeter. Another more earthly seafarer, Captain James Cook, set out from nearby Whitby on his voyage to chart the southern ocean and observe the transit of Venus in 1769. The National Park continues to be an inspiration for the eight million visitors it receives each year.



Northern Lights at Saltwick Bay/Andy Dawson



Milky Way and Perseid Meteor Shower above Sutton Bank/Russ Norman

## 2.1 Factfile

- 23,380 people live within the park (2011 Census) giving a population density of 16 people per square kilometre. Only Northumberland, Exmoor and the Yorkshire Dales National Parks have a lower population density in England.
- 70% of the world's heather moorland is in the UK and one of the largest continuous expanses is in the North York Moors, covering 440km<sup>2</sup>, or around one third of the National Park.
- There are 2,268km of public rights of way.
- The 176km Cleveland Way National Trail walking route forms a horseshoe around the North York Moors, starting in Helmsley and finishing in Filey.
- The North York Moors is a European Special Protection Area for merlin and golden plover and is internationally renowned as a haven for ground-nesting birds.
- Woodland covers 23% of the park, including a nationally important area of veteran trees.
- The River Esk, which flows from the moor tops into the North Sea at Whitby, is the only river in Yorkshire and one of only seven in England containing the critically endangered freshwater pearl mussel.
- There are over 700 Scheduled Monuments (abbreviated as SAMs) including Bronze Age barrows, Roman earthworks and prehistoric boundaries. One third of

all Yorkshire's SAMs are located in the National Park. Plus there are 3,000 listed historic buildings and internationally important monastic ruins, such as the magnificent 12th-century Rievaulx Abbey.

- Amongst 1,500 boundary stones and crosses, Lilla Cross is one of the oldest Christian monuments in England (circa 626 AD).
- 43% of the National Park lies within the borough of Scarborough, 38% in Ryedale, 15% in Hambleton and 4% in Redcar & Cleveland.
- Land ownership is 84% private, 1.5% National Trust, 1% National Park Authority, 13% Forestry England and 0.5% charitable bodies.
- The National Park's coastline is called the "dinosaur coast" and cliffs reveal a 200-million-year-old slice of Jurassic sea floor, with fossils and dinosaur footprints.

## 2.2 Governance

The North York Moors National Park Authority is funded in part by central Government, via the Department of Environment, Food and Rural Affairs (DEFRA). It has two main purposes:

- to conserve and enhance natural beauty, wildlife and cultural heritage; and
- to promote opportunities for the understanding and enjoyment of the special qualities of national parks by the public.

If there's a conflict between these two purposes, conservation takes priority. It is also required to foster the economic and social well-being of local communities, where this is compatible with its prime directives. The National Park Authority has 20

members who guide its work, appointed by local authorities and DEFRA. Over 100 (full time equivalent) staff work for the Authority, based at its headquarters in Helmsley and at two National Park Centres at Danby and Sutton Bank.



Majestic Rievaulx Abbey, founded in 1132/Steve Bell  
Still from a time-lapse commissioned by the BBC for a documentary on the North York Moors National Park

## 2.3 Light Pollution: Current Situation

The Campaign to Protect Rural England (CPRE) published its Night Blight report in 2016. It was a light pollution survey based on satellite imagery collected the previous year. It classified 92% of skies over the North York Moors National Park in the two darkest categories. Ryedale, a local authority area that overlaps with the National Park, was rated England's fourth darkest district. More than half of the nation's darkest places were found to be in National Parks, or areas of outstanding natural beauty. The report updated a survey published by the CPRE at the turn of the century, which compared satellite imagery from 1993 and 2000. This revealed that light pollution was already intruding into traditionally dark areas, including North Yorkshire, England's biggest county.

### Sources of light pollution within the North York Moors

- Woodsmith Mine, near Robin Hood's Bay, is currently being constructed. It is a deep potash and polyhalite mine operated by Anglo American Woodsmith Ltd. To minimise light pollution during the build phase, National Park staff have had an ongoing dialogue with the company and commissioned a lighting engineer to visit to make recommendations on mitigating the light spill. Light levels on the site will reduce after the construction phase is completed and we will continue to carefully monitor operations.
- RAF Fylingdales which became operational in 1963, provides a ballistic missile early warning service to the UK and US governments. Located just to the north of our dark sky core on expansive moorland, it is a key part of the Allied Space Surveillance Network, which monitors

objects in space which can resemble incoming missiles. Base staff have been very co-operative in our push to apply for dark sky status. They have previously worked with the National Park to reduce lighting and are open to making further improvements. To that end an independent lighting engineer visited to undertake a lighting audit and make recommendations. At a liaison meeting on 12 February 2020, the site commander once again committed to support dark skies conservation.

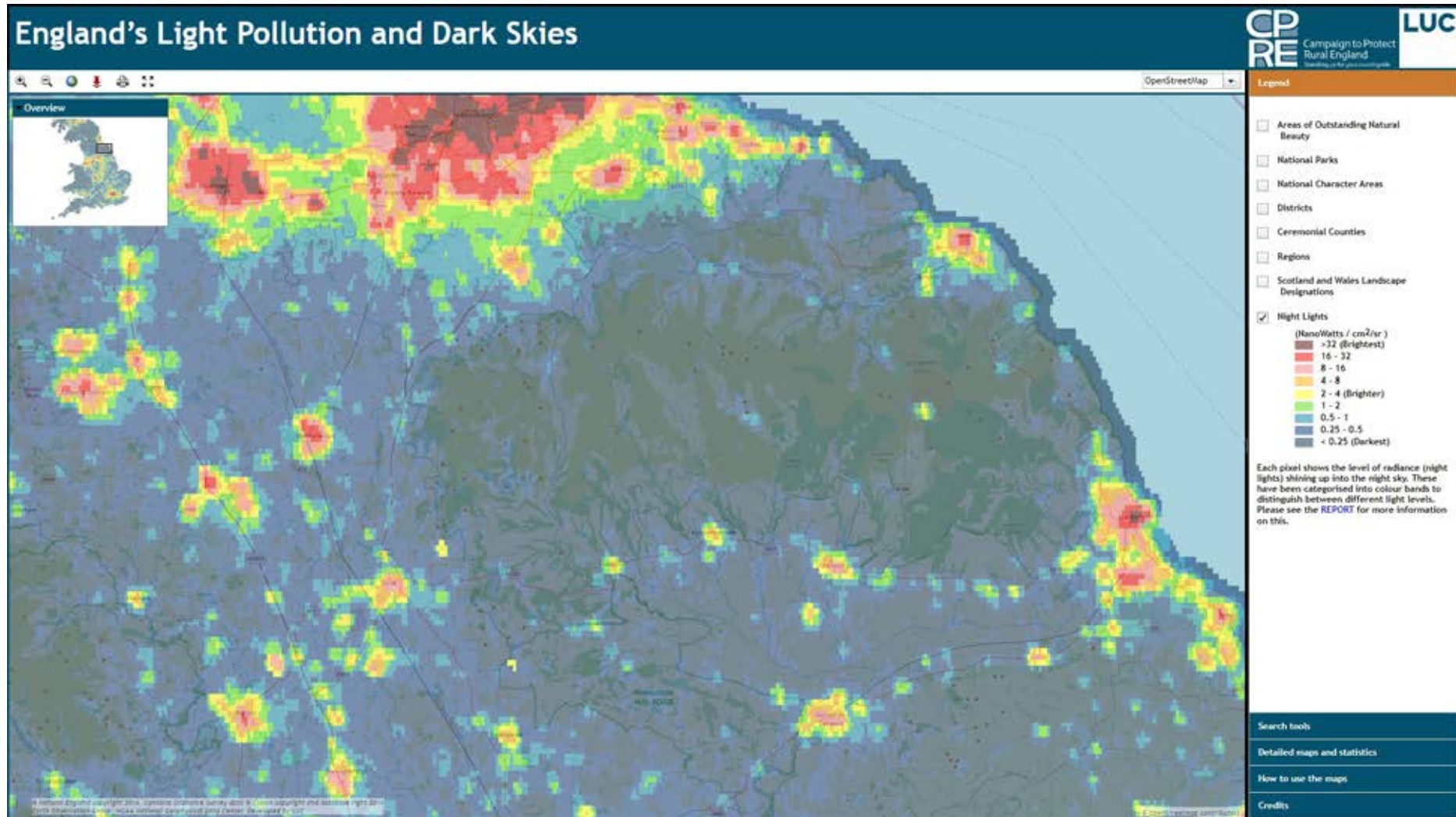
- There are no major urban centres within the National Park and relatively little street lighting. Nonetheless, we have seen a growth in inappropriate LED floodlighting on farmsteads, hospitality sector buildings and domestic dwellings. Left unchecked this will have a negative impact on the rural character and tranquillity of the National Park's landscape. In many cases the use of poor lighting is due to a lack of knowledge. Achieving dark sky reserve status will help us raise awareness through promotion and education.

### External sources of light pollution

To the east of the National Park, the North Sea provides a dark buffer, whilst to the south there are no industrial centres, but intrinsically dark rural areas, including the 979km<sup>2</sup> Yorkshire Wolds and the 200 km<sup>2</sup> Howardian Hills Area of Outstanding Natural Beauty (AONB).

The most significant light intrusion comes from Teesside, beyond the National Park's north western boundary and traditionally a centre of the chemical industry. Our night sky survey confirmed that SQM-L readings deteriorate, or improve, depending on proximity to this area. So it was no surprise to





The CPRE's 2016 Night Blight report revealed that the National Park retains large areas of dark skies. Earth Observation Group, NOAA National Geophysical Data Center. Data processed by LUC on behalf of CPRE

find our darkest locations to the south east, where on hazy evenings, the conurbation is a low glow on the northern horizon. On better nights, this drops away almost completely.

SQM-L readings suggest closer towns, such as Scarborough (population 62,000), Whitby (13,000), Pickering (7,000) and Malton (5,000) contribute less than might be expected to light pollution in the east of the National Park. Readings of 21.38 were readily available just 7km from Scarborough and Dalby Forest's darkest spot (21.61) is a similar distance to Pickering. Even so we are aware that the trend in these places, as elsewhere, is for more, rather than less lighting. A case in point is the Vale of York around Thirsk and beyond the National Park's western boundary, where high intensity LED floodlighting is slowly disfiguring the night-scape of a rural area.

We will work with the local authorities bordering the National Park – Scarborough, Ryedale, Hambleton and Redcar and Cleveland - to encourage them to strengthen their policies and update public information on their websites regarding light pollution. See Section 8: The Future.

## 2.4 Wildlife

In 2009 the UK's Royal Commission on Environmental Pollution concluded that the effects of light pollution were significant and negative<sup>1</sup>. Since then research has begun to reveal its full impact on humans and wildlife.

Over millions of years life has evolved with the natural cycle of night and day. However, during the past century the growth of artificial light has blurred this normal rhythm, creating mostly adverse conditions for plants and animals, both land based and

aquatic<sup>2</sup>. Of particular concern is the increasing use of powerful LED lights with a high blue content.

The North York Moors contains habitats of global importance. There are 57 Sites of Special Scientific Interest (SSSIs), five Special Areas of Conservation (SACs) and one Special Protection Area (SPA), including one of the biggest expanses of heather moorland in England. This habitat covers one third of the entire National Park.

Wildlife includes the nocturnal nightjar, a bird whose churring call is a feature of balmy summer nights, lapwing, curlew, golden plover and snipe, along with tawny, short-eared, little and barn owl and other birds of prey like the merlin. Badgers, stoats and even pine martens add to the mix, along with the adder, Britain's only (mildly) venomous snake.

The exceptionally rare Duke of Burgundy butterfly and Pearl-bordered Fritillary are also found locally, whilst beavers have been reintroduced through a managed project to study their impact as ecosystem engineers, restoring ecological processes, naturally reducing flood risk for local communities and increasing biodiversity. Rivers, sea-shore and rock pools are also rich in aquatic life, whilst sea cliffs host thousands of birds every breeding season.

Better controls to limit light pollution will benefit our wildlife in a number of ways.

- The North York Moors is a centre for bat research, with ten out of the UK's 18 species present. In 2010, Alcathoe's bat was first identified and recorded in the UK. Records are sparse, but it is confirmed to be present in the National Park's woodlands. Light intrusion has a

<sup>1</sup> Royal Commission on Environmental Pollution [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/228832/9780108508547.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228832/9780108508547.pdf).

<sup>2</sup> [www.exeter.ac.uk/news/research/title\\_580597\\_en.html](http://www.exeter.ac.uk/news/research/title_580597_en.html)



Light pollution from Scarborough reflected on the clouds. Once the sky clears, the Milky Way is a spectacular sight. Rob Ince, Dalby Forest, 6 August 2016. Canon 6D unmodified, Samyang 14mm f2.8, 30 seconds, ISO 5000 untracked

serious effect on these mammals and can lead to roosts being abandoned.

- Nationally there has been a decline in migratory salmonids, salmon and sea trout. This has also been seen in the River Esk, where these charismatic fish species are still present. These fish are essential to complete the life cycle of the critically endangered freshwater pearl mussel, which is also found in the river. Scientific studies clearly demonstrate the detrimental effect poorly designed lighting can have on these species, impacting on migratory patterns, disturbing spawning behaviour and increasing risk of predation.
- Insects being drawn to artificial light fundamentally changes local ecology, creating feeding zones for predators, which in the long run is unsustainable. Some moth species have been shown to be less attracted to lights, but this creates isolated populations between light and dark areas.
- Poor lighting can increase habitat fragmentation as it modifies animal mobility and degrades the quality of habitats used by biodiversity at night. Animals can become isolated and this can lead to a decline in species.




Alcatheo's bat/Cyril Schönbacher



# **3 North York Moors National Park Dark Sky Survey**

The Milky Way above Helmsley Moor



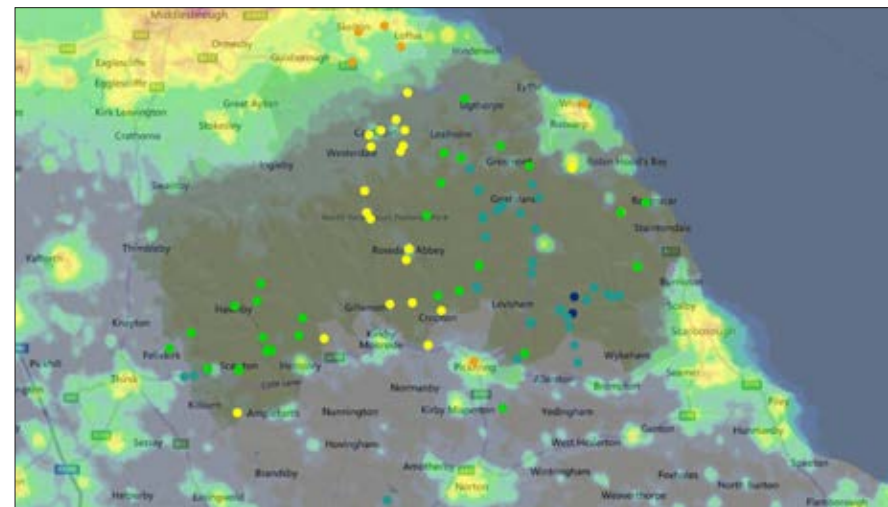
Establishing an accurate picture of night-time darkness is problematic. Techniques used to gauge sky quality include visually estimating naked eye limiting magnitude (NELM) of stars overhead. But this is subjective and depends on the visual acuity of the observer. However, such experienced “eye-witness” evidence is of value, particularly when allied to a more objective SQM-L meter survey. Even here there are problems. Variations in atmospheric conditions produce very different readings. Units need to be calibrated against each other and there are also question marks over the SQM’s sensitivity to the changing colour of light pollution with the conversion to LED lighting\*. Given these caveats, we sought to mitigate factors within our control by embarking on a two-year dark sky survey, from February 2018 to April 2020, based on a carefully defined methodology.

- Six Unihedron SQM-L meters were purchased by the National Park, plus three more privately owned units employed by a team of 13 volunteers. Five of this number were experienced astronomers and the remainder were members of the public or National Park staff. Everyone was briefed on the methodology to be used. Any inconsistencies were resolved before data was entered onto a spreadsheet.
- We stressed the need to let units thermally acclimatise to the point that readings stabilised around the same, or a narrow range of values. Five consecutive readings were taken and the highest and lowest struck off, with an average taken of the other three. Date, time and GPS coordinates were recorded.
- We were wary of dark sky surveys undertaken elsewhere which have reported rogue SQM readings in excess of 23 magnitudes per square arc second (mpsas). Although Unihedron states its meters are sensitive to a range

from about 7 (brightest) to 23 (darkest), by convention 22 is often assumed to be the average brightness of a moonless night sky completely free of artificial light pollution. This conforms with our experience and hence we were suspicious of unfeasibly high readings.

- Six of the meters were calibrated against each other to establish a margin of error. Units were within 0.08 mpsas when operating on good batteries. These devices produced 95% of readings in the National Park and all those in the core.
- A total of 124 separate readings were taken across 80 sites, including boundary areas, visitor centres, Dark Sky Discovery sites, villages, open moorland, forests, coast and in the dark sky core (47 readings at 20 locations).

## Results

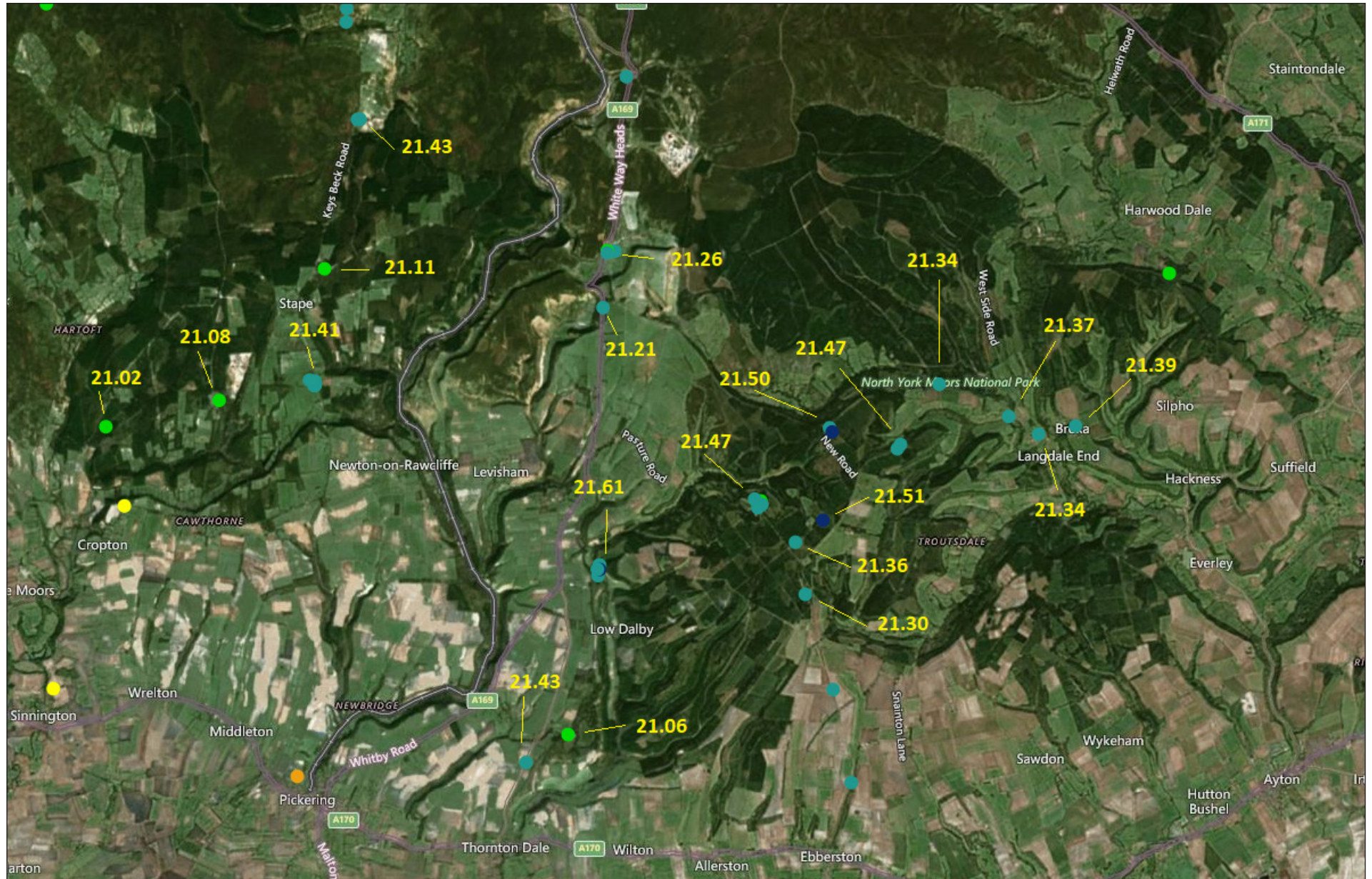


SQM-L meter readings from across the National Park, the darker spots indicate higher readings. Jurij Stare, [www.lightpollutionmap.info](http://www.lightpollutionmap.info) Earth Observation Group, NOAA National Geophysical Data Center

\*Sky Quality Meter measurements in a colour-changing world A. Sánchez de Miguel, M. Aubé, J. Zamorano, M. Kocifaj, J. Roby, C. Tapia Monthly Notices of the Royal Astronomical Society, Volume 467, Issue 3, June 2017, Pages 2966–2979, <https://doi.org/10.1093/mnras/stx145>

- Sky conditions varied greatly. We experienced very poor autumn/early winter observing seasons between 2018 and 2020. Our best readings came in the late winter/early spring months, when cold polar air spread down from the north, improving transparency. The Milky Way was also lower in the sky. The early hours of the morning were favoured.
- Our results confirmed that the further away readings were taken from the Teesside area, the major local source of light pollution, the better they were.
- Our highest reading was 21.61 in Dalby Forest in the south east of the National Park. This corresponds to a NELM of 6.4. On the nearby Adderstone Field plateau, which has low horizons and hosts the annual Dalby Forest AstroFest, 21.5 was recorded.
- The average of 47 readings taken in the dark sky core at 20 locations was 21.33.
- Dark conditions were also confirmed in Cropton Forest (21.41) and on Wheeldale Moor (21.43).
- A pocket of darkness was found at the western fringe of the National Park, where readings of up to 21.33 were recorded at Sutton Bank National Park Centre.
- Readings have been made publicly available at [www.lightpollutionmap.info](http://www.lightpollutionmap.info). This website, which uses satellite data, additionally allows users to extrapolate an expected SQM-L reading at the click of a button. We found these estimates were reasonably accurate, but only on nights of outstanding transparency.
- We also sampled the sky south of the National Park boundary in the Howardian Hills AONB, just 20km east of York. A reading of 21.2 revealed this is an excellent 'external' buffer zone. Similarly a point beyond the National Park's western boundary near Sutton Bank recorded 21.3.





Highest SQM-L meter readings recorded in the core zone at each location. Credit Jurij Stare, [www.lightpollutionmap.info](http://www.lightpollutionmap.info) Earth Observation Group, NOAA National Geophysical Data Center.

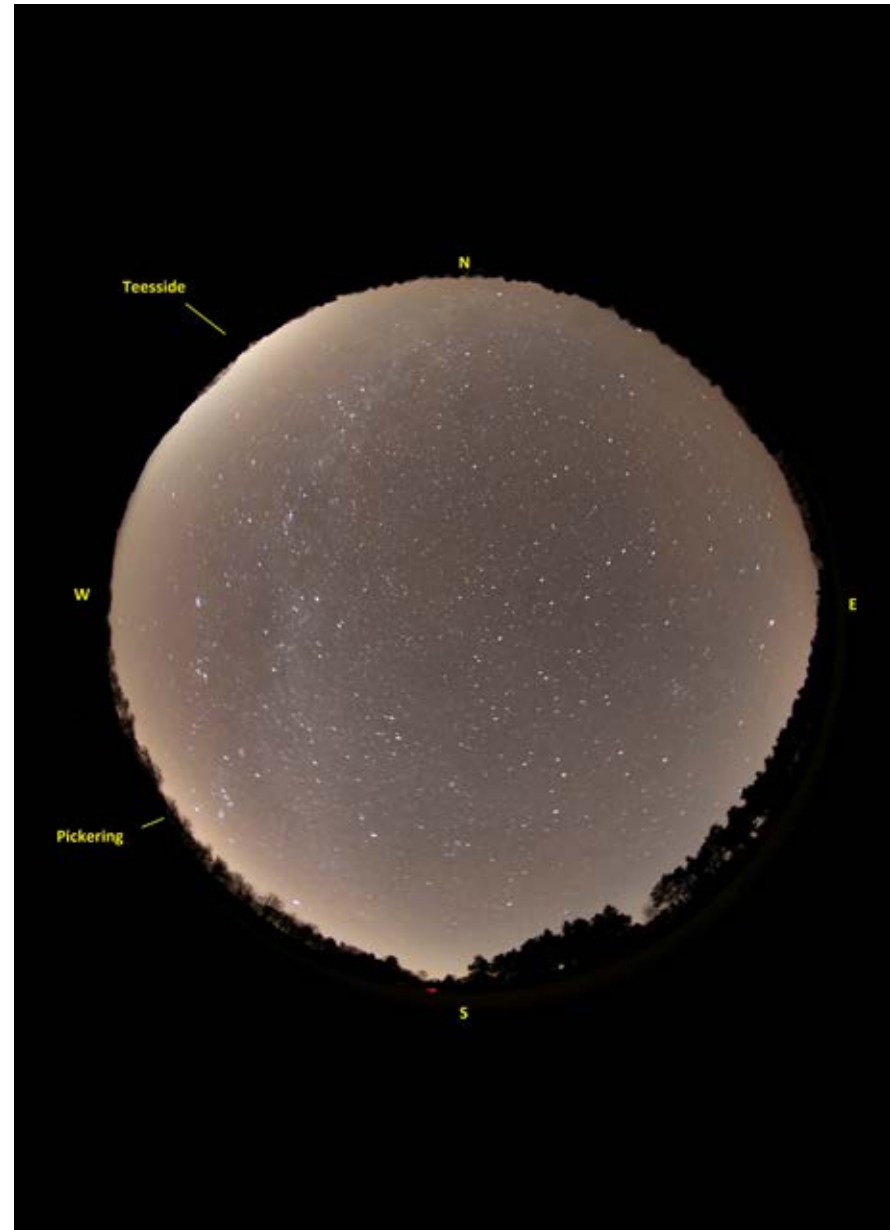
### 3.1 Fisheye Images

Fisheye photography was undertaken at two sites (see map, p36) to establish the sources of light intrusion into the National Park. Locations were:

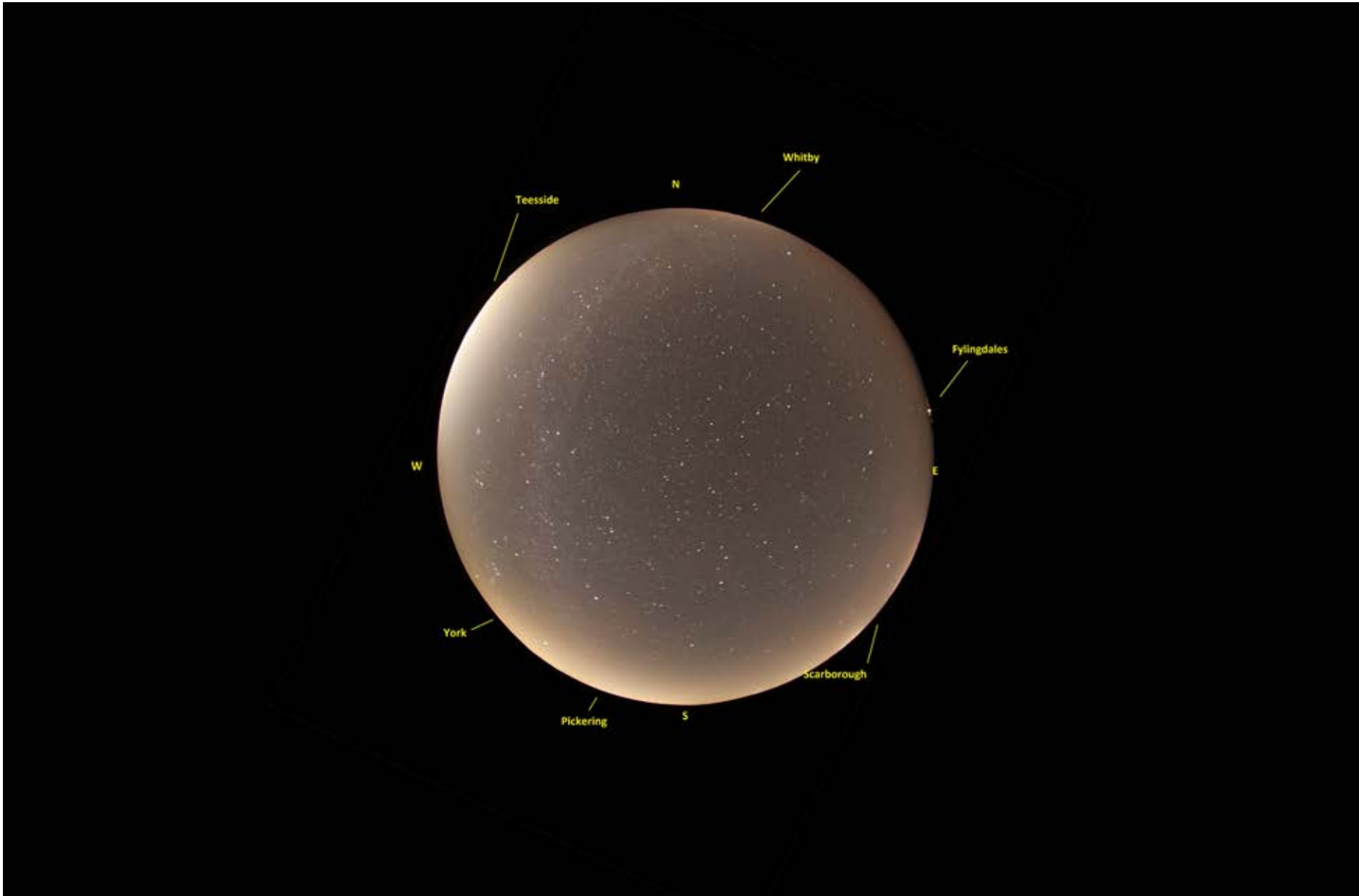
1. Adderstone Field in Dalby Forest (an elevated forest clearing with excellent horizons and in our dark sky core); and
2. Roadside lay-by near RAF Fylingdales, 9.3km to the north.

Camera settings were: ISO 1000. Aperture: fully open (F3.5). Shutter Speed: 180s. Focus: Manual, infinity. 8mm Sigma F3.5 EX DG Circular Fisheye. Camera Nikon full frame D700. Photographer Tony Bartholomew.

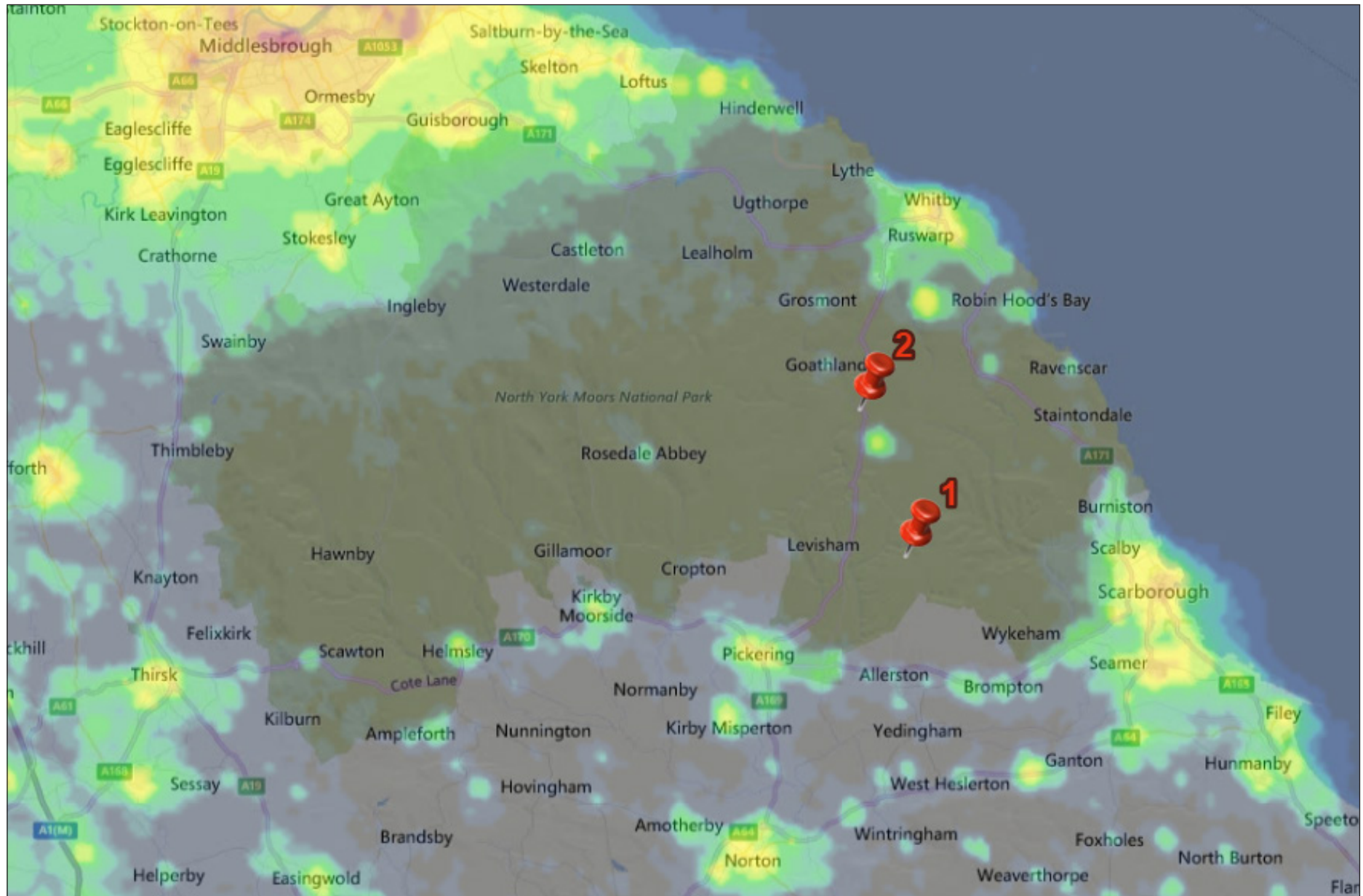
Poor weather meant we had a long wait for a suitable night. In the event we had to settle for modest conditions. The SQM-L in Dalby was just 21.2, quite a bit below its best. Even so the imagery confirmed sources of local light pollution (labelled) and in the case of the picture taken near RAF Fylingdales (outside the core), revealed the growing intrusion of light from Teesside.



Adderstone Field, Dalby Forest. 19 January 2020, 00.30



Lay-by near RAF Fylingdales. 19 January 2020, 01.15



Jurij Stare, [www.lightpollutionmap.info](http://www.lightpollutionmap.info) Earth Observation Group, NOAA National Geophysical Data Center



View taken from the lay-by location near RAF Fylingdales, looking east towards the base. Levels have been adjusted to represent the visual appearance. Nikon D90, 17-70mm zoom at 17mm, f4.5, 10 secs, ISO800. 21 May 2020, 23.50

### 3.2 Astronomer's View

Where we live, the Universe is only really apparent under a properly dark sky. You can see miraculous things and you start to wonder how long the light has been travelling to reach your eye. That is why the North York Moors is so special. A Milky Way brimming with intricate detail, billowing Scutum dust clouds and Northern Lights are all marvels we can see. So few people have the chance to glimpse any of this. Designation would help these skies retain their magic and their ability to transport us into the cosmos.

**Richard Darn, amateur astronomer**



Young Ralph Cross, Westerdale, and the Milky Way. Steve Bell. Canon 5d Mark 3, Canon 16-35mm f2.8 L II Lens, ISO 3200, 25 seconds @16mm



Stars over 12th century Byland Abbey, near Coxwold. Steve Bell.  
Canon 5d Mark 3, Samyang 14mm 2.8 prime, f5.6, ISO 3200, 25 seconds

## Case study 1: Steve Bell, astrophotographer

Astrophotography began as a therapy for Steve Bell, but it soon became a passion. Diagnosed with an anxiety disorder, he sought a constructive way to improve his condition and was inspired to try night-time imagery after seeing a time-lapse of the Northern Lights. Four years later his work is used by the national press and the BBC, and he runs sell-out workshops for others wanting to capture the glory of the skies above the North York Moors.

*“I do lots for the Dark Skies Festival, but I’ve also spread my wings by offering courses in Iceland and on the Isle of Skye,” explained Steve, who lives in Helmsley. “I was fortunate in getting a grant from the National Park to help run some of my early astrophotography sessions. The whole thing is turning into a thriving micro-business.”*

*“Needless to say I’m a convert to dark skies. Sometimes I don’t get the picture I’m looking for, but that’s ok. I can wait. Spending time under the National Park’s skies still delivers lots of karma. It’s a privilege to see the Milky Way etched into the sky.*

*“Achieving dark sky status would be a tremendous boost for all of us who live in the park. But it would be great news too for those who have to travel to view that increasingly rare thing – a starry sky.”*



Steve Bell under the stars





Milky Way over Harome, in the west of the National Park. Steve Bell.  
Canon 5D, Canon 16-35mm f2.8L III. F2.8, ISO 1600, 20 seconds at 16mm. Stack of 10 images

## Case study 2: Will Watts, Hidden Horizons

This expanding local business was set up by Scarborough-based geologist, Will Watts, in 2013, offering fossil-hunting trips on North Yorkshire's 'dinosaur coast'. To encourage people to look up, as well as down, they added a local astronomer to the staff four years ago, allowing them to run public star parties.

Since then they have gone from strength to strength, boosted by a grant from the North York Moors National Park Authority, used to buy an inflatable planetarium and large Dobsonian telescope.

Will said:

*“Demand for stargazing experiences has gone off the chart, especially in the last couple of years. People are prepared to travel long distances, including from London, to revel in the dark skies we have. To ensure this continues we need to keep our skies dark and make sure we deliver a really excellent experience, whatever the weather.”*

In 2019 Hidden Horizon's staged 37 star parties in Dalby Forest and a further 13 across the National Park. Just before the COVID-19 lock-down, they moved to four star parties per week in Dalby, with no signs that enthusiasm was ebbing.



Hidden Horizons astronomer takes people on a tour of the heavens

# 4 Lighting Management Plan

Beach huts under the Aurora/Steve Bell



The North York Moors National Park commissioned a Lighting Management Plan (LMP) and an audit of lighting in the National Park. The full LMP and audit results are included as a separate document to this application, but some of the major points are summarised below.

## 4.1 Lighting Audit

Our lighting audit indicated that 84% of external lights in the core are IDA compliant and 69% across the proposed reserve. The audit identified priorities for remedial action, some of which will fall within the scope of the National Park's new £100,000 Dark Sky Lighting Scheme. The survey methodology employed was the same as used in recent successful IDA applications. However, following detailed discussions with the IDA, we undertook further work to include data on colour temperature for lights on residential and non-residential properties. We chose to sample the village of Lockton, which is not only in our core zone, but with its historic stone cottages and farmsteads, represents a typical National Park community. A total of 73 lights were identified, 57% of which were heritage style lanterns, using bulbs less than 500 lumens and all of which were warm white (3,000K or lower) in colour. We estimated the colour compliance rate was 93%.

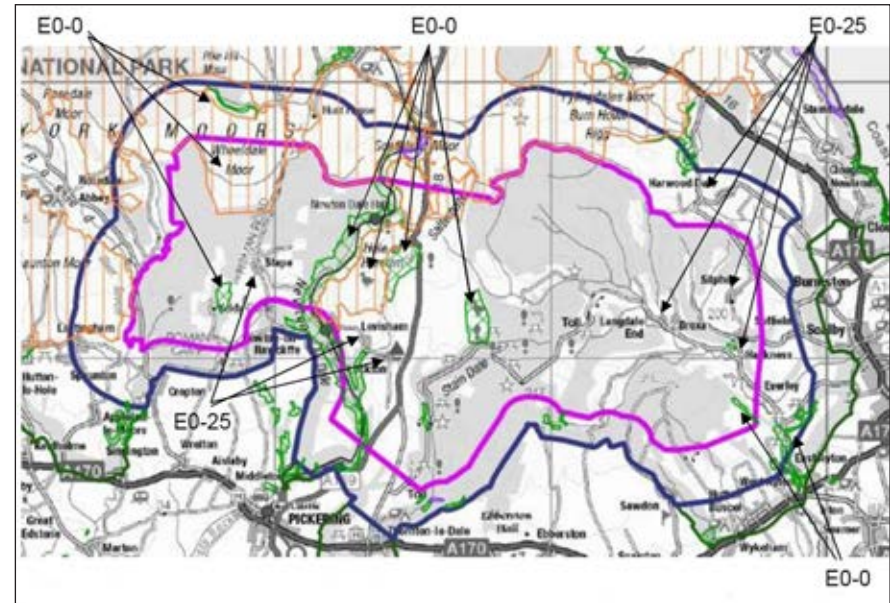
## 4.2 Lighting Management Plan

As the sole planning authority, the North York Moors has the power to deny permission to developments within the National Park where external lighting does not conform to the standards set out in the Lighting Management Plan (LMP). This document proposes a strict, but sustainable regime of lighting control within the core. Although this is a very low population area, it is not entirely uninhabited, with remote farmsteads and small

villages. New or existing lighting will be deemed permissible if, amongst other requirements, the visual perception of source intensity is limited to the immediate vicinity of the property, or the property boundary. Within a group of houses a distance limit of 25 metres is appropriate and in remote farm locations 50 metres, assuming in both situations that the property boundary is more distant. Outside this area, the LMP details a critical buffer zone of up to two kilometres, itself intrinsically dark, where light intrusion into the zone merits a tougher lighting regime than the wider National Park. This critical buffer zone comprises four small villages, plus RAF Fylingdales. The LMP surpasses national UK planning guidance and introduces the need for professionally prepared lighting impact assessments as part of any planning application.

### 4.3 Street Lighting

Most street lighting in the National Park (of which there is little) is maintained by North Yorkshire County Council (NYCC), who also determine policy, even though some units are owned by district or parish councils. Following a meeting with the National Park, NYCC committed itself to using only 3,000K and below full cut off lights within the entire National Park. They also agreed to do the same for the Yorkshire Dales and the county's two Areas of Outstanding Natural Beauty: the Howardian Hills and Nidderdale. Within our core zone there are only 24 street lights, most compact fluorescent or low pressure sodium, but with two 4,000K LEDs units. As part of our Dark Sky Lighting Scheme, the National Park will pay for these to be changed and also work with NYCC Highways to identify a phased approach to street lighting improvements in the Esk Valley (located in the far north east).



Environmental zoning in and around the core zone is a sustainable mixture of E0-25 and E0-0, meeting the needs of small communities and conservation, whilst protecting dark skies. E1 is proposed more widely in the reserve. For full details please see the LMP



Street lights in the North York Moors National Park (boundary in yellow) denoted by green squares

## 4.4 Planning Statements in the LMP

### Plan Statement Number 1

The allocation of night time Environmental Zones is a fundamental aspect of planning, engineering and managing the control of stray light. Light control limits will then be set by the zone allocation. See section 1.1.1 of the LMP.

### Plan Statement Number 2

All outdoor lighting fixtures using a light source greater than 500 lumens should be installed as a Fully Cut-Off (IDA “fully shielded”). See section 1.4.1

### Plan Statement Number 3

Light sources with a colour temperature greater than 3,000K or an S/P ratio greater than 1.3 shall not be used within the boundary of the reserve. See section 1.4.2

### Plan Statement Number 4

Any new or replacement lighting within the core zone boundaries should be “Fully Cut-Off” (Fully Shielded (IDA term) regardless of light source lumen output.

### Plan Statement Number 5

Residents in the core zone are to be encouraged to limit the visual perception of light output at their property boundary by adapting or modifying existing units to this end. See Section 2.2

### Plan Statement Number 6

The Authority will endeavour to ensure that no lighting will be allowed to be projected from the adjacent light permitted buffer zones into the core zone and any overspill lighting from lights in the critical buffer zone to be no greater than 0.05 lux

(horizontal) at ground level, or 0.05 lux vertical at 1 metre (or higher) above ground on the core zone side of the property boundary. See Section 2.3.1

### Plan Statement Number 7

Luminaires in the buffer zone and National Park remainder using lamps greater than 500 lumens and not operating short time adaptively throughout the hours of darkness must be installed as a Fully Cut-Off (IDA “fully shielded”) See Section 2.3.1

### Plan Statement Number 8

Residents are to be encouraged to limit the overspill light at their property boundary to no more than 0.1 lux. See Section 2.3.1

### Plan Statement Number 9

In Environmental Zone terms the residents round the core zone live with and enjoy Intrinsic darkness equivalent to Environmental Zone E1. Towns within the National Park boundary with a population greater than 1,000 may relax this Environmental Zone in the town centre where buildings provide natural screening, but not in exposed locations. See Section 2.3.2

### Plan Statement Number 10

All new street lighting design will be based on a Glare Limiting Index of G6 and a light source colour temperature of 3,000K, or less. See Section 2.4

### Plan Statement Number 11

All new lighting should be designed and installed to provide lower glare or intensity values, where possible, than that recommended by the ILP for night time Environmental Zones. See Section 2.4

**Plan Statement Number 12**

All design submissions or planning applications that include external lighting should show evidence of compliance with the zero candela intensity at 90 degrees and above and encourage domestic luminaires to be selected from units having some form of upward light control. See Section 2.4

**Plan Statement Number 13**

Where there are no safety issues involved all new public lighting will be fitted with adaptive light control which operates at a lower lumen output when areas are not occupied. All public buildings will extinguish feature lighting at an Energy Saving Time of 10pm. See Section 2.5

**Plan Statement Number 14**

Through this LMP it will be possible to encourage developers, when required, to adopt and provide a lighting industry professionally prepared submission for planning consideration. See Section 3.1

**4.5 Dark Sky Lighting Scheme**

In 2019 the North York Moors National Park Authority agreed a £100,000 grant scheme to help land managers and property owners switch to dark sky friendly fixtures. It made headlines in the national media\*. The move owes its origins to planning permission granted by the North York Moors National Park Authority for the construction of Woodsmith Mine, near Robin Hood's Bay. Anglo American Woodsmith Ltd agreed to provide funds to mitigate the harmful impacts on the National Park. The scheme's objectives include:

- protecting and expanding where possible existing tranquil areas.

- protecting and improving our dark skies and ensuring development within the park does not cause unacceptable light or noise pollution.

The National Park's current Management Plan recognises the challenges of light pollution, which not only degrades tranquillity and dark skies, but impacts on wildlife and human health. Tackling these threats has become even more urgent with the spread of cheap and powerful LED lighting. The new scheme offers grants of up to £2,500 (50% of total costs) to switch to dark sky friendly lighting. For larger rural premises, such as farms, pubs or bigger campsites (typically in excess of 10 lights), the grant scheme may also cover installation costs and a lighting audit by a lighting professional, to balance health and safety standards with protecting dark skies.

We have used the lighting audit and LMP to target grants where they will have most impact on a landscape scale. A National Park-wide scheme would result in improvements being too dispersed to provide discernible benefit, so the initial focus will be to protect and expand the darkest areas and to improve other locations as part of wider landscape projects, or where considered strategically important. We are engaging with partners such as community and parish groups, business forums and other organised bodies to help encourage collective take up of the scheme in identified areas. In exceptional circumstances grants of more than 50% may be awarded, not exceeding £5,000.

Two companies with experience of dark sky friendly lighting have already audited Sutton Bank National Park Centre and Forestry England's Dalby Forest Visitor Centre. At least one farm, pub, or accommodation provider will also be identified as a demonstration project to help with scheme uptake. Lighting

\*[www.theguardian.com/environment/2019/dec/15/light-pollution-north-york-moors-national-park-dark-skies](http://www.theguardian.com/environment/2019/dec/15/light-pollution-north-york-moors-national-park-dark-skies)



will be deemed 'dark skies friendly' if it meets benchmarks laid down by the IDA and complies with our LMP. Requirements will include full shielding, zero upward light spill and lights in excess of 500 lumens in exceptional circumstances only. Colour temperature will be limited to 3,000K or less.

Meetings have taken place with lighting design companies, manufacturers, distributors and installers with the aim of producing or identifying good quality dark sky lighting fixtures. The current lack of such products is a major issue for all dark sky areas in the UK. As members of the UK-wide Dark Sky Alliance and the Northern England Dark Sky Alliance we will share this work, which will be of value to all landscapes pursuing dark sky friendly objectives.

## 4.6 Visitor Lighting

All visitor activity within the proposed Reserve is managed through national legislation and local bye-laws. Large areas of the National Park and much of the core zone is designated as Open Access land under the Countryside and Rights of Way Act 2000. This legislation prohibits certain activities which could conceivably involve the use of artificial lighting after nightfall. They include:

- operations connected with hunting, shooting, fishing, trapping, snaring and taking or destroying animals, birds or fish
- organised games
- wild camping
- most commercial activity

In addition, under the Act it is an offence without reasonable excuse to do anything which (whether or not intended) disturbs, annoys or obstructs any persons engaged in a lawful activity on the land. This includes any visitors using flash-lights or floodlights. Landowners do permit certain events on their land at night, but only under licence. These may include star parties, night bike rides and some arts events. They are temporary in nature and in the case of astronomy events minimise the use of white light.

## 5 Outreach

Planetarium session run by Hidden Horizons during the Dark Skies Festival/Tony Bartholomew

The North York Moors has been inspiring the public by hosting astronomy events for nearly 30 years. Dalby Forest began public night-watches in 1993 and eight years later Sir Patrick Moore opened the woodland's first public observatory. It was later replaced by two modern domes with the building of a new £2.6 million visitor centre. Forestry England, who manage Dalby on behalf of the nation, is considering building a larger public astronomical facility. This investment is more likely to gain funding if dark sky designation is achieved. On the western side of the National Park, star parties started at Sutton Bank National Park Centre in 1997, while other regularly used venues include Boggle Hole Youth Hostel, Ravenscar, The Moors National Park Centre at Danby, Cober Hill Hotel, near Scarborough, and Rievaulx Terrace.

## 5.1 Dark Skies Festival

Staged during February half-term holidays, this celebration of dark skies began in 2016 when the North York Moors National Park joined forces with the Yorkshire Dales and Nidderdale and the Howardian Hills AONBs. The South Downs National Park (an IDA Dark Sky Reserve) has since joined and the Lake District will take part for the first time in 2021. The twin aims remain to increase awareness and enjoyment of the night sky and provide a boost to local businesses during the off peak tourism season. See [www.darks skies national parks.org.uk](http://www.darks skies national parks.org.uk)

Figures for the 2020 festival in the North York Moors reveal that:

- Nearly 150 events were staged (100 in 2019 and 60 in 2018).
- Over 7,500 people took part.



Sir Patrick Moore, opening the first observatory in Dalby Forest in 2001/Tony Bartholomew

- The economic value to the National Park was estimated at £282,000 (not including ticket sales).

Highlights included:

- BBC Sky at Night presenter, Chris Lintott, speaking on Adventures in the Zooniverse.
- Go Ape! Night Zip (high wire activity).
- Yoga, dark skies and mindfulness experiences.
- Dark sky runs and night navigation.
- Exploring dark skies with virtual reality specialists View It 360.
- Community stargazing.
- Stay and gaze experiences, fine dining and viewing with weekend hospitality packages.

The Dark Skies Festival has generated an enormous amount of publicity since its inception. A breakdown of the coverage monitored between 2016 and 2020 shows: TV and radio (43), regional press (326), magazines/online blogs (180), national press (44).

Not only has the event promoted stargazing, but it has raised awareness of the need to protect our dark skies. Other coverage has included national and regional media on the launch of the UK's first Dark Sky Lighting Scheme in the North York Moors. See Appendix 3 for sample festival coverage from 2019 (covers both the North York Moors and the Yorkshire Dales).



Dark Skies Festival 2020 leaflet



Festival Powerpoint presentations carried the light pollution guidance, which was also handed out in leaflet form at many events



Billboard at York Railway Station

### Feedback from the 2020 Dark Skies Festival

*“Just to say a really big thank you for another brilliant stargazing evening! Such an inspiring and informative evening, we thoroughly enjoyed it again. The enthusiasm and knowledge you all have and are willing to share is hugely appreciated.” FC*

*“We all thought last night was truly brilliant, the whole event was incredible from start to finish. Everything ran smoothly with delicious food throughout and the astronomer made the sky come to life.” NH Manchester*

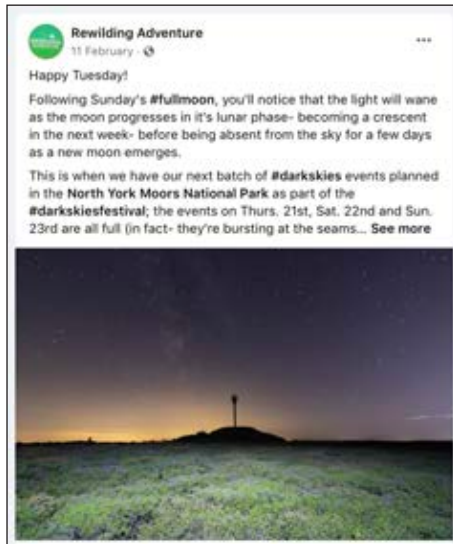
*“The stargazing event was also a real treat, it felt very personal. We spent the rest of our trip looking up and trying to remember the things the astronomer spoke about!” SB London*

### 5.2 Dark Sky Campaigns

The North York Moors National Park was a funding contributor to the CPRE’s Night Blight Report in 2016. We also use social media to regularly promote the following campaigns:

- Back Garden Astronomy Week
- CPRE Star Count
- Big Dipper (encouraging property owners to dip their lights)
- International Dark Sky Week

In addition, special screenings of the IDA’s Saving the Dark film drew capacity audiences to Dalby Forest and the Yorkshire Arboretum in the Howardian Hills AONB in 2019.



Social media posts

**North York Moors NP** @northingmoors

★ Become a Citizen Scientist and take part in **#StarCount2020** between 21 - 28 February and you could help map the nation's view of the night sky and ensure more of us can enjoy this magical sight.

To get involved, sign up here [buff.ly/3S9xPA](https://buff.ly/3S9xPA)

#DarkSkiesFestival



7:00 PM - Jan 21, 2020 - Buffer

13 Retweets and comments 18 Likes


**North York Moors NP** @northingmoors

Get ready for **#DarkSkiesFestival** coming this February!

Join us from 14 February - 1 March for a jam-packed programme of events and adventures under our starry skies. **#SeeMoorStars**

Find out more [buff.ly/2Ln38U8](https://buff.ly/2Ln38U8)

Video footage: @78steve29



**Dark Skies Festival**  
14 February - 1 March 2020

2.8K views 0:13 / 0:20

8:00 PM - Jan 8, 2020 - Buffer

38 Retweets and comments 57 Likes

**View It 360** 10 February

We still have availability for our **virtual reality dark skies** experiences working in partnership with the **North York Moors National Park** for Friday 21st and Saturday 22nd February at the Sutton Bank National Park Centre. Click here to book your experience - <https://viewit360.co.uk/dark-skies/> #nationalpark #nationalparks



Explore the dark skies like never before with our virtual reality experiences

Friday 21st & Saturday 22nd February 2020 at Sutton Bank National Park Centre North York Moors

Book your experience today! £20 per person per one hour session T: 01823 294450 I: E: info@viewit360.co.uk

View It 360 Marketing agency Book Now

**North York Moors National Park** 9 December

Our fifth Dark Skies Festival with the Yorkshire Dales National Park is bigger and better than ever! For 17 days in February 2020 over 100 events are happening in the North York Moors.

This year's hot ticket includes an evening with BBC Sky at Night presenter, Chris Lintott. You can also look forward to anything from hair-raising night zip wires, romantic Valentine's stags, ghost walks in Robin Hood's Bay, searching for the Aurora, night navigation experiences and of course lots of stargazing.

With Christmas around the corner it's the perfect opportunity to give a gift with a difference. Read all about it via this link - <https://buff.ly/356m1v4> #DarkSkiesFestival

Steve Bell Photography



Dark skies are great for nocturnal wildlife too, including owls and moths!

Emily Watson, Bryden Simpson and 173 others 7 comments 61 shares

**See MOOR STARS**

Stargazing guide

**North York Moors National Park**

For more dark skies information, events, tips and apps to download, go to [northingmoors.org.uk/darkskies/darkskydiscovery.org.uk](https://northingmoors.org.uk/darkskies/darkskydiscovery.org.uk)

**Top tips and essential gear**

**Your eyes!** Be patient! It takes 20 minutes for your eyes to adjust to the darkness. Use a red light torch to prevent light shock.

**Binoscopes** can be useful but you can see a lot with the naked eye. If you're ready to purchase a pair, look for 7 or 8x50mm. You'll be able to see brighter galaxies, sparkling star clusters and colourful double stars.

**Mobile phone** Helpful for stargazing apps and doubling up as a compass to help find a constellation or star.

**Wrap up warm, bring a hot drink, sit back and enjoy the show.**

**The changing night sky**

As the seasons change so does our view of the night sky and we see different constellations as the year passes. During the night, stars and planets also seem to move from east to west. The starriest nights are when there is no moon. Look out for new moon phases.

The sky never gets truly dark during mid-summer, so the best time to stargaze is from mid-August through to early May.

**Summer** August's Perseid meteor shower

**Spring** Best for planets

**Autumn** Milky Way constellations and October's Orionid meteor shower

**Winter** Star clusters and December's Cometary meteor shower

© Crown Copyright. Milky Way image: Tony Platt & Chris. Background photos: Bob Stone. The Aurora: National Park Gazette.

When the sun sets in the North York Moors, another breathtaking view emerges – a sky full of stars!

The low levels of light pollution in the National Park are one of the things that make it such a special place. Come to the North York Moors to enjoy one of the darkest places in England.

**What can I see?**

You'll be able to glimpse as many as 2,000 stars on a clear night together with other wonders like the Milky Way, planets and meteor showers (shooting stars). If you're lucky, magnificent views of the **Bethune Table** can be enjoyed, especially on the coast looking over the North Sea.

**Dark Skies Festival**

Join us for an annual celebration of our dark skies across the North York Moors. Enjoy over 100 events every February half term. [darkskiesnationalparks.org.uk](https://darkskiesnationalparks.org.uk)

**Dark Skies Friendly**

Look out for Dark Skies Friendly businesses who offer exceptional facilities, information and services for the ultimate stargazing experience. [northingmoors.org.uk/darkskiesfriendly](https://northingmoors.org.uk/darkskiesfriendly)

**Dark Sky Discovery Sites**

- Sutton Bank National Park Centre
- Daily Forest Observatories
- The Moors National Park Centre

**Other stargazing locations**

- Whinby & District Astronomical Society
- Rosencast
- Cod Beck Reservoir

**How to use your StarChart**

Looking north. The **Plough** is the most easily recognised group of stars. Looking a bit like a sauceman, it's always above the horizon. The five stars furthest from the handle end point towards the **North Star (Polaris)**, so you can always find north. On the other side of Polaris is the W. group of **Castor**. The stars in the northern sky are the same all year round, so you'll always be able to find them on a clear night.




Free stargazing leaflets are available at North York Moors National Park centres and from tourism businesses

## 5.3 Starmakers

This initiative was designed to train people with at least a basic knowledge of stargazing to become outreach practitioners and communicators. In total 16 people took part, of varying levels of experience, who attended a day long workshop followed by 'work experience' during the 2019 Dark Skies Festival. Training covered astronomy basics, presentation skills, navigating the night sky, customer service and tips on running events for different audiences. We sought to cultivate people who could impart knowledge in a clear and fun way. Some Starmakers have graduated to become event leaders, helping to fill a gap in capacity, with more organisations wanting to run events than available stargazer communicators.

## 5.4 Star Tips for Profit and Dark Sky Friendly Marque

To show businesses how they could tap into the growing market for stargazing experiences we staged four astro tourism workshops between 2016 and 2020. Attendees included bed and breakfasts, campsite and self-catering owners, hotel managers, activity providers and tour guides. Sessions covered designations (such as IDA dark sky places), evidence for the expanding astro tourism market, tips on marketing, becoming dark sky friendly and advice on equipment and resources. Events were held at Sutton Bank National Park Centre, Goathland Hub, Boggle Hole Youth Hostel and online. As a result the National Park instituted a dark sky friendly marque. Businesses which meet certain requirements, for instance providing guests with binoculars, setting aside a dark space for stargazing, promoting local astronomy and controlling light pollution, can apply for and display a special logo. So far 21 businesses have signed up.

They include:

### Accommodation providers

Carr House Farm  
Cober Hill Hotel  
Crag House Farm  
The Farmhouse  
Carlton Lodge  
North York Moors Farm Stay  
Fox and Hounds  
High Farm  
Kale Pot Cottage  
Noelles Cottages  
North Yorkshire Lodges  
Rawcliffe House Farm  
YHA Whitby

### Activity providers

AFS Mountaineering  
Hidden Horizons  
Rewilding Adventure  
Rugged Outdoors  
Steve Bell Photography

### Venues

Dalby Forest Visitor Centre  
Sutton Bank National Park Centre  
The Moors National Park Centre, Danby

We are actively promoting the initiative as part of post lockdown COVID-19 recovery. Off-peak tourism will be crucial to the survival of many businesses.







Rawcliffe House Farm

## 5.5 Dark Sky Grants

The National Park runs a Local Distinctiveness and Tourism Grant scheme and a number of businesses have used funding for dark skies related activity. They include:

**Hidden Horizons:** purchased equipment for stargazing events.

**Yorkshire True Grit:** dark skies gravel bike event.

**Lazenby Visuals:** photography equipment to produce dark skies images and run astrophotography workshops.

**Cober Hill Hotel:** developed a sheltered area for stargazing and equipment.

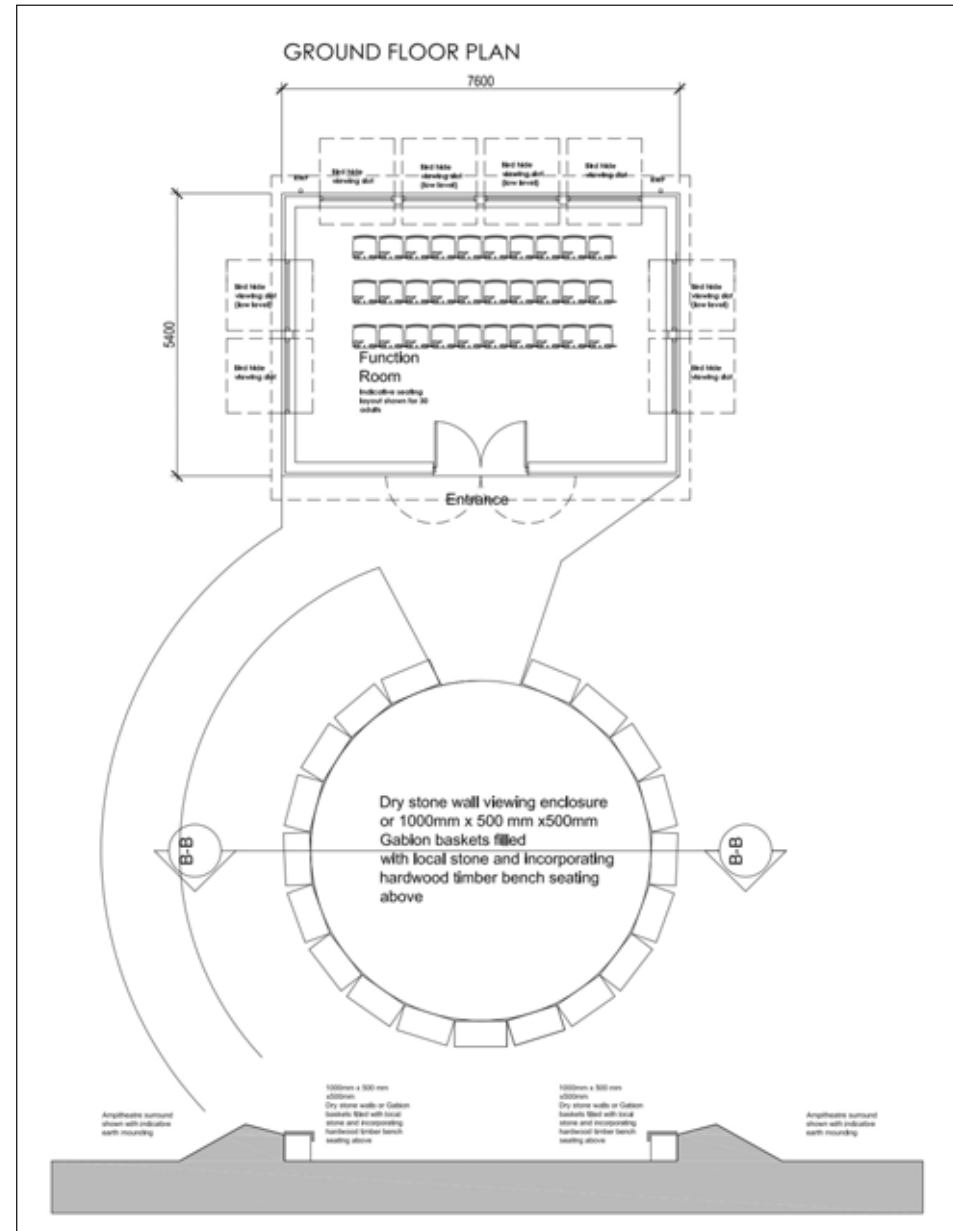
**Forest Holidays, Cropton:** purchased equipment.

**Rewilding Adventure:** purchased equipment.

**Mallyan Spout Hotel:** purchased equipment.

## 5.6 Sutton Bank National Park Centre Stargazing Pavilion

The National Park Centre at Sutton Bank is an iconic location, perched at the top of a 330-metre escarpment, offering peerless views over the Vale of Mowbray and towards the Yorkshire Dales. It sits on the National Park's western boundary and is easily accessible, being only a 40-minute drive from York and Middlesbrough and one hour from Leeds. Despite this on good nights the SQM-L meter nudges over 21.3. We



Sutton Bank National Park Centre Stargazing Pavilion ground plan



Sutton Bank National Park Centre Stargazing Pavilion

successfully obtained funding of £143,264 from the EAFRD Tourism Infrastructure Fund, part of which is being used to create a special stargazing viewing area, which will have mains electricity, internet, a level apron to mount telescopes and a warm room capable of entertaining up to 30 people at any one time. This will be a superb venue for stargazing events throughout the year and in the day-time will double up as a wildlife viewing area.

## 5.7 Dark Sky Discovery Sites

Under the Dark Sky programme run by the Royal Edinburgh Observatory, three locations have been designated as Milky Way class viewing areas for members of the public. In addition to Sutton Bank, they include Dalby Forest Visitor Centre and The Moors National Park Centre, Danby. They are promoted in National Park literature and on social media.

## 5.8 Networking and Leadership

The National Park has created a closed Facebook page called the Northern England Dark Sky Alliance where those working to protect dark skies can share experience, news and advice.

Membership also includes the Yorkshire Dales, Lake District and Northumberland National Parks, plus the North Pennines AONB. Also participating are Starmakers and professional and amateur astronomers. In addition we are contributing towards the formation of a UK Dark Sky Alliance with a similar ethos, bringing together the nation's darkest landscapes, some IDA designated, others not. We expect this alliance to work closely with the new All Party Parliamentary Group on Dark Skies, which itself is a significant development. For the first time MPs and Peers are working together to promote dark sky

conservation at the heart of Government. We have also advised Redcar and Cleveland Borough Council on a major street lighting programme and successfully lobbied North Yorkshire County Council Highways Department to install only dark sky friendly lighting in designated landscapes. We continue to work with the Howardian Hills on dark sky issues and have arranged stargazing events in the AONB, including public talks at Castle Howard stately home by Professor Tim O'Brien, Associate Director of Jodrell Bank, and Professor Andy Newsam, Director of the National Schools' Observatory.

## 5.9 Education

The North York Moors National Park education team has developed stargazing sessions for schools and other groups, targeted primarily at the Teesside area, where light pollution is a problem. The module covers our solar system, the scale of the Universe and what to look out for in the night sky. In addition, over the past year Hidden Horizons has done 30 sessions with schools, both in the National Park and further afield in Teesside and West Yorkshire, using an inflatable planetarium bought with a grant from the National Park. To inspire everyone about our dark skies, the North York Moors National Park Authority also commissioned a short film, which is now posted on its YouTube channel.

Elements of the National Park's dark skies friendly initiative have been developed as part of Destination Partnerships Moors and Dales, a project to boost rural tourism across the four protected landscapes of North Yorkshire. Funding was secured from the Rural Development Programme for England, funded by the European Agricultural Fund for Rural Development (EAFRD): Europe investing in rural areas.



Screenshot from the Dark Skies Festival promotional video

# 6 Demonstration projects

Hidden Horizons at Dalby Forest/Steve Bell



## 6.1 Cropton Forest Cabins

This complex of 51 cabins is managed by Forest Holidays, surrounded by 9,000-acre Cropton Forest and located in the dark sky core area. The aim is to allow visitors, mostly family groups from urban areas, to experience the tranquillity of the National Park and enjoy its wildlife and outdoor activities. Stargazing is also increasingly being promoted with special viewing nights and regular ranger led night walks. Although lighting on the site is restrained, an audit revealed that much of it was non-compliant, comprising: three LED floodlights (4,000K), 104 white LED deck lights, 30 white LED waymarking bollards, 102 heritage style lanterns on cabins and eight eyelid luminaires.

Working with Forest Holidays and using the National Park's Dark Sky Lighting Scheme, a lighting engineer devised a new scheme. LED floodlights and eyelids around the visitor centre have been replaced with full cut off units with zero upward light spill. The total number of lights in this area has also been reduced from 11 to nine. Heritage lanterns (mounted mostly under the eaves on the front and rear walls of cabins) have been fitted with 2700K bulbs, emitting 470 lumens (currently 806 lumens) and red film and perspex diffusers used on LED deck lights and bollards. This is the first Forest Holiday complex to undergo a dark sky lighting retrofit. The company is now considering using the knowledge gained at its other locations in the UK. The full lighting report is included as a supporting document to this application.

## 6.2 Rawcliffe House Farm

This popular complex of historic holiday cottages is situated within the dark sky core zone near the small village of

Stape. The six letting units can accommodate 21 people in sympathetically converted farm buildings dating to the 1790s. Owners Duncan and Jan Allsop were amongst the first to attend astro-tourism workshops and also achieved the National Park's Dark Sky Friendly marque for their property. They were also part of the dark sky survey team, recording 21.4 on their land using an SQM meter. However much of the external lighting on the site, comprising 37 individual luminaires, was not IDA compliant. Although some were inoperative, working units consisted of: 18 Heritage-style lanterns, six white LED floodlights, three circular bulkheads and five rectangular bulkheads.

Using the National Park's Dark Sky Lighting Scheme, a professional lighting engineer undertook an audit and designed a plan to bring all units up to IDA standards. That included an assessment as to whether lights were serving any useful purpose and recommending units featuring zero upward light spill and with a colour temperature no greater than 3,000K. The results of this work has led to a significant reduction in light spill. Better lighting has improved convenience for guests and enhanced the night time environment for wildlife and the wider landscape. The scheme is being used as a demonstration project by the North York Moors National Park to encourage similar businesses to sign up. The full lighting report is included as a supporting document to this application.

Full specifications of the new lighting used for both these completed projects can be found overleaf.

### Rawcliffe House Farm

Number	New Luminaires	Type – see key right
24	DARKSKY B 6-Sided 3,000K 8W 400 Lumen	2
4	iLED LIGHTPACK 3,000K 7W 1000 Lumen	7
3	ARROW FLE-30 3,000K 30W LED 3,640 Lumen	11
3	DARKSKY D 3,000K 8.5W 330 Lumen	14
1	Victor Heritage Lantern LED Road 24W 1,088 Lumen	15

### Cropton Forest Cabins

Number	New Luminaires/Fittings	Type – see key right
3	PEAK BULKHEAD 3000K 9W 1,100 Lumen	5
3	PEAK BULKHEAD 3000K 25W 3,005 Lumen	5
3	ARROW FLE-30 3000K 30W LED 3,640 Lumen	11
30	3mm Perspex red diffusers for bollards. Permanently fixed.	N/A
108	Red film for deck lighting	N/A
102	Replacement LED bulbs, 2,700K, 470 Lumen	N/A

### Key



Type 2



Type 7



Type 14



Type 5



Type 11



Type 15

Note: disruption to supply chains caused by COVID-19 has been a major issue in sourcing dark sky friendly lighting for these projects. As a result the otherwise compliant Arrow FLE-30 floodlight (Type 11) and the Peak Wall pack (Type 5) have been installed, but temporarily fitted with 4,000K LED packs until 3,000K ones arrive. These have been ordered with a delivery date of mid-October. Installation will be undertaken without delay.





Cropton Forest Cabins – before



Cropton Forest Cabins – before



Cropton Forest Cabins – after, all lights on curfew or proximity sensor



Cropton Forest Cabins – after, all lights on curfew or proximity sensor



Rawcliffe House Farm – before



Rawcliffe House Farm – before



Rawcliffe House Farm – after, all lights on curfew or proximity sensor



Rawcliffe House Farm – after, all lights on curfew or proximity sensor

### 6.3 Dalby Forest

The 8,600-acre woodland, managed by Forestry England, produced the darkest SQM-L readings in our dark sky survey. It is extremely popular, visited by 460,000 people annually, with two observatories and a long history of astronomical outreach. As part of its Dark Sky Lighting Scheme, the National Park commissioned an engineer to undertake a wide ranging audit of lighting around the visitor centre, forest workshops and courtyard. Levels of upward light spill, colour temperature and suitability of lighting for the intended purposes were all considered. A total of 60 fixtures were identified, ranging from floodlights to eyelids and bulkheads. A basic analysis of the total upward light ratio (ULR) suggested that the site could potentially leak over 40,000 lumens into the sky. Based on the data, a major scheme has been designed featuring sub-3,000K lighting with zero ULR. A 75% grant from the Dark Sky Lighting Scheme towards £10,000 costs has been offered to Forestry England, who have been supportive throughout. But for the COVID-19 outbreak this work would have been completed. The aim now is to have it finished by the end of 2020. Forestry England manage 500,000 acres of woodland across the nation, much of it located in intrinsically dark areas. We believe this project will be an exemplar for how dark sky friendly lighting can provide safety and convenience around public areas, whilst protecting nocturnal habitats and our view of the stars.



Dalby Forest Visitor Centre/Forestry England

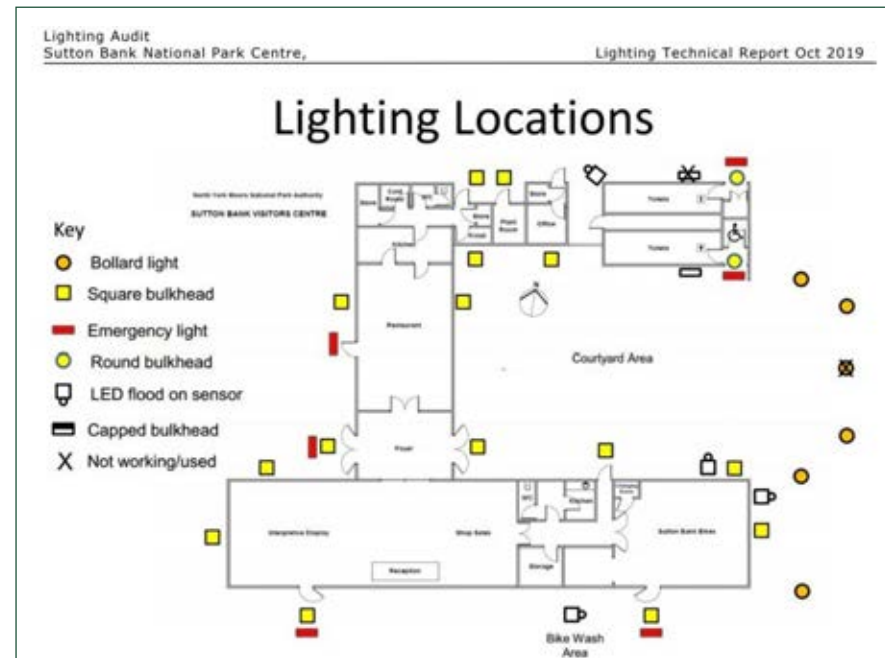
### 6.4 Sutton Bank National Park Centre

The visitor centre is located at the western boundary of the North York Moors National Park and welcomes 120,000 people every year. It is also a Dark Sky Discovery Site, hosts stargazing events and is the location of a new astronomical stargazing

pavilion, set to be launched in early 2021. Bringing external visitor centre lighting into dark sky friendly compliance is a priority and in October 2019 a lighting consultant undertook an audit and made recommendations. Three floodlights, six bollards and up to 16 bulkhead and 10 capped bulkhead lights will be removed and replaced with fewer, IDA compliant fixtures. This project was due for completion before this application was submitted, however, as with the Dalby Forest scheme, this has slipped due to the COVID-19 outbreak. With funds in place, completion is anticipated by the end of 2020.

### 6.5 The Fox and Hounds Inn, Ainthorpe, Whitby

Dating back to 1555, the Fox & Hounds is a traditional English country inn set in the heart of the North York Moors. With a popular bar and restaurant, it has nine letting bedrooms and has gained the National Park's Dark Skies Friendly marque. It also provides guests with red torches, binoculars and sky maps. The owners are now going a step further and retrofitting their lights to be IDA compliant. Currently the property has 24 luminaires of different types, including LED and older floodlights, bulkhead units and heritage lanterns. Utilising the National Park's Dark Sky Lighting Scheme an engineer visited the site and has produced a new lighting scheme. This is being costed after which new luminaires will be ordered. These will include a mix of the IDA compliant lighting we have used at other sites. Completion is likely to be by early November.



An illustration from the recent lighting audit at Sutton Bank National Park Centre



Sutton Bank National Park Centre at night, prior to work on dark sky friendly lighting commencing

# 7 Consultation

Star trails over Helmsley



Due to the COVID-19 lock-down it proved impossible to carry out the face-to-face consultation exercise we had originally planned. However, we were able to take information online and set up a pledge page for people to show their support. So far this has been signed by 1,116 individuals, of whom 380 left comments. We additionally canvassed partners including the Yorkshire Wildlife Trust, Forestry England and North Yorkshire County Council, along with astronomical societies, academia and the Campaign to Protect Rural England. Without exception we have received strong expressions of support. Our plans were also discussed extensively and endorsed at a meeting of the National Park Authority, which includes representatives from local councils at district and parish council level, plus local residents.

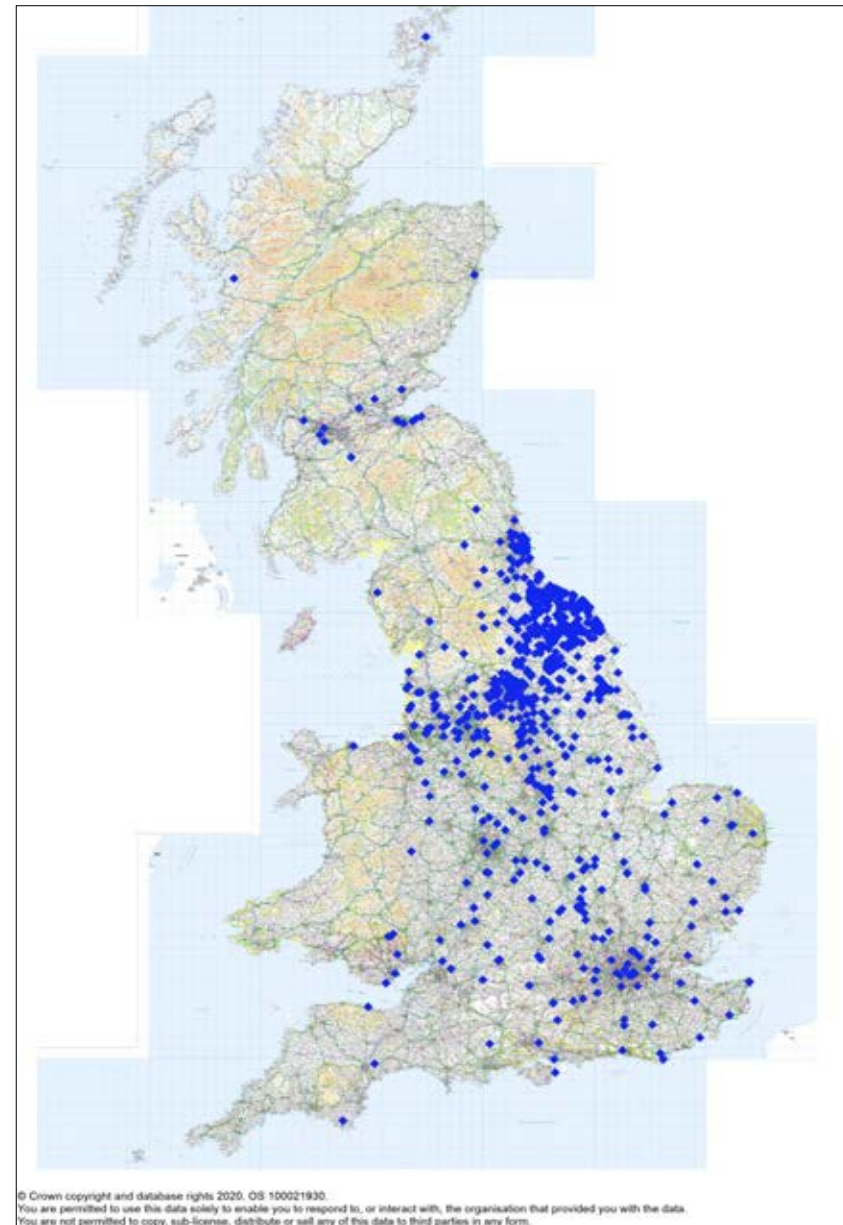
### Messages of support from the public received via pledge page

*Since moving back to North Yorkshire from London I've been in awe of the beautiful dark skies and the number of stars that I can see. It's so important to preserve this natural beauty so that our children can enjoy and learn from it.*

*This is a wonderful opportunity to create an environment for all to learn about our solar system and how it impacts on earth. Education is a positive and powerful tool which will enable humans to protect and help the environment.*

*I want my grandchildren to be able to see the night sky as I once did.*

*It's getting harder and harder to find truly dark skies in this country and I would hugely value this area being rightly designated as such.*



Locations of individuals who signed the pledge page

*We need to keep the area as dark as possible to allow animals, birds and people some respite from the encroaching light pollution.*

*I absolutely love being able to stare up in the sky and see the vastness and beauty of space and stars. It would be wonderful to have a place in my own country where this can be easily achieved!*

*The North York Moors National Park has been my favourite place for stargazing since I was a child. It's somewhere I will be taking my children when they're a little older. You can sit for hours and still not count them all.*

*I now live in Canada, but my heart remains in North Yorkshire and I live for my visits home. There are so few places left in Britain for night sky watching. Please keep our beautiful North York Moors as a legacy for future stargazers.*

*The North York Moors are just such a stunning part of the world and this status would be very much deserved.*

#### **Extracts from official letters of support received:**

As a child I grew up in the London commuter belt, never far from a bright town or city, but many of my holidays were spent in and around the North York Moors, and it is there that I first saw the truly dark night sky that has dominated my life since. I wholeheartedly support this application - as a professional astronomer and science educator, but also as the older version of that child who stayed up late to watch the stars and meteors.  
**Andy Newsam, Professor of Astronomy, Education and Engagement and Director of the National Schools' Observatory. Liverpool John Moores University**

It's a real deprivation that many city-dwelling young people no longer, as their forebears did, routinely see a really dark sky - so it's great to increase opportunities in our national parks.

**Martin Rees, Astronomer Royal for England**

As an academic ecologist and conservation scientist, I understand the importance of dark nights to a very wide range of animals. I studied bats for almost 40 years and ran a major research project in the National Park from 1998. The park has a substantial, diverse bat community in the summer months and in autumn and winter is host to many more which migrate there from outside to mate and hibernate. Dark sky reserve status would be a major asset in protecting bats and other wildlife from future light pollution.

**John Altringham, Emeritus Professor of Ecology and Conservation, Leeds University**

We have aspirations for a purpose-built star-gazing facility at Dalby Forest. Designation as a Dark Sky Reserve will support any future funding application. Once in place, it will instil confidence in people in the quality of their experience and will provide us with the tools to make a success of our business.

**Alan Eves, Forest Management Director, Forestry England**

Light pollution is gradually removing the view of the stars for many people and has a negative impact on many species of wildlife and so leadership in this area by the National Park is an important step in redressing the balance.

**Rachael Bice, Chief Executive, Yorkshire Wildlife Trust**

We own land and buildings within the National Park and we look forward to working with the National Park to support initiatives that help to preserve dark skies.

**Eric Wilton, General Manager, National Trust**





# 8 Summary: Threats and Mitigations

Orion over Saltwick Bay/Tony Marsh



The North York Moors National Park is an intrinsically dark landscape. However, we are not complacent and take very seriously the potential threats posed from inside and beyond our boundary. This is a summary of the principle threats we have identified and the mitigation actions we propose.

## 8.1 Non-residential properties

An extensive lighting audit carried out over a ten day period revealed that much of the light pollution within the National Park comes from commercial properties. These include farms, racing stables, camping sites, pubs and hotels.

### Mitigation

The National Park's £100,000 Dark Sky Lighting Improvement scheme is targeted at this sector. The scheme has already supported the completion of two projects, with over 240 lights brought into compliance with our Lighting Management Plan (LMP). Three more projects are at costing stage. Publicity will be used to encourage other property owners and managers to follow suit. We are also being proactive and where we identify a problem direct contact is being made to offer solutions.

We will continue to make the case that IDA compliant lighting is both more effective plus kinder to the night time environment. This will be done through mainstream media activity, social media and newsletters. The National Park has additionally revised its website to provide a simple guide on the golden rules of dark sky friendly lighting. See [www.northyorkmoors.org.uk/discover/dark-skies/dark-skies-friendly-lighting](http://www.northyorkmoors.org.uk/discover/dark-skies/dark-skies-friendly-lighting)

Farms in particular have legitimate concerns over security and often feel compelled, or are advised, to use LED floodlighting.

So we are staging an online presentation with North Yorkshire Crime Prevention Officers to ensure their advice is based on dark sky friendly lighting principles. We are also working with the Yorkshire Dales, South Downs and Northumberland national parks to create specific dark sky lighting advice for commercial properties, including farms.

## 8.2 Residential Properties

Most private dwellings in the National Park have a relatively small impact on local light pollution. Our survey found that over half of all external lights were relatively low powered heritage lanterns. Even so, there has been a growth in unsightly LED floodlights that needs to be checked before it becomes an even more serious issue.

### Mitigation

The Dark Sky Friendly Improvement scheme is also open to residential property owners, although we will target clusters of properties working through, for instance, parish councils. This will have the greatest impact on overall lighting levels. Education and raising awareness will be our priority. We are working with parish councils to promote the importance of compliant light fittings within communities and we will also make the case through our annual Dark Sky Festival and other campaigns, such as CPRE's Star Count and National Astronomy Week. Social media, press releases and websites all have a part to play. Making people aware is one thing, but offering practical solutions is another. So our work with manufacturers, lighting engineers and distributors to bring suitable products to market is especially vital.

### 8.3 RAF Fylingdales and Woodsmith Mine

These two installations, one defence and the other a deep polyhalite mine, are the two largest contributors to sky glow within the National Park. Both have operational and security reasons to be lit 24/7. Any expansion could have a significant effect on our dark skies.

#### Mitigation

RAF Fylingdales is operated by the Royal Air Force and during Autumn 2020 we held on-site meetings with base staff, including the Commander, on a new scheme to reduce current lighting levels. This builds on a lighting audit undertaken by a professional lighting engineer and paid for by the National Park. Thanks to this work we have identified a number of lights that can be either removed completely, adjusted, or replaced with LMP compliant units. We have also switched off lights at the base of the radar building and taken before and after pictures to assess their impact from a nearby view point. This work is progressing well and is now subject to an internal security and logistical review by senior RAF personnel. We are confident that lighting levels will be significantly reduced. The National Park stands ready to help with its Dark Sky Lighting Improvement scheme.

Construction of Woodsmith Polyhalite Mine, just south of Whitby, began in 2017. During the estimated five year construction phase, fixed and temporary mobile lighting units are being used and moved around the site. A professional lighting engineer has visited to make recommendations on lighting improvements and National Park staff continue to make periodic site visits to offer advice. As a result the height, angles and the quantity of lights being deployed are being

adjusted on a dynamic basis to minimise light spill. This review process is ongoing. As part of the planning permission granted by the National Park the lighting will be significantly reduced once the mine is operational and further steps taken to ensure IDA and LMP guidance is followed.

### 8.4 New Developments

Applications for new developments, or change of use of existing properties, may include plans for external lighting or for large windows that create light spill.

#### Mitigation

The National Park is the sole planning authority for the reserve area and has the power to reject planning applications that do not meet dark sky friendly standards. These are outlined in the LMP which is now used to inform decisions on planning applications under a new Local Plan, which includes a specific policy on dark skies (Policy ENV4). This requires applications to comply with the LMP and will also be cited in the next National Park Management Plan, set for renewal in 2022. Our aim is to work with planning applicants before submission to make them aware of dark sky lighting standards. We will continue to raise awareness of these through social media, newsletters and the National Park website.

All major developments within the National Park require planning permission and will need to deliver compensation and mitigation measures. Compliant and appropriate lighting will be a key element before approval is granted. Developments will also be subject to ongoing assessment to ensure continued compliance.

## 8.5 Threats from Beyond the Reserve and Nearby Settlements

The National Park is bounded by towns in the Vale of York to the west and Teesside, a large industrial conurbation, to the north. To the south it is contiguous with the Howardian Hills AONB, which is intrinsically dark, and to the east are the settlements of Scarborough and Whitby, both popular tourist destinations. There are no major roads running near, or through the National Park. A virtue of the National Park is that its dark skies are accessible for millions of people, but this also means it is especially vulnerable to the growth of inappropriate lighting beyond its border.

### Mitigation

Planning authorities in England have a duty to cooperate with each other and the National Park must be consulted on developments near the border which could affect its setting. It can also comment on other developments further afield if it believes these will adversely affect the qualities of the National Park. The North York Moors National Park Authority attends four planning forums each year with all North Yorkshire local authorities, plus the Yorkshire Dales National Park Authority. It will use these meetings to raise awareness of the need for dark night skies. It also comments on neighbouring local plans as a matter of course and we will promote better lighting policies in those plans. The National Park's lead dark sky officer will take part in these forums and we will also share user friendly dark sky planning guidance (based on the LMP) now being developed. Furthermore we will ensure local authorities are made aware of the demonstration lighting projects we have undertaken and the range of dark sky lighting units now available.

## 8.6 Satellite Constellations

Multiple satellite constellations orbiting the Earth are designed to provide worldwide telecommunications. Their numbers are growing rapidly, posing a threat to our view of the night sky and the experience of tranquillity. No global authority is currently overseeing their impact.

### Mitigation

The National Park, like many other agencies, is concerned by this development and its effect on our night-time environment, especially given the scale of future plans for even larger satellite constellations. Whilst we are not able to directly influence the course of events, we will add our voice through membership of the UK Dark Sky Alliance, which in turn is working with the UK All-Parliamentary Group on Dark Skies to influence Government policy.

# 9 The future

Polly Baldwin



A Dark Sky Reserve Steering Group will oversee the reserve's management. Membership will include National Park planning, conservation and tourism officials, along with representatives from local councils, Forestry England, astronomical societies, Howardian Hills AONB and the Campaign to Protect Rural England (CPRE). It will initiate action, oversee progress in meeting the commitments we have made in this application, supervise the ongoing dark sky survey and produce the annual report required by the IDA. Meetings will be held on a bi-monthly basis, at least initially. A representative of this group will also attend some of the planning forums hosted by the North York Moors National Park Authority for local authority planning departments. This will give us the opportunity to influence their general policy on light pollution outside the National Park boundary. Additionally the Steering Group will work with other dark sky areas, designated or not, to promote dark sky conservation and advocacy across northern England.

## Dark sky monitoring

All 20 locations in the core where we took SQM-L readings will be resampled. The coastal area around Ravenscar will be re-surveyed, together with the Rosedale valley, where we suspect conditions are darker than revealed by the data. Readings will also be added from the Cleveland Hills in the north west of the National Park and the survey will be extended further into the Howardian Hills AONB, which may be a candidate for designation at some point in the future. CPRE volunteers will join the survey team.

Readings will be taken on suitable nights throughout the observing season (Sept-April) and we will target in excess of 80 new readings per year. A special push will be made in the period between New Year and April when we have recorded

our darkest readings over recent years. This will provide a reasonable guide year on year with the Milky Way low down. Given our expanded survey team we expect to exceed our targets. A Dark Skies Monitor role has also been officially integrated into the National Park's volunteer programme. The first 17 people have already been signed up.

## Bringing external lighting into 100% compliance within the decade

National Parks in the UK do not have the statutory power to insist that lighting be changed, or modified on existing private, or commercial property. Residents do have recourse to law via their local authority to limit light pollution from neighbours (classified as a potential statutory nuisance) if it directly affects them, for instance causing sleepless nights. But currently there is no national legislation in England to protect 'the magic of the night sky'. However, National Parks do have jurisdiction over new developments and occupy a position of considerable influence. Our Dark Sky Lighting Scheme will also allow us to target poor lighting and make grants for improvements on a large scale. The annual Dark Skies Festival will also continue to raise awareness and encourage people to adopt dark sky friendly lighting and meetings will be held with planners, parish councils and businesses. Importantly, we will continue to work with manufacturers and suppliers to make dark sky friendly lights more widely available.





Project	Yr1 Q3	Yr1 Q4	Yr2 Q1	Yr2 Q2	Yr2 Q3	Yr2 Q4	Yr3 Q1	Yr3 Q2	Yr3 Q3	Yr3 Q4	Yr4 Q1	Yr4 Q2	Yr4 Q3	Yr4 Q4	Yr5 Q1	Yr5 Q2	Yr5 Q3	Yr5 Q4
<b>Outreach and advocacy</b>																		
Online astro-tourism workshop for tourism businesses	PR																	
Dark Sky Reserve briefing North York Moors Tourism Network																		
PR to promote Dark Sky Friendly hospitality scheme				PR				PR				PR					PR	
User friendly guidance on lighting for residents and developers		PR																
Dark skies briefing parish councils																		
National Astronomy Week		PR				PR				PR				PR				PR
Dark Skies Festival			PR				PR				PR					PR		
AstroFest Starcamp in Dalby Forest																		
Sutton Bank Stargazing Pavilion launched			PR															
CPRE Star Count			PR				PR				PR				PR			
Dark skies training for North York Moors rangers and volunteers																		
Dark skies briefing for local authority planning departments																		
Online workshop on dark skies lighting with North Yorkshire Police Rural Crime Prevention Officers																		
Training for planners on LMP guidelines																		
Annual Report to IDA						PR				PR				PR				PR

# Appendix



Staithe

## **1 Letters of support were received from:**

Martin Rees, Astronomer Royal for England  
Professor Andy Newsam, Liverpool John Moore's University  
and Director of the National Schools' Observatory  
Emma Marrington, Landscape Enhancement Lead, Campaign  
to Protect Rural England  
Carole Haswell, Professor of Astrophysics and Head of  
Astronomy, Open University  
Go Stargazing  
Cleveland and Darlington Astronomical Society (CADAS)  
York Astronomical Society  
Whitby Astronomical Society  
Commission for Dark Skies  
Yorkshire Wildlife Trust  
John Altringham, Emeritus Professor of Ecology and  
Conservation, Leeds University  
SG Lighting Ltd  
Exterior Lighting Solutions Ltd  
Forest Holidays  
Forestry England  
Howardian Hills AONB  
North Yorkshire County Council  
Castle Howard  
Tim O'Brien, Associate Director Jodrell Bank Centre for  
Astrophysics, University of Manchester  
National Trust  
RAF Fylingdales

## **Parish and Town Councils**

Staintondale  
Appleton le Moors  
Newby and Scalby  
Byland with Wass and Oldstead  
Egton  
Saltburn, Marske and New Marske  
Lockton  
Hutton le Hole  
Mulgave Estate  
Allerston and Wilton  
Thornton le Dale  
Bilsdale and Midcable  
Goathland  
Hackness and Harwood Dale  
Ebberston, Yedingham and Bickley  
Rosedale  
Guisborough  
Hutton Buscel  
Brompton by Sawdon  
Grosmont  
Burniston  
Cloughton  
Skelton and Brotton  
Kildale  
Lythe  
Sneaton

*Some of these are reproduced here (all are available [here](https://www.dropbox.com/sh/Obmeyqe9uaoizrf/AAB_juBbb7-Ozo0LNaqZQMIWa?dl=0)  
[https://www.dropbox.com/sh/Obmeyqe9uaoizrf/AAB\\_juBbb7-  
Ozo0LNaqZQMIWa?dl=0](https://www.dropbox.com/sh/Obmeyqe9uaoizrf/AAB_juBbb7-Ozo0LNaqZQMIWa?dl=0))*

## Forestry England

To:  
Mike Hawtin  
North York Moors National Park Authority  
The Old Vicarage  
Helmsley  
North Yorkshire  
YO62 5BP

Yorkshire Forest District  
Outgang Road  
Pickering  
YO18 7EL  
0300 067 4300  
alan.eves@forestryengland.uk  
[forestryengland.uk](http://forestryengland.uk)

Forest Management Director  
Alan Eves

15 June 2020

Dear Mike

### Support for Dark Skies Reserve Application

Over the last 4 years we have been actively involved in the North York Moors National Park Authority's Dark Skies Festival, promoting star gazing and enabling our onsite companies to build their businesses on this special quality of the National Park.

We have a long history of working with Scarborough and Ryedale Astronomical Society and their members by providing them a base in Dalby Forest and working together on public viewing events. Recently we have also forged a successful relationship with Hidden Horizons who deliver star gazing events for the public.

More recently the National Park commissioned a specialist to survey Dalby Forest as part of a National Park wide assessment of the lighting infrastructure and also to make recommendations for improvement that benefit the dark skies. We are an active partner in this initiative and fully support the National Park with its application.

We have aspirations to explore options for a purpose built, high quality, star gazing facility at Dalby Forest, the heart of the Dark Skies Reserve. The aim would be to provide an exemplary facility that would allow more people to experience and engage in star gazing.

Connecting everyone  
with the nation's forests



The designation as Dark Skies Reserve will support any future funding applications for such a facility. More importantly, once in place, it will instil confidence in people in the quality of their experience and will provide us with the tools to make this a success with our businesses.

We can therefore confirm our support for the application of the North York Moors National Park Authority for Dark Skies Reserve Status and wish them success with their application. I look forward to hearing the result of the application.

Many thanks

Alan Eves  
Forest Management Director





Mike Hawtin  
 North York Moors National Park Authority  
 Bondgate  
 Helmsley  
 North Yorkshire  
 YO62 5BP

14 May 2020

To whom it may concern,

**North York Moors National Park application for International Dark Sky Reserve status.**

On behalf of CPRE, the countryside charity, I am writing to support the North York Moors National Park's initiative to secure protected dark sky status for 554 square miles of beautiful countryside based on the National Park boundary.

CPRE is the countryside charity that campaigns to promote, enhance and protect the countryside for everyone's benefit, wherever they live. With a local CPRE in every county, we work with communities, businesses and government to find positive and lasting ways to help the countryside thrive – today and for generations to come.

CPRE welcomes the International Dark-Sky Association's Dark Skies Programme and the opportunities it brings to recognise and protect the darkest skies across the United Kingdom and the rest of the world. Dark starry skies are a beautiful sight, and a distinctive feature of the countryside.

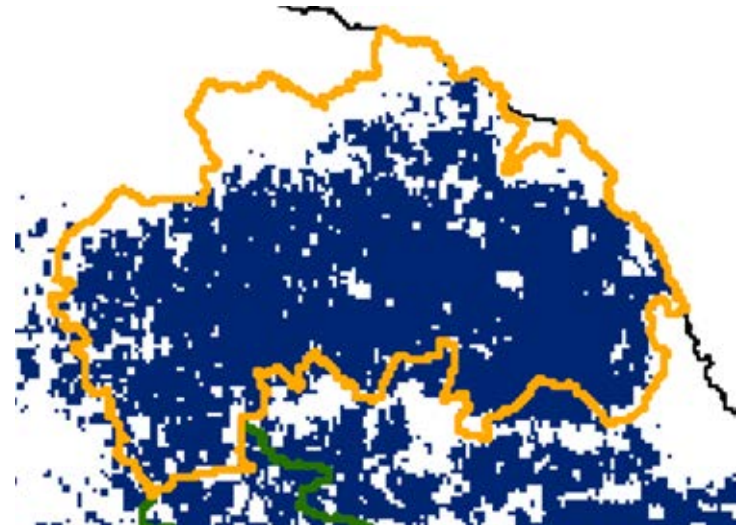
In 2016, CPRE published interactive *Night Blight* maps<sup>1</sup>. These are the most detailed ever of Britain's night skies and are based on satellite data captured at 1.30am throughout September 2015. Detailed maps were created for all English counties, districts, National Parks and AONBs, showing the percentage of each area that falls under nine brightness categories. The mapping revealed that only 22% of England has pristine night skies, free of any light pollution. By comparison, 71.2% of the skies above the North York Moors National Park fall in this category. When the two darkest categories are combined 92.4% of the skies are exceptionally dark. (Appendix 1).

Our mapping found that 53% of England's pristine night skies, free of light pollution, are above National Parks and AONBs. When this map<sup>2</sup> is focused on the North York Moors it shows a large area of pristine night skies (fig 1). This illustrates the extraordinary quality of dark skies in the area and suitability for Dark Sky designation.

<sup>1</sup> The *Night Blight* interactive map can be viewed: <https://www.nightblight.cpre.org.uk/>  
<sup>2</sup> The *Night Blight* maps were created by LUC. The full map of England's darkest skies and designated landscapes can be viewed on page 9 of their 'Background report and methodology': [http://nightblight.cpre.org.uk/images/resources/Englands\\_Light\\_Pollution\\_and\\_Dark\\_Skies\\_LUC\\_Report.pdf](http://nightblight.cpre.org.uk/images/resources/Englands_Light_Pollution_and_Dark_Skies_LUC_Report.pdf)  
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 Her Majesty The Queen  
 President  
 Emma Bridgewater CBE  
 Chief Executive  
 Cressin Truman CBE

Fig 1: Pristine night skies map focused on North York Moors National Park



CPRE would like to take this opportunity to place on record our full support for the North York Moors National Park to attain International Dark Sky Reserve status. The designation of this area would help ensure that these remarkable dark skies will remain protected for the enjoyment of current and future generations to enjoy.

If you would like further information, please do get in touch.

With best wishes,

Emma Marrington  
 Landscape Enhancement Lead  
 CPRE national office

P.S – I have my own memories of visiting the North York Moors as a child – and being astounded by how amazingly dark it was, the inky night sky dotted with stars. For a child who grew up near Heathrow airport, this special experience has always stayed with me!

Mr Mike Hawtin  
North York Moors National Park Authority  
The Old Vicarage  
Bondgate  
Helmsley  
York  
YO62 5BP

Mr Mark Dawson  
Whitby & District Astronomical Society  
33 Laburnum Grove  
Whitby  
N Yorkshire  
YO211HZ  
7 – 5 - 2020

To support creation of the North York Moors International Dark Sky Reserve.

Dear Michael

I am writing on behalf of the Whitby and District Astronomical Society in support of the application from the North York Moors National Parks authority to be awarded Dark Sky reserve status by the International Dark Sky Association.

The North York Moors National Park is not only an area of outstanding natural beauty; it also offers some of the darkest locations in the country in which to view the beauty of the night sky. Survey results actually indicate that from accessible locations within the park area, skies are as dark as some already recognised international dark sky sites. From our own experience we can testify that the Milky Way is clearly visible from numerous sites within the Park area, as well as 'dark sky' objects not apparent from other semi rural locations. Because the population density within the NYM is low, existing light pollution levels are already quite minimal, but are capable of being reduced further still through a manageable lighting control planning policy. The NYM National park is also accessible to larger population centres, being within a 90 minute drive of over 3 million people.

For a number of years the WDAS have been fortunate to be involved in numerous Dark Sky events run by the Park's authority, particularly those at the Danby Moors Centre. We have also hosted or assisted at star events within the Park's area organised by local Hotelier's, Village parishes and for School outreach visits, the latter often for pupils from disadvantaged backgrounds from urban conurbations amazed to stand under dark skies and study the universe overhead.

It is our belief that with International Dark Sky status, the North York Moors Parks in conjunction with local Astronomical societies could further build on such relationships as well as prove to be a positive draw for the emerging 'astro- tourism' market, boosting local community economies with people coming to stay, and weather permitting, marvel at pristine skies above moor and dale.

Best wishes with your application. Please let us know if we can be of further assistance.  
Yours sincerely

Mark Dawson  
Chairman  
Whitby & District Astronomical Society

## Trinity College Cambridge CB2 1TQ

Dear Mr Darn,

It's excellent news that the North York Moors National Park, already the location of a successful annual astronomical festival, is being nominated for the status of a 'dark sky park'. Needless to say, I am wholeheartedly in support.

Moreover, one point which I'd be keen to emphasise is that it's not just astronomy enthusiasts who care about this. Almost all of us, not just ornithologists, appreciate song-birds, and would miss them if they disappeared from our parks and gardens. Likewise, the night sky is a part of our environment – indeed it's the one part that has been shared and appreciated by people all over the world throughout human history. It's a real deprivation that many city-dwelling young people no longer, as their forebears did, routinely see a really dark sky – so it's great to increase the opportunities in our National Parks.

I wish you every success!

Yours sincerely,

*Martin Rees*

Lord Rees of Ludlow, OM FRS  
Astronomer Royal

28<sup>th</sup> April 2020

### Support for North Yorkshire Moors National Park Dark Sky Reserve

I am writing this during the COVID-19 lockdown – a time when I, along with many others, am thinking a lot about our relationship to nature and how tenuous it has become in recent history. It is clear that many people are looking for a connection to the natural world and universe away from the clutter and confusion of modern life. Access to a dark night sky is an essential part of that connection. Not only does it allow us to see something that has stayed largely unchanged since the emergence of our most distant ancestors but, far more importantly, it is something that anyone, anywhere can experience– the stars, planets and nebulae are a shared heritage of all humanity.

However, for many, that heritage is something that is increasingly difficult to access as light pollution proliferates. This is why preserving Dark Sky areas is so important, and the North York Moors National Park is potentially one of the most precious, being the nearest, most approachable dark sky to millions of people.

As a child I grew up in the London commuter belt, never far from a bright town or city, but many of my holidays were spent in and around the Moors, and it was there that I first saw the truly dark night sky that has dominated my life since. In my work with schools and community groups, I am continually amazed by both how important questions about the universe are to people of all ages and backgrounds, but also how few have the opportunity to experience it first-hand.

I therefore wholeheartedly support this application – as a professional astronomer and science educator, but also as the older version of that child who stayed up late to watch the stars and hunt for meteors.

Yours sincerely,

Prof. Andy Newsam  
Professor of Astronomy Education and Engagement  
Director of the National Schools' Observatory

Astrophysics Research Institute  
IC2, Liverpool Science Park, 146 Brownlow Hill, Liverpool, L3 5RF



Professor T.J. O'Brien  
Jodrell Bank Observatory  
University of Manchester  
Macclesfield  
SK11 9DL

Mike Hawtin  
North York Moors National Park Authority  
The Old Vicarage, Bondgate, Helmsley, York,  
North Yorkshire  
YO62 5BP

### Letter of Support for North York Moors International Dark Sky Reserve application

Dear Mike,

I am writing to express my strong support for your application for the North York Moors National Park to be designated as an international dark sky reserve.

The night sky has been an inspirational sight for all humanity for many thousands of years. Anyone who has visited a dark sky site and looked up on a clear night will never forget the experience of seeing a sky full of thousands of stars.

Unfortunately, light pollution has meant the best such views can only now be experienced in a more limited number of locations. It is crucial that we protect these dark sky sites for the benefit of current and future generations. They provide not just an emotional experience but also an educational opportunity as we learn more about our place in the universe.

I was very pleased to hear that the beautiful North York Moors is bidding to become a dark sky reserve in order to help promote and protect the status of the site. I also know they have excellent outreach and educational activities, including the popular Dark Sky Festival. I am very happy to lend my support to their application.

Yours sincerely,

Professor T.J. O'Brien  
Associate Director Jodrell Bank Centre for Astrophysics  
University of Manchester



17 July 2020

AJD/ajs

Mr M Hawtin (Head of Polyhalite Projects)  
North Yorkshire Moors National Park  
The Old Vicarage  
Bondgate  
Helmsley  
North Yorkshire  
YO62 5BP

Dear Mr Hawtin

**North York Moors National Park – International Dark Sky Reserve**

Further to your letter dated 07 July 2020 we are pleased to write in our capacity as Agent for the **Kildale Estate** and Administrator for **Kildale Parish Meeting** to offer our support to the North York Moors National Park in becoming an International Dark Sky Reserve.

Both Kildale Estate and Kildale Parish Meeting recognise the importance of protecting dark skies which if designated would assist in protecting the National Parks night time environment and wildlife which are of National and International importance.

Yours sincerely



A J Davis

Cc Kildale Estate  
Kildale Parish Meeting



Farmoor Services LLP Estate Office, Swincliffe, Leyburn, North Yorkshire, DL8 4RH  
Telephone: 01969 663096 Fax: 01969 663249 e-mail: admin@farmoorservices.co.uk Website: www.farmoorservices.co.uk

Farmoor Services is a limited liability partnership registered in England and Wales No. OC311404  
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1000 000 0000 0000



**MULGRAVE**  
— ESTATE —

8 August 2020

Mr M Hawtin  
Head of Polyhalite Projects  
North York Moors National Park Authority  
The Old Vicarage  
Bondgate  
Helmsley  
YO62 5BL

Dear Mr Hawtin

**NYMNPA International Dark Sky Reserve**

Thank you for your letter and email on 4 August regarding the National Park Authorities application to become an International Dark Sky Reserve.

The Estate would like to give the Park its full support to the application.

We support the wider enjoyment of the Park and the dark skies status will bring added environmental and wildlife benefits, as well as economic and tranquility to the special place that is the North York Moors.

As an Estate we would be very pleased to review our lighting and make any improvements we can to add to the overall objectives.

If we can help in any other way, then please do not hesitate to contact me.

Yours sincerely



**Robert Childerhouse** AssocRICS FAAY JP  
Estates Director

Estate Office, Mulgrave Castle, Lyche, North Yorkshire YO21 3RJ  
T: 01947 893239 E: office@mulgrave.net  
www.mulgrave-estate.co.uk





Area of Outstanding Natural Beauty

A joint partnership funded by Defra, North Yorkshire County Council (Host Authority) Ryedale District Council and Hambleton District Council; also involving Ryedale and Hambleton Parish Councils, Natural England, Country Land and Business Association, National Farmers Union, Ramblers and Forestry Commission

Mr M Hawtin  
North York Moors National Park Authority  
The Old Vicarage  
Bondgate  
Helmsley  
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YO62 5BP

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T: @howardian\_hills

Contact: Paul Jackson  
My Ref:  
Date: 7<sup>th</sup> July 2020

Dear Mike,

#### INTERNATIONAL DARK SKY RESERVE BID

I am writing to offer the support of the Howardian Hills Area of Outstanding Natural Beauty Joint Advisory Committee (JAC) to the Dark Sky Reserve bid being submitted by the North York Moors National Park Authority. The AONB JAC falls under the auspices of North Yorkshire County Council, with the AONB Unit being part of the Council's Growth & Heritage Services Team.

The implementation of the AONB Management Plan relies on the JAC working in partnership with a range of other organisations to achieve shared goals. You have already worked with us to extend the scope of the Dark Skies Festival into the AONB, and your help to businesses to enable them to run events and to become more Dark Skies Friendly has been particularly useful. We will continue to press for Local Plan policies that recognise the importance of Dark Skies, as well as submitting comments on individual development applications which we feel would have a detrimental impact on the dark skies of the AONB. We have a good track record of influencing local planning decisions and would greatly value your further support with this.

We look forward to working with you to further pursue the aims of the Reserve, should you be successful with the bid. We would be pleased to sit on the Steering Group if invited to do so.

Yours sincerely

PAUL JACKSON  
AONB MANAGER  
On behalf of the Howardian Hills AONB Joint Advisory Committee



Prospect House  
Hutton le Hole  
York  
YO62 6UD

31 July 2020

Dear Mr Hawtin,

*In response to your communication of 7th July Hutton le Hole Parish Council wishes to extend its support to the NP application to become an International Dark Sky Reserve. This would benefit the local environment and tourism sector and offer further protection to the area.*

*It would like to add, however, that when commenting on the Local Plan the Council mentioned that glass lantern topped extensions, conservatories with a glass roof and skylights do not help to achieve a 'Dark Sky'.*

*In view of the NP's wish to become a Dark Sky Reserve it is hoped that consideration of Planning Applications take into account the impact on the night sky that such additions, as noted above, have in reducing the ability to bring about the desired objective.*

*The Council would appreciate further information regarding the Dark Skies Lighting Improvement Scheme, who can apply for the grants, and the products available.*

Yours sincerely,

Heather Pettiford  
Chair - Hutton le Hole Parish Council  
[lesandheather@live.co.uk](mailto:lesandheather@live.co.uk)

*P.S. First paragraph sent separately in email by the Clerk, Paul Ashley, in support of the NP Application.*



Mike Hawtin  
Head of Polyhalite Projects  
North York Moors National Park Authority

HELMSLEY  
YO62 5BP

**Your ref:**

**Our ref:** M20AW002.PG.BM

**Contact:** Paul Gilmore

**Date:** 14 May 2020

**Barrie Mason**  
Assistant Director  
Highways and Transportation  
County Hall  
NORTHALLERTON  
North Yorkshire  
DL7 8AH

Tel: 01609 532137

Email: [barrie.mason@northyorks.gov.uk](mailto:barrie.mason@northyorks.gov.uk)

Web: [www.northyorks.gov.uk](http://www.northyorks.gov.uk)

Dear Mr Hawtin

**Dark Sky Reserve Status – Letter of Support**

I refer to your previous discussions and correspondence with my colleague Paul Gilmore regarding the North York Moors National Park's application for Dark Sky Reserve status

I can confirm that North Yorkshire County Council supports your application and to that end the council agrees to limit new road lighting within the park to those areas where it is deemed essential for road safety or crime reduction purposes.

In addition, the County Council confirms that any new road lighting or lighting that is replaced due to age or damage, will use appropriately designed lanterns with 0° upward light output ratio and with a maximum correlated colour temperature of 3000k as outlined in the guidance notes for Dark Sky status. Where practical, existing roadway lighting has already been converted to part night operation and switches off between midnight and 5am.

The measures outlined above have already been included in the latest draft version of North Yorkshire County Council's Street Lighting Asset Management Plan. It is anticipated that this document will be reviewed by Members later this year and if approved, will be available to view on the County Council's website.

There are other lighting authorities within the national park area including Scarborough Borough Council and Ryedale District Council for which the County Council acts as both consultant and contractor. Subject to the continuation of our arrangement with these authorities, any new or replacement footway lighting will also comply with the above conditions.

Should you wish to discuss the details of the Council's Asset Management Plan please contact my colleague Paul Gilmore at: [Paul.Gilmore@northyorks.gov.uk](mailto:Paul.Gilmore@northyorks.gov.uk)

Yours sincerely

BARRIE MASON  
Assistant Director Highways and Transportation



**The Open University**  
**School of Physical Sciences**  
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Walton Hall  
Milton Keynes  
United Kingdom  
MK7 6AA  
Tel +44 (0) 1908 653396

Mr Michael Hawtin  
North York Moors National Park Authority  
The Old Vicarage,  
Bondgate, Helmsley,  
York,  
North Yorkshire - YO62 5BP

17 May 2020

Dear Michael,

I am writing to wholeheartedly support your application for dark sky status. The North York Moors is a beautiful National Park, which is within relatively easy reach of several population centres, including the homes of some of the most economically deprived communities in the UK on Teesside. The physical and human geography of the park has so far preserved the dark skies within it, especially around Dalby, Cropton and Stape, but it is increasingly important that we act to protect and preserve this. Generally, people's access to the simple but awe-inspiring sight of the night sky is being eroded by increasing use of artificial light. I've seen this very dramatically myself during my career as an astronomer: even at world-class observatories in the Canary Islands, Chile and the United States, lighting from suburban and rural settlements and roads are increasing light pollution levels noticeably as the years pass. It would be very easy for night sky aspect of the natural beauty of the North York Moors to be lost for current and future generations.

Your work in promoting the benefits of access to dark skies, and in protecting these within the park through the Lighting Management Plan has been wonderful to witness. I really enjoyed participating in the Dark Sky Festival held within the park in February 2020, enjoying the beautiful sky and also the reaction of the Teessiders who came out for the events I led.

I do hope you are successful in your application to become the North York Moors International Dark Sky reserve. The official recognition can only help build support and momentum for your initiatives, and will increase awareness of the potential of the park for astronomy.

Yours Sincerely,

Carole Haswell

Carole Haswell  
Professor of Astrophysics and Head of Astronomy  
[Carole.Haswell@open.ac.uk](mailto:Carole.Haswell@open.ac.uk)

From: Wing Commander A R Walton MA (Oxon) MA RAF



Royal Air Force Fylingdales  
Commanding Officer

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Tel: 01751 467200  
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Mr C France  
North York Moors National Park  
The Old Vicarage  
Bondgate  
Helmsley  
YO62 5BP

18 September 2020

Dear Chris,

As Commanding Officer and Head of Establishment at RAF Station Fylingdales, I am writing to provide mine and the Station's support to your application for Dark Skies status. As a resident in the National Park, the Station strives to make our key role in National Defence as low impact on the Moors as we can from every perspective. We look forward to continuing commitment to work closely with yourselves at the NYMNP to reduce our light pollution on the site where it is possible to do so without compromising our non-discretionary Defence operations and security.

As a Space Operations focussed unit, we understand fully the joys of Dark Skies sites and the benefits of it for the community as a whole and would like to give your application the fullest backing.

Yours Sincerely,



1 St. George's Place,  
York, YO24 1GN  
T 01904 659570  
E [info@ywt.org.uk](mailto:info@ywt.org.uk)  
@YorksWildlife  
Yorkshire Wildlife Trust is a company limited by guarantee. Registered in England No. 3045561 and is a registered charity No. 1051111.

Mike Hawtin  
North York Moors National Park Authority  
Bondgate  
Helmsley  
North Yorkshire  
YO62 5BP

27<sup>th</sup> May 2020

Dear Mike

Re: North York Moors National Park - Dark Sky Reserve.

I am writing to offer support from Yorkshire Wildlife Trust toward the National Park's intention to become a Dark Sky Reserve.

Light pollution is gradually removing the view of the stars for many people and has a negative impact on many species of wildlife and so leadership in this area by the National Park is an important step in redressing this balance.

The North York Moors is an important area for Yorkshire's wildlife with significant populations of nightjar and bat assemblages – species which are known to be susceptible to light pollution. The amazing Windy Pits, adjacent to our nature reserve at Ashberry supports impressive swarms of bats which feed across the surrounding landscape. Fen Bog Nature Reserve supports many species of insect, including the impressive emperor moth, and we know that light pollution is detrimental to various groups of insects and serves to further fragment our landscape, constraining the natural movement of species.

Much of the recognised value of the National Park, illustrated by its National and International designations, is defined by this important wildlife and so it is essential that we work to protect these important features. I believe that the creation of a Dark Sky Reserve would be a very positive benefit to the North York Moors and to Yorkshire and wish the National Park the best of success in its application.

Yours Faithfully,  
  
Rachael Bice  
Chief Executive





Our reference: Dark Skies Application Letter of Support

Mike Hawtin

10 July 2020

Dear Mike

**Re: Support of Dark Skies Reserve Status Application**

Castle Howard have been pleased to be a venue for the Dark Skies Festival events for the past two years. We have held various events, from night-time photography, through to a Dark Run and a series of lectures from well respected speakers.

Being part of this Festival has grown a new audience for Castle Howard, allowing us to tap into the marketing campaign managed by the North York Moors National Park and Visit York. We have also benefitted from some great PR and photography opportunities as a result.

Participants at the events have appreciated the opportunity to see the Estate in a new light, as we are not often open after dark.

We would be very supportive of the Application and would love to explore further ways in which the Castle Howard Estate can work on the Dark Skies Festival and related projects in the future.

Kind Regards

Abigail Ollive  
Head of Marketing and Sales

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## Guisborough Town Council

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NORTH YORKSHIRE  
TS14 6BA  
Tel. (01287) 610193  
Email: [office@guisboroughtowncouncil.co.uk](mailto:office@guisboroughtowncouncil.co.uk)

Clerk of the Council  
MISS T. MANGOLD

24/07/20

Mike Hawtin  
Head of Polyhalite Projects  
North York Moors National Park Authority  
The Old Vicarage  
Bondgate  
Helmsley  
YO62 5BP

Dear Mr Hawtin

**North York Moors National Park International Dark Sky Reserve**

Guisborough Town Council supports the application from North York Moors National Park to become an International Dark Sky Reserve and hopes the authority will be successful. This would bring a welcome boost to local tourism whilst also conserving the natural beauty of the North York Moors.

Engaging the local community by encouraging the use of more environmentally friendly lighting and informing them the vital part they play in protecting the local environment is also commended

Guisborough Town Council Members would like to wish you every success in the environmental project and would like to be kept informed of the progress made.

Yours sincerely

Miss T. Mangold  
Clerk of the Council



**Ebberston with Yedingham**

The proposal for North York Moors National Park to apply to become an International Dark Sky Reserve was discussed at our Parish Council meeting held on 13 July 2020. The Parish Council of Ebberston with Yedingham is delighted to offer its support to your application.

**Councillor Mike Eyre (Chairman)**

**Staintondale**

Your letter of 7 July 2020 regarding the above has been considered by Staintondale Parish Council which is more than happy to support your request. Light pollution is becoming increasingly noticeable, especially on domestic properties and attempts to minimise the problem generally are long overdue.

**J Marley (Mrs) CiLCA, Clerk**

**Appleton le Moors**

On behalf of Appleton le Moors Parish Council I am pleased to offer our support to North York Moors National Park becoming an International Dark Sky Reserve. Anything which helps maintain or improve this naturally beautiful area can only be seen as a positive action.

**Gary Hush, Chair**

**Newby and Scalby**

Your letter and email of 9 July 2020 regarding the above has been received and noted. Councillors have been consulted by email and in exercise of my delegated powers I would confirm that Newby and Scalby Parish Council fully supports your application.

**Jools Marley (Mrs), Clerk**

**Byland with Wass and Oldstead**

As a small rural isolated community in the National Park we have learned to value of our rural tranquillity, with its big skies

and darkness. These are the essential ingredients to the creation of habitats for the many species of wildlife that are part of our landscape and the history of the area. We recognise these wonderful amenities that we have and are happy to share the benefits with the many visitors that are welcomed to the area and are able to experience life without urban lighting. It is very different. It is inevitable that dark skies are threatened by the incursions of modern high-density lighting and so it is important to raise awareness and, ultimately, if necessary, curb the use of LED type lighting. Becoming an International Dark Sky Reserve would be helpful raising the profile and awareness about the importance of dark skies. Helping people understand the environmental impact of invasive light will create sympathy for the concept within the community and a readiness to light with care. As a Parish we therefore fully support the application of NYMNP to become an International Dark Sky Reserve.

**Roger Statham, Chair**

**Hackness & Harwood Dale Group**

In exercise of my delegated powers I would confirm Hackness and Harwood Dale Group Parish Council is in full support of your application. I have also been asked to point out that while attempts to minimise light pollution are to take place and it is now included within the newly adopted Local Plan, the most significant light pollution in the locality comes from the potash mine at Woodsmith - it really does light up the sky like daylight and is visible from a considerable distance. The same can't be said of similar large enterprises such as RAF Fylingdales and GCHQ Irton Moor.

**J Marley (Mrs), Clerk**

**(Broxa cum Troutsdale, Darncombe cum Langdale End, Hackness, Harwood Dale, Silpho and Suffield cum Everley).**

### **Goathland**

Further to Goathland Parish Council's recent virtual meeting the councillors discussed the North York Moors International Dark Sky Reserve application. The Parish Council would like to support NYMNP in the application and wish you every success.

**Connie Wiggins, Clerk**

### **Bilsdale and Midcable**

The Bilsdale and Midcable Parish Council are fully supportive of your application to become an International Dark Sky Reserve. Thank you for informing us of your application and we hope the conclusion is a positive one.

**Colin Goodall, Clerk**

### **Thornton le Dale**

Your letter dated 7 July outlining the NYMNP's application to become a Dark Sky Reserve was considered by the Parish Council at the remote PC meeting held on Tuesday 4 August 2020. The Parish Council would like to offer their full support and approval of this application and are more than happy for this to be recorded officially. If there is anything else you require in order to support this application, then please get in touch.

**Emma Douglas-Smith, Clerk**

### **Allerston and Wilton**

Allerston and Wilton Parish council fully supports this initiative. The North York Moors is an area which needs preserving to maintain its natural beauty and wildlife.

**Lesley Myers, Clerk**

### **Lockton**

Your request for support for your application to become an International Dark Sky Reserve was circulated to members of Lockton Parish Council. Councillors agreed to support the

application, but on the understanding that lighting around properties, farms and businesses is used for security as well as safety. It would be appreciated if you could provide details of your Dark Skies Lighting Scheme for information. I have searched your website but have been unable to find any reference to this.

**Nicki Lishman, Clerk**

### **Saltburn, Marske and New Marske**

I am writing on behalf of this Parish Council to offer its support to the North York Moors National Park International Dark Sky Reserve application. The Parish Council are fully in favour of this project and understand that Redcar and Cleveland Borough Council, our principal authority, are also working to reduce light emitted from street lights in our area to reduce light pollution and carbon emissions. We are delighted that North York Moors National Park are committed to this project and wish them well for the future.

**Mrs T Meadows, Clerk**

### **Lythe**

I confirm that your application in respect of the above was discussed at the Lythe Parish Council meeting on 7 September 2020. The Council wholeheartedly supports your application which we feel goes beyond the statutory duties that the Park has. There are so few places left in the UK and indeed the world that has such a special night time environment to protect the diverse and special areas of the Park and its wildlife. If you have any questions on this letter, do not hesitate to contact me. We wish you every success in your application.

**Judy Clark, Clerk**

### **Rosedale**

The Council expressed support with the dark skies concept, but expressed reservations in respect of possible planning

restriction making sure that the health and safety of residential applicants when working is also respected. The Council requests that consideration is given to usage of lighting installations rather than an outright ban.

**Sally Brown, Clerk**

### **Hutton Buscel**

Further to your letter dated 7 July 2020, Hutton Buscel Parish Council fully supports the North York Moors National Park's International Dark Sky Reserve application.

**Dawn Naylor, Clerk**

### **Brompton by Sawdon**

All councillors from Brompton by Sawdon Parish Council, Scarborough, give their unanimous and unconditional support to the application by the National Park to become an International Dark Sky Reserve. It is felt the dark skies need to be protected as we are fortunate to live in an area which has limited light pollution. Residents also feel this is a very worthy cause and endeavour. The Council wishes you every success with your application.

**Beverley Williamson, Clerk**

### **Grosmont**

Further to your letter dated 7 July 2020 regarding International Dark Sky Reserve. Grosmont Parish Council have recently discussed this and are in full support of your application to become an International Dark Skies Reserve. It was felt this would be excellent going forward in North York Moors National Park and wish you every success with this application.

**Connie Wiggins, Clerk**

### **Cloughton**

Your letter of 7 July 2020 regarding the above has been considered by members of Cloughton Parish Council who

are more than happy to support your request. Light pollution is becoming increasingly noticeable, especially on domestic properties, and attempts to minimise the problem generally are long overdue. However councillors are also conscious of local farmers and isolated households in the area and the potential for increased theft of machinery and oil as the unemployment rate rises. It does raise the question of the best compromise since night lights, which are seen commonly near the houses of several councillors, are presumably for theft prevention purposes.

**J Marley (Mrs), Clerk**

### **Skelton and Brotton**

Skelton and Brotton Parish Council hereby confirm that it gives full support to the North York Moors National Park International Dark Sky Reserve application. Members feel that if successful this will bring more attention to the beautiful area they are so lucky to live within. They agree it would help to boost tourism in the area and provide a different and unique educational resource.

**Julie Wright, Clerk**

### **Seaton**

Seaton Parish Council would like to support the North York Moors National Park Authority in its application to become an International Dark Sky Reserve as it is important to preserve this aspect of the area.

**Victoria Pitts, Clerk**

### **Egton**

Good afternoon. Sounds great. I can confirm that the council wish to support the application.

**CA Harrison, Clerk**

## 2 SQM-L Dark Sky Survey, core readings highlighted

Location	Co-ordinates	Date	Time	R1	R2	R3	R4	R5	Av.
Bank House Farm, Glaisdale	54.4158 -0.8352	27.02.2019	20:19	21.15	21.11	21.13	21.02	21.12	<b>21.12</b>
Barr Farm, Saltergate	54.3419 0.6880	06.05.2019	23:20	21.39	21.30	21.43	21.32	21.40	<b>21.37</b>
Barr Farm, Saltergate	54.3419 0.6878	24.03.2019	20:43	21.23	21.25	21.21	21.19	21.22	<b>21.22</b>
Barr Farm, Saltergate	54.3419 0.6879	28.03.2019	21:20	21.30	21.24	21.25	21.32	21.25	<b>21.26</b>
Barr Farm, Saltergate	54.3419 0.6877	09.09.2018	23:10	20.93	20.87	20.98	21.02	21.02	<b>20.95</b>
Bilsdale (just north)	54.3053 -1.1320	20.02.2020	21:11	21.05	21.05	21.06	21.06	21.07	<b>21.05</b>
Bilsdale (just north)	54.3053 -1.1320	20.02.2020	21:14	21.18	21.18	21.19	21.19	21.19	<b>21.18</b>
Birk Brow	54.5244 -0.9832	09.10.2018	21:11	20.33	20.23	20.23	20.30	20.23	<b>20.25</b>
Blakey junction car park	54.3822 0.9491	10.10.2018	20:35	20.76	20.74	20.84	20.72	20.75	<b>20.75</b>
Boltby	54.2610 -1.2729	17.09.2018	23:39	21.04	20.93	20.92	20.94	20.94	<b>20.93</b>
Boxa	54.3113 -0.5474	28.01.2020	22:59	21.39	21.38	21.39	21.39	21.39	<b>21.39</b>
Busco Beck cattle grid, Glaisdale	54.4438 -0.8311	02.03.2019	21:47	21.08	21.03	21.09	21.06	20.90	<b>21.06</b>
Byland Abbey	54.2013 1.1619	09.10.2018	20:50	20.73	20.80	20.83	20.84	20.82	<b>20.82</b>
Car park	54.4141 -0.6880	22.03.2020	22:40	21.26	21.25	21.26	21.28	21.26	<b>21.26</b>
Castleton grit heaps	54.4608 0.9511	06.10.2018	22:29	20.76	20.84	20.87	20.76	20.79	<b>20.8</b>
Castleton Howe End	54.4650 0.9316	06.10.2018	22:36	20.83	20.78	20.79	20.72	20.75	<b>20.77</b>
Chimney Bank Top car park,	54.3433 -0.8915	10.10.2018	21:20	20.93	20.82	20.83	20.81	20.82	<b>20.82</b>
Chopgate Road	54.2714 -1.1215	20.02.2020	20:40	21.04	20.90	21.08	21.08	21.06	<b>21.06</b>
Cow Bank Car Park	54.2895 1.0585	02.10.2018	21:15	21.01	21.03	20.99	21.02	21.01	<b>21.02</b>
Cropton Forest	54.3097 0.8405	09.09.2018	22:30	21.04	21.08	21.01	20.97		<b>21.02</b>
Dalby Forest Bickley	54.3083 0.6005	29.03.2019	21:55	21.15	21.14	21.17	21.17	21.15	<b>21.15</b>
Dalby Forest Bickley	54.3083 0.6006	01.04.2019	23:45	21.48	21.47	21.48	21.48	21.47	<b>21.47</b>
Dalby Forest Crosscliffe	54.3111 0.6214	29.03.2019	21:45	21.12	21.15	21.15	21.12	21.13	<b>21.13</b>
Dalby Forest Crosscliffe	54.3111 0.6215	01.04.2019	00:10	21.46	21.48	21.45	21.45	21.46	<b>21.46</b>
Dalby Forest Crosscliffe	54.3111 0.6213	29.03.2019	21:40	21.09	21.10	21.10	21.11	21.13	<b>21.11</b>



Location	Co-ordinates	Date	Time	R1	R2	R3	R4	R5	Av.
Dalby Forest - eastern side	54.3114 -0.5697	28.01.2020	22:40	21.43	21.38	21.38	21.37	21.35	<b>21.37</b>
Dalby Forest Haygate	54.2694 0.6894	02.03.2019	23:35	21.23	21.25	21.26	21.24	21.23	<b>21.24</b>
Dalby Forest Adderstone	54.2986 0.6436	28.01.2020	23:39	21.47	21.47	21.47	21.46	21.49	<b>21.47</b>
Dalby Forest Adderstone	54.2986 0.6436	10.08.2018	23:11	21.33	21.37	21.36	21.31	21.24	<b>21.33</b>
Dalby Forest Adderstone	54.2986 0.6437	02.03.2019	23:45	21.36	21.31	21.31	21.29	21.31	<b>21.31</b>
Dalby Forest Adderstone	54.2986 0.6438	29.03.2019	22:12	21.26	21.29	21.25	21.29	21.25	<b>21.26</b>
Dalby Forest Adderstone	54.2986 0.6439	31.03.2019	23:50	21.52	21.52	21.52	21.52	21.52	<b>21.52</b>
Dalby Forest Adderstone	54.2986 0.6440	01.04.2019	00:35	21.42	21.43	21.40	21.45	21.44	<b>21.43</b>
Dalby Forest Bickley	54.3083 0.6005	28.01.2020	23:15	21.48	21.42	21.41	21.44	21.42	<b>21.42</b>
Dalby Forest Crosscliffe	54.3111 -0.6248	28.01.2020	23:28	21.55	21.50	21.52	21.50	21.49	<b>21.5</b>
Dalby Forest east barrier	54.2947 0.6236	01.04.2019	00:25	21.51	21.53	21.50	21.51	21.52	<b>21.51</b>
Dalby Forest further up	54.281 -0.6296	28.01.2020	22:12	21.33	21.35	21.24	21.29	21.30	<b>21.3</b>
Dalby Forest High Dalby House	54.2852 0.6909	27.02.2019	00:05	21.37	21.31	21.39	21.35	21.33	<b>21.35</b>
Dalby Forest High Dalby House	54.2852 0.6910	07.03.2019	23:20	21.36	21.35	21.35	21.34	21.34	<b>21.34</b>
Dalby Forest High Dalby House	54.2852 0.6911	25.03.2019	22:45	21.46	21.46	21.49	21.51	21.48	<b>21.47</b>
Dalby Forest High Dalby House	54.2852 0.6912	29.03.2019	22:30	21.46	21.44	21.47	21.47	21.44	<b>21.45</b>
Dalby Forest High Dalby House	54.2852 0.6913	31.03.2019	23:40	21.49	21.47	21.49	21.48	21.45	<b>21.48</b>
Dalby Forest High Dalby House	54.2852 0.6914	01.04.2019	00:50	21.61	21.62	21.63	21.61	21.61	<b>21.61</b>
Dalby Forest High Dalby House	54.2852 0.6908	28.02.2019	00:10	21.52	21.50	21.50	21.29	21.50	<b>21.49</b>
Dalby Forest near Bickley barrier	54.2903 -0.6327	28.01.2020	22:23	21.37	21.42	21.37	21.35	21.32	<b>21.36</b>
Dalby Forest Pexton	54.2736 0.7002	02.03.2019	23:34	21.21	21.24	21.23	21.23	21.22	<b>21.22</b>
Dalby Forest Pexton	54.2736 0.7002	29.01.2020	01:30	21.42	21.44	21.44	21.43	21.43	<b>21.43</b>

<b>Location</b>	<b>Co-ordinates</b>	<b>Date</b>	<b>Time</b>	<b>R1</b>	<b>R2</b>	<b>R3</b>	<b>R4</b>	<b>R5</b>	<b>Av.</b>
Dalby Forest, near Bickley	54.3180 -0.5893	28.01.2020	22:35	21.33	21.35	21.34	21.29	21.41	<b>21.34</b>
Dalby Forest road, Ebberstone	54.248 -0.6157	28.01.2020	21:40	21.32	21.26	21.32	21.26	21.30	<b>21.29</b>
Dalby Forest road, Ebberstone a few miles further north.	54.2643 -0.6213	28.01.2020	22:03	21.23	21.22	21.23	21.25	21.23	<b>21.29</b>
Danby	54.4750 0.9066	06.10.2018	22:43	20.89	20.77	20.81	20.78	20.78	<b>20.79</b>
Danby Road End/on the border	54.4986 -0.8908	09.10.2018	21:02	20.67	20.67	20.61	20.66	20.58	<b>20.65</b>
Ford on Wheeldale Road	54.3821 -0.7689	28.02.2020	22:00	21.26	21.29	21.26	21.26	21.28	<b>21.26</b>
Gary Savill's House, Goathland	54.3897 -0.7455	28.02.2020	22:30	21.34	21.35	21.31	21.29	21.32	<b>21.32</b>
Gary Savill's House, Goathland	54.3897 -0.7456	22.03.2020	22:50	21.34	21.33	21.34	21.33	21.34	<b>21.33</b>
Hawby	54.3013 1.1663	18.09.2018	00:05	21.16	21.15	21.12	21.12	21.12	<b>21.13</b>
High Paradise Farm, Boltby Forest	54.2751 -1.2370	17.09.2018	23:48	21.07	21.01	21.01	21.09	21.09	<b>21.05</b>
Hole of Horcum car park	54.3324 -0.6893	18.01.2020	23:55	21.13	21.16	21.14	21.15	21.11	<b>21.14</b>
Hole of Horcum car park	54.3324 -0.6893	18.01.2020	13:40	21.27	21.25	21.23	21.26	21.25	<b>21.25</b>
Hole of Horcum car park	54.3324 -0.6893	18.01.2020	14:09	21.23	21.22	21.21	21.22	21.18	<b>21.21</b>
Hunt House road (Goathland area going south)	54.3925 -0.7400	28.02.2020	21:35	21.38	21.39	21.26	21.26	21.39	<b>21.34</b>
Hunt House road (Goathland area going south)	54.3925 -0.7401	22.03.2020	22:05	21.23	21.26	21.24	21.24	21.26	<b>21.24</b>
Hutton le Hole car park	54.3033 0.9011	10.10.2018	20:30	20.79	20.82	20.76	20.75	20.91	<b>20.79</b>
Jugger Howe, A171	54.388 -0.546	08.09.2018	01:18	20.87	20.89	20.86	20.86	20.80	<b>20.86</b>
Jugger Howe, A171	54.388 -0.546	08.09.2018	01:10	20.57	20.53	20.56	20.51	20.52	<b>20.53</b>
Jugger Howe, A172	54.388 -0.547	13.09.2018		21.09	21.12	21.07	21.06	21.05	<b>21.07</b>

Location	Co-ordinates	Date	Time	R1	R2	R3	R4	R5	Av.
Keldy Cabins	54.3155 0.8055	28.03.2019	20:40	21.10	21.05	21.06	21.12	21.08	21.08
Kilton Lane	54.5614 -0.9284	09.10.2018	21:26	20.12	20.10	20.12	20.08	20.09	20.1
Lady Lumley's field, Pickering	54.2492 0.7826	10.10.2018	22:15	19.79	19.89	19.86	19.83	19.89	19.86
Langdale End	54.3089 -0.5598	28.01.2020	22:45	21.36	21.40	21.30	21.30	21.38	21.34
Lastingham Green	54.3043 -0.8814	10.10.2018	21:50	20.69	20.66	20.69	20.68	20.68	20.68
Lastingham, Spaunton Bridge	54.3043 -0.8814	10.10.2018	21:45	20.94	20.81	20.82	20.81	20.83	20.82
Lay-by above Cropton	54.2967 -0.8347	10.10.2018	22:00	20.83	20.81	20.80	20.82	20.79	20.81
Lay-by Egton Banks, Glaisdale	54.4294 -0.7897	04.01.2019	22:20	21.35	21.25	21.30	21.37	21.31	21.32
Lion Inn, Blakey	54.3880 0.9552	10.10.2018	20:45	20.41	20.46	20.46	20.26	20.51	20.44
Little Fryup	54.4470 -0.8983	09.10.2018	21:52	20.75	20.75	20.72	20.71	20.71	20.73
Little Fryup Dale	54.4452 0.9005	06.10.2018	22:56	21.00	20.92	20.87	20.88	20.88	20.89
Liverton Mines	54.5409 -0.9016	09.10.2018	21:37	20.43	20.34	20.35	20.35	20.33	20.35
Millennium Stone	54.4021 0.9276	10.10.2018	20:55	20.76	20.75	20.77	20.74	20.75	20.75
Moors Centre car park, Danby	54.4650 0.8919	06.10.2018	22:48	20.96	20.85	20.87	20.85	20.87	20.86
Moorside on A169	54.4014 -0.6779	22.03.2020	22:30	21.28	21.26	21.26	21.26	21.28	21.26
Near Thornhill Farm	54.3874 -0.7079	22.03.2020	22:10	21.26	21.25	21.26	21.27	21.26	21.26
New Skelton	54.5558 -0.9698	09.10.2018	21:20	20.06	20.01	20.01	20.06	20.00	20.03
National Park boundary Sutton Bank	54.235 1.230	13.02.2018	00:40	21.50	21.38	21.36	21.35	21.34	21.35
Pockley	54.2702 1.0236	02.10.2018	21:00	20.91	20.85	20.86	20.93	20.84	20.87
Ravenscar Mast nr Stoupe Brow	54.397 -0.507	08.09.2018	01:29	20.95	20.97	20.93	20.92	20.97	20.95
Ravenscar Mast nr Stoupe Brow	54.397 -0.508	13.09.2018	22:30	21.30	21.10	21.06	21.06	21.04	21.07
Rawcliffe House Farm, Stape	54.3148 -0.7760	07.02.2019	19:30	21.68	21.14	21.23	21.23	21.27	21.24

<b>Location</b>	<b>Co-ordinates</b>	<b>Date</b>	<b>Time</b>	<b>R1</b>	<b>R2</b>	<b>R3</b>	<b>R4</b>	<b>R5</b>	<b>Av.</b>
Rawcliffe House Farm, Stape	54.3148 -0.7761	09.02.2019	23:00	21.16	21.56	21.30	21.44	21.28	<b>21.34</b>
Rawcliffe House Farm, Stape	54.3148 -0.7762	11.02.2019	23:19	21.33	21.36	21.56	21.70	21.30	<b>21.41</b>
Rawcliffe House Farm, Stape	54.3148 -0.7763	26.02.2019	21:00	21.00	21.20	21.36	21.25	21.17	<b>21.2</b>
Rawcliffe House Farm, Stape	54.3148 -0.7764	27.02.2019	22:30	21.45	21.38	21.38	21.39	21.38	<b>21.38</b>
Rawcliffe House Farm, Stape	54.3148 -0.7765	27.02.2019	22:30	21.45	21.38	21.38	21.39	21.38	<b>21.38</b>
Rawcliffe House Farm, Stape	54.3148 -0.7766	28.03.2019	22:45	21.36	21.33	21.33	21.33	21.35	<b>21.33</b>
Rawcliffe House Farm, Stape	54.3148 -0.7767	29.03.2019	22:20	21.46	21.36	21.44	21.38	21.33	<b>21.39</b>
Reasty Bank car park	54.3375 -0.5197	09.10.2018	20:30	21.02	20.92	20.98	20.93	21.07	<b>20.97</b>
Rievaulx Abbey	54.2577 -1.1189	12.09.2018	21:55	21.02	20.95	20.89	20.95	20.91	<b>20.93</b>
Rievaulx Abbey	54.2577 -1.1190	14.09.2018	23:15	21.09	21.09	21.08	21.08	20.12	<b>21.1</b>
Rievaulx Abbey	54.2577 -1.1191	18.09.2018	00:30	21.14	21.14	21.14	21.14	21.14	<b>21.14</b>
Rievaulx Abbey	54.2577 -1.1192	20.02.2020	20:32	21.04	21.04	21.04	21.03	21.03	<b>21.03</b>
Rievaulx Terrace entrance	54.259 -1.1070	14.09.2018	23:10	21.12	21.06	21.06	21.03	21.11	<b>21.07</b>
Rievaulx Terrace entrance	54.259 -1.1071	18.09.2018	00:26	21.13	21.15	21.11	21.11	21.15	<b>21.13</b>
Road to Dalby through Grosmont	54.494 -0.7983	18.01.2020	23:12	21.08	21.04	21.05	21.06	21.04	<b>21.05</b>
Road to Dalby through Grosmont	54.449 -0.7409	18.01.2020	23:25	21.15	21.15	21.17	21.15	21.16	<b>21.15</b>
Road to Dalby through Grosmont	54.431 -0.6938	19.01.2020	23:37	21.16	21.15	21.14	21.17	21.16	<b>21.15</b>
Roman Road on Wheeldale Moor	54.3642 -0.7656	28.02.2020	22:10	21.32	21.27	21.32	21.27	21.28	<b>21.29</b>

<b>Location</b>	<b>Co-ordinates</b>	<b>Date</b>	<b>Time</b>	<b>R1</b>	<b>R2</b>	<b>R3</b>	<b>R4</b>	<b>R5</b>	<b>Av.</b>
Roman Road on Wheeldale Moor	54.3642 -0.7657	20.03.2020	22:05	21.44	21.44	21.43	21.42	21.41	<b>21.43</b>
Rosedale Abbey churchyard	54.3538 0.8875	10.10.2018	21:10	20.63	20.71	20.62	20.66	20.65	<b>20.65</b>
Rosedale Head car park	54.4080 0.9583	10.10.2018	20:50	20.74	20.72	20.72	20.68	20.73	<b>20.72</b>
Scawton	54.2397 -1.1610	14.09.2018	23:25	21.20	21.20	21.10	21.06	21.06	<b>21.12</b>
Scawton	54.2397 -1.1611	18.09.2018	00:42	21.12	21.01	21.16	21.19	21.14	<b>21.14</b>
Sinnington Church	54.2647 0.8563	09.10.2018	21:20	20.93	20.90	20.79	20.81	20.81	<b>20.84</b>
Sutton Bank National Park Centre	54.2420 -1.2101	13.02.2018	00:50	21.33	21.33	21.33	21.32	21.38	<b>21.33</b>
Sutton Bank National Park Centre	54.2420 -1.2102	14.09.2018	23:45	21.06	21.09	21.07	21.08	21.08	<b>21.07</b>
Sutton Bank National Park Centre	54.2420 -1.2103	18.09.2018	00:52	21.09	21.08	21.09	21.09	21.13	<b>21.19</b>
Sutton Bank National Park Centre	54.2420 -1.2101	25.02.2019	23:51	21.17	21.12	21.09	21.14	21.10	<b>21.12</b>
Sutton-under-Whitstonecliffe	54.2347 1.2494	13.02.2018	00:35	21.39	21.32	21.45	21.31	21.27	<b>21.34</b>
The Old Forge Glaisdale	54.44 -0.8034	28.03.2019	22:30	21.11	21.19	21.16	21.23	21.21	<b>21.19</b>
The Old Forge Glaisdale	54.44 -0.8033	09.02.2019	22:05	21.16	21.18	21.17	21.15	21.13	<b>21.16</b>
Thornton Dale	54.2040 -0.7368	14.09.2018	22:00	21.12	21.12	21.10	21.03	21.10	<b>21.08</b>
Wheeldale Road bend	54.4075 -0.7765	28.02.2020	21:50	21.28	21.31	21.28	21.27	21.35	<b>21.29</b>
Wheeldale Road hilltop	54.4075 -0.7765	20.03.2020	22:25	21.43	21.38	21.37	21.38	21.32	<b>21.37</b>
Yorkshire Arboretum	54.1183 0.9219	01.03.2019	21:45	21.20	21.20	21.20	21.20	21.20	<b>21.2</b>
YWT Reserve	54.3722 -0.6825	22.03.2020	22:20	21.28	21.32	21.30	21.27	21.28	<b>21.28</b>

## Yorkshire Dark Skies Festival 2019

### Known press coverage

Activity	Coverage	Circulation/value where known	Title and weblink (for non-print coverage)
	The Northern Echo (north edition) (14/08/18)	Reach: 22,622 Value: £726.16	Plans underway for a date with darkness
	Darlington & Stockton Times (14/08/18) (web)		Date set for dark skies festival across the Moors and Dales <a href="http://darlingtonandstocktontimes.co.uk/news/16416709.date-set-for-dark-skies-festival-across-the-moors-and-dailes/">darlingtonandstocktontimes.co.uk/news/16416709.date-set-for-dark-skies-festival-across-the-moors-and-dailes/</a>
	Northern Echo (14/08/18) (web)		Date set for dark skies festival <a href="http://thenorthernecho.co.uk/news/16416710.date-set-for-dark-skies-festival-across-the-moors-and-dailes/">thenorthernecho.co.uk/news/16416710.date-set-for-dark-skies-festival-across-the-moors-and-dailes/</a>
	Darlington & Stockton Times (17/08/18)	Reach: 11,053 Value: £1,538.46	Plans underway for a date with darkness
National Parks back Big Dipper campaign to protect night sky (05/10/18)	The Press (05/10/18) (web)		Yorkshire national parks join campaign to save Dark Skies <a href="http://yorkpress.co.uk/news/16963399.yorkshire-national-parks-join-campaign-to-save-dark-skies/">yorkpress.co.uk/news/16963399.yorkshire-national-parks-join-campaign-to-save-dark-skies/</a>
	Kirkbymoorside Town Blog (05/10/18) (web)		National Parks back Big Dipper campaign to protect night sky <a href="http://kirkbymoorside.info/national-parks-back-big-dipper-campaign-to-protect-night-sky/">kirkbymoorside.info/national-parks-back-big-dipper-campaign-to-protect-night-sky/</a>
	Northern Echo (06/10/18) (web)		Campaign to protect National Parks' dark skies <a href="http://thenorthernecho.co.uk/news/16965019.campaign-to-protect-national-parks-dark-skies/">thenorthernecho.co.uk/news/16965019.campaign-to-protect-national-parks-dark-skies/</a>
	Yorkshire Post (06/10/18) (web)		Yorkshire Dales and North York Moors aim to cut light pollution to protect stargazing <a href="http://yorkshirepost.co.uk/news/yorkshire-dailes-and-north-york-moors-aim-to-cut-light-pollution-to-protect-stargazing-1-9383354">yorkshirepost.co.uk/news/yorkshire-dailes-and-north-york-moors-aim-to-cut-light-pollution-to-protect-stargazing-1-9383354</a>
	Darlington & Stockton Times (06/10/18) (web)		Campaign to protect National Parks' dark skies <a href="https://www.darlingtonandstocktontimes.co.uk/news/16965020.campaign-to-protect-national-parks-dark-skies/">https://www.darlingtonandstocktontimes.co.uk/news/16965020.campaign-to-protect-national-parks-dark-skies/</a>

	Darlington & Stockton Times (12/10/18)	Circulation: 17,345 Readership: 52,035 AVE: £294.88	Call to protect national parks' special dark skies
	Whitby Gazette (12/10/18)	Circulation: 9,047 Readership: 27,141 AVE: £954.45	Park supports bid to protect our star quality
	Gazette & Herald (31/10/18)	Circulation: 8,097 Readership: 24,291 AVE: £114	Campaign to protect dark skies
	Countryfile (29/10/18) (web)		Stargazing guide: Britain's dark sky sites, best places to stargaze, plus how to get started <a href="http://countryfile.com/how-to/outdoor-skills/stargazing-guide-britains-dark-sky-locations-best-places-to-stargaze-plus-how-to-get-started/">countryfile.com/how-to/outdoor-skills/stargazing-guide-britains-dark-sky-locations-best-places-to-stargaze-plus-how-to-get-started/</a>
	Group Leisure & Travel (November issue)	Circulation: 7,000 Readership: 21,000 AVE: £45,583.01	Jolly jaunts - Yorkshire
	The Press (05/11/18)	Circulation: 13,104 Readership: 39,312 AVE: £2,039.12	Shedding light on dark skies season
	The Press (05/11/18) (web)		Where to go stargazing in North Yorkshire <a href="http://yorkpress.co.uk/news/17194384.where-to-go-stargazing-in-north-yorkshire/">yorkpress.co.uk/news/17194384.where-to-go-stargazing-in-north-yorkshire/</a>
National Parks over the moon with bagging 'star' astrophysicist Tim O'Brien for Dark Skies Festival (13/11/18)	Darlington & Stockton Times (13/11/18) (web)		Television expert Tim O'Brien signed up for Dark Skies Festival 2019 <a href="http://darlingtonandstocktontimes.co.uk/news/17220521.television-expert-tim-obrien-signed-up-for-dark-skies-festival-2019/">darlingtonandstocktontimes.co.uk/news/17220521.television-expert-tim-obrien-signed-up-for-dark-skies-festival-2019/</a>
	Yorkshire Post (14/11/18)	Circulation: 21,817 Readership: 65,451 AVE: £4,052.46	Gaze with celestial intrigue at our dark skies

The Northern Echo (14/11/18)	Circulation: 21,498 Readership: 64,494 AVE: £3,432.32	Dark Skies Festival is looking to the moon
The Northern Echo (14/11/18) (web)		Television expert Tim O'Brien signed up for Dark Skies Festival 2019 <a href="http://thenorthernecho.co.uk/news/17220520.television-expert-tim-obrien-signed-up-for-dark-skies-festival-2019/">thenorthernecho.co.uk/news/17220520.television-expert-tim-obrien-signed-up-for-dark-skies-festival-2019/</a>
Yorkshire Post (14/11/18) (web)		Top space expert to open Yorkshire's Dark Skies Festival in 2019 <a href="http://yorkshirepost.co.uk/news/top-space-expert-to-open-yorkshire-s-dark-skies-festival-in-2019-1-9443045">yorkshirepost.co.uk/news/top-space-expert-to-open-yorkshire-s-dark-skies-festival-in-2019-1-9443045</a>
Whitby Gazette (15/11/18) (web)		'Star man' at Yorkshire Dark Skies Festival - Whitby Gazette <a href="http://whitbygazette.co.uk/news/star-man-at-yorkshire-dark-skies-festival-1-9445818">whitbygazette.co.uk/news/star-man-at-yorkshire-dark-skies-festival-1-9445818</a>
Kirkbymoorside Town Blog (14/11/18) (web)		Star' astrophysicist Tim O'Brien signed up for Dark Skies Festival <a href="http://kirkbymoorside.info/star-astrophysicist-tim-obrien-signed-up-for-dark-skies-festival/">kirkbymoorside.info/star-astrophysicist-tim-obrien-signed-up-for-dark-skies-festival/</a>
Darlington & Stockton Times (16/11/18)	Circulation: 17,345 Readership: 52,035 AVE: £825.47	Festival looks to the moon
Gazette & Herald (28/11/18)	Circulation: 8,097 Readership: 24,291 AVE: £897	Tim to shed light on Dark Skies Festival
Group Leisure & Travel (19/11/18) (web)	Reach 850	Dark Skies Festival to include stargazing, night walks and group accommodation <a href="http://groupleisureandtravel.com/News/Dark-Skies-Festival-to-include-stargazing-night-walks-and-group-accommodation">groupleisureandtravel.com/News/Dark-Skies-Festival-to-include-stargazing-night-walks-and-group-accommodation</a>
Sunday Telegraph (25/11/18)	Circulation: 293,454 Readership: 880,362 AVE: £71,262.92	Winter frosts lend forests the magic of Narnia 12 Stargaze in Northumberland (including DSF mention for North York Moors and Yorkshire Dales and weblink)



Yorkshire Dales and Nidderdale over the moon with programme for 2019 Dark Skies Festival (17/12/18)	Cumbria Crack (17/12/18) (web)		Yorkshire Dales and Nidderdale over the moon with programme for 2019 Dark Skies Festival <a href="http://cumbriacrack.com/2018/12/17/yorkshire-dales-and-nidderdale-over-the-moon-with-programme-for-2019-dark-skies-festival/">cumbriacrack.com/2018/12/17/yorkshire-dales-and-nidderdale-over-the-moon-with-programme-for-2019-dark-skies-festival/</a>
	Craven Herald & Pioneer (21/12/18)	Reach 10K	Dark Skies Festival to celebrate first lunar landing <a href="http://cravenherald.co.uk/news/17303421.dark-skies-festival-to-celebrate-first-lunar-landing/">cravenherald.co.uk/news/17303421.dark-skies-festival-to-celebrate-first-lunar-landing/</a>
	Craven Herald and Pioneer (27/12/18)	Circulation: 8,624 Readership: 25,872 AVE: £869.40	Take the chance to celebrate space
	Richmondshire Today (28/12/18)		Moon-themed activities as part of Dark Skies Festival in Yorkshire Dales <a href="http://richmondshiretoday.co.uk/moon-themed-activities-part-dark-skies-festival-yorkshire-dales/">richmondshiretoday.co.uk/moon-themed-activities-part-dark-skies-festival-yorkshire-dales/</a>
Yours magazine (18/12/18)	Circulation: 242,499 Readership: 727,497 AVE: £31,798.08		48 hours in Staithes (When to go)
National Geographic Traveller (22/12/18)	Reach 18K		Out of this world: space news for 2019 <a href="http://natgeotraveller.co.uk/smart-travel/travel-talk/space-tourism-2019/">natgeotraveller.co.uk/smart-travel/travel-talk/space-tourism-2019/</a>
Stuff (28/12/18)			Best places to visit in February <a href="http://stuff.co.nz/travel/news/109636803/best-places-to-visit-in-february">stuff.co.nz/travel/news/109636803/best-places-to-visit-in-february</a>
Yorkshire Life (January 2019 edition)	Circulation: 16,326 Readership: 48,978 AVE: £12,429.97		50 things to do in 2019 – February Dark Skies Festival
Yorkshire Life (January 2019 edition)	Circulation: 16,326 Readership: 48,978 AVE: £2,316.09		Magical moments
Esk Valley News (January 2019 edition)			Other events at a glance
Family Traveller, Winter 2019	Reach 500,000		Out and About, p.142 includes Dark Skies Festival

Yahoo Style (02/01/19)	Reach 300K	Best of British: 10 destinations you must discover in 2019 <a href="http://uk.style.yahoo.com/best-british-10-destinations-must-154618447.html">uk.style.yahoo.com/best-british-10-destinations-must-154618447.html</a>
Daily Telegraph (02/01/19) (web)		Best of British: 10 destinations you must discover in 2019 - Yorkshire <a href="http://telegraph.co.uk/travel/destinations/europe/united-kingdom/articles/best-of-2019/">telegraph.co.uk/travel/destinations/europe/united-kingdom/articles/best-of-2019/</a>
The Scarborough News (03/01/19) (web)		Castle Howard's Twelve Days of Christmas enjoys festive success <a href="http://thescarboroughnews.co.uk/news/castle-howard-s-twelve-days-of-christmas-enjoys-festive-success-1-9519114">thescarboroughnews.co.uk/news/castle-howard-s-twelve-days-of-christmas-enjoys-festive-success-1-9519114</a>
Yorkshire Post (web) (04/01/19)	Reach 199K	A path to the stars from deep below Whitby <a href="http://yorkshirepost.co.uk/news/a-path-to-the-stars-from-deep-below-whitby-1-9521016">yorkshirepost.co.uk/news/a-path-to-the-stars-from-deep-below-whitby-1-9521016</a>
Sunday Telegraph (06/01/19)	Circulation: 293,454 Readership: 880,362 AVE: £39,359.27	The very best of British for the year ahead Kingdom Come – Yorkshire
York Press (web) (05/01/19)	Reach 115K	Explore the Heavens at Cropton Forests First Star Party <a href="http://yorkpress.co.uk/news/17335892.explore-the-heavens-at-cropton-forests-first-star-party/">yorkpress.co.uk/news/17335892.explore-the-heavens-at-cropton-forests-first-star-party/</a>
The Scarborough News (web) (06/01/19)	Reach 26K	Eyes on the sky at Cropton to witness wonders of universe <a href="http://thescarboroughnews.co.uk/news/eyes-on-the-sky-at-cropton-to-witness-wonders-of-universe-1-9519857">thescarboroughnews.co.uk/news/eyes-on-the-sky-at-cropton-to-witness-wonders-of-universe-1-9519857</a>
i news (11/01/19) (web)	Reach 2 million	50 best free days out in the UK: from outdoor ice trails in York to making mini-docs in Manchester – Dark Skies <a href="http://inews.co.uk/inews-lifestyle/travel/best-days-out-uk-free-near-me-london-york-manchester/">inews.co.uk/inews-lifestyle/travel/best-days-out-uk-free-near-me-london-york-manchester/</a>
The i newspaper (12/01/19)	Circulation: 238,771 Readership: 397,000 AVE: £86,557.68	50 of the best free days out – Dark Skies
Yours (15/01/19)	Circulation: 242,499 Readership: 727,497 AVE: £1,815.36	Take 5 – 5 Best spots for stargazing – North York Moors

The Press (15/01/19) (web)	Reach 115,000	Zeplin III Dark Matter Detector to go on show at Whitby Museum <a href="http://yorkpress.co.uk/news/17359229.zeplin-iii-dark-matter-detector-to-go-on-show-at-whitby-museum/">yorkpress.co.uk/news/17359229.zeplin-iii-dark-matter-detector-to-go-on-show-at-whitby-museum/</a>
Off Road CC (16/01/19) (web)	Reach 37,000	Yorkshire Dark Skies returns for 2019 <a href="http://off.road.cc/content/news/yorkshire-dark-skies-returns-for-2019-3173">off.road.cc/content/news/yorkshire-dark-skies-returns-for-2019-3173</a>
Yorkshire Tots to Teens (web) (16/01/19)		Yorkshire Dales Dark Skies Festival <a href="http://yorkshiretots.com/event/yorkshire-dales-dark-skies-festival-2019/">yorkshiretots.com/event/yorkshire-dales-dark-skies-festival-2019/</a>
Gazette & Herald (16/01/19)	Circulation: 8,097 Readership: 24,291 AVE: £108	Stars on show at forest festival
The Press (17/01/19)	Circulation: 13,104 Readership: 39,312 AVE: £319.50	Explore Whitby and the Cosmos
Pateley Bridge and Nidderdale Herald (17/01/19)	Circulation: 1,133 Readership: 3,399 AVE: £70.80	Stargazing event for Nidderdale Fest
Harrogate Advertiser (17/01/19)	Circulation: 9,726 Readership: 29,178 AVE: £116	Look to the skies for Festival
Sunday People (20/01/19)	Circulation: 168,690 Readership: 275,000 AVE: £65,802.24	Want some Moor – Good heavens Dark Skies Festival (dps)
The Irish Sunday People (20/01/19)	Circulation: 24,803 Readership: 64,487 AVE: £2,553.60	Want some Moor – Good heavens Dark Skies Festival (dps)
Sunday People Ulster (20/01/19)	Circulation: 50,000 Readership: 150,000 AVE: £12,096	Want some Moor – Good heavens Dark Skies Festival (dps)
Little Vikings (York for kids) (22/01/19)		Dark Skies Festival 2019 <a href="http://little-vikings.co.uk/dark-skies-festival-2019/">little-vikings.co.uk/dark-skies-festival-2019/</a>

	Gazette & Herald (22/01/19) (web)	Reach 7,000	Dark Sky Festival hosts first-ever stars party gazetteherald.co.uk/news/17348480.dark-sky-festival-hosts-first-ever-stars-party/
First UK public screening of documentary during Dark Skies Festival (21/01/19)	Yorkshire Post (21/01/19) (web)	Reach 199,000	'Starry skies could disappear in 100 years' - exclusive North Yorkshire film screenings to warn yorkshirepost.co.uk/news/environment/starry-skies-could-disappear-in-100-years-exclusive-north-yorkshire-film-screenings-to-warn-1-9549647
	The Westmorland Gazette (21/01/19) (web)	Reach 32,000	Dark Skies Festival promises galaxy of star-gazing fun in Dales <a href="https://thewestmorlandgazette.co.uk/news/17373933.dark-skies-festival-promises-galaxy-of-star-gazing-fun-in-dales/">https://thewestmorlandgazette.co.uk/news/17373933.dark-skies-festival-promises-galaxy-of-star-gazing-fun-in-dales/</a>
	Yorkshire Post (22/01/19)	Circulation: 21,817 Readership: 65,451 AVE: £838.44	Exclusive film screenings to urge action over risk of losing precious starry skies
	Northern Echo (22/01/19)	Circulation: 21,498 Readership: 64,494 AVE: £650.48	First UK screening of documentary
	Kirkbymoorside blog (22/01/19)		kirkbymoorside.info/full-dark-skies-festival-programme-includes-host-of-new-events/#more-24541
	Ripon Gazette (24/01/19) (web)	Reach 2,000	The Visit Harrogate column with Richard Spencer (Dark Skies Festival) ripongazette.co.uk/news/the-visit-harrogate-column-with-richard-spencer-1-9548922
	Pateley Bridge and Nidderdale Herald (24/01/19)	Circulation: 1,133 Readership: 3,399 AVE: £410.64	Dark Skies sites revealed for AONB Festival
	Harrogate Advertiser (24/01/19)	Circulation: 9,726 Readership: 29,178 AVE: £521.56	Richard Spencer Action-Packed Programme for 2019
	Harrogate Advertiser (24/01/19)	Circulation: 9,726 Readership: 29,178 AVE: £101.48	Star gazer sites reveals for returning Dark Skies Festival

Richmondshire Today (24/01/19)		New documentary to be screened as part of Dark Skies Festival in Yorkshire Dales <a href="http://richmondshiretoday.co.uk/new-documentary-screened-part-dark-skies-festival-yorkshire-dales/">richmondshiretoday.co.uk/new-documentary-screened-part-dark-skies-festival-yorkshire-dales/</a>
Gedling Eye (24/01/19) (web)		Star search: People in Gedling borough being encouraged to take up back garden astronomy with help from BBC <a href="http://gedlingeye.co.uk/news/backgarden-astronomy-bbc-gedling-borough/">gedlingeye.co.uk/news/backgarden-astronomy-bbc-gedling-borough/</a>
The Scarborough News (24/01/19)	Circulation: 13,1919 Readership: 39,573 AVE: £2,272	Look to the skies – annual festival is on the horizon
Yorkshire Evening Post (24/01/19) (web)		Nidderdale Dark Skies Festival: Discovery sites revealed ‘to see stars in all their glory’ <a href="http://yorkshireeveningpost.co.uk/news/nidderdale-dark-skies-festival-discovery-sites-revealed-to-see-stars-in-all-their-glory-1-9559011">yorkshireeveningpost.co.uk/news/nidderdale-dark-skies-festival-discovery-sites-revealed-to-see-stars-in-all-their-glory-1-9559011</a>
Yorkshire Post (25/01/19) (web)	Reach 199K	Nidderdale Dark Skies Festival: Discovery sites revealed ‘to see stars in all their glory’ <a href="http://yorkshirepost.co.uk/news/nidderdale-dark-skies-festival-discovery-sites-revealed-to-see-stars-in-all-their-glory-1-9559011">yorkshirepost.co.uk/news/nidderdale-dark-skies-festival-discovery-sites-revealed-to-see-stars-in-all-their-glory-1-9559011</a>
InPublishing (25/01/19) (web)	Reach 3,000	BBC Sky at Night Magazine Launches Back Garden Astronomy Week <a href="http://inpublishing.co.uk/news/articles/bbc_sky_at_night_magazine_launches_back_garden_astronomy_week_12343.aspx">inpublishing.co.uk/news/articles/bbc_sky_at_night_magazine_launches_back_garden_astronomy_week_12343.aspx</a>
Stray FM (25/01/19) (web)		Family stargazing festival in Nidderdale <a href="http://strayfm.com/news/local-news/2791111/family-stargazing-festival-in-nidderdale/">strayfm.com/news/local-news/2791111/family-stargazing-festival-in-nidderdale/</a>
Harrogate Advertiser (28/01/19) (web)	Reach 14,000	Stellar line-up for North York Moors Dark Skies Festival <a href="http://harrogateadvertiser.co.uk/lifestyle/stellar-line-up-for-north-york-moors-dark-skies-festival-1-9561157">harrogateadvertiser.co.uk/lifestyle/stellar-line-up-for-north-york-moors-dark-skies-festival-1-9561157</a>
York Press (28/01/19) (web)	Reach 115,000	Arboretum celebrates anniversary with half price entry <a href="http://yorkpress.co.uk/news/17389939.arboretum-celebrates-anniversary-with-half-price-entry/">yorkpress.co.uk/news/17389939.arboretum-celebrates-anniversary-with-half-price-entry/</a>

Whitby Gazette (30/01/10) (web)	Reach 5,000	Exhibition looks at Whitby's role in understanding universe <a href="http://whitbygazette.co.uk/lifestyle/exhibition-looks-at-whitby-s-role-in-understanding-universe-1-9566803">whitbygazette.co.uk/lifestyle/exhibition-looks-at-whitby-s-role-in-understanding-universe-1-9566803</a>
Country Life (30/01/19) (web)		Things to do: Stargazing, orchids at Kew and Ian McKellen's one-man show <a href="http://countrylife.co.uk/news/things-to-do-this-week-best-festivals-fairs-shows-exhibitions-6199">countrylife.co.uk/news/things-to-do-this-week-best-festivals-fairs-shows-exhibitions-6199</a>
The Press (31/01/19)	Circulation: 13,104 AVE: £511.20	Arboretum embarks on a milestone year
The Scarborough News (31/01/19)	Reach 26,000	Major landmark for Yorkshire Arboretum <a href="http://thescarboroughnews.co.uk/news/major-landmark-for-yorkshire-arboretum-1-9557291">thescarboroughnews.co.uk/news/major-landmark-for-yorkshire-arboretum-1-9557291</a>
Minster FM (31/01/19) (web)		VIDEO - Dark Skies Festival returns to North Yorkshire next month <a href="http://minsterfm.com/news/local/2795194/video---dark-skies-festival-returns-to-north-yorkshire-next-month/">minsterfm.com/news/local/2795194/video---dark-skies-festival-returns-to-north-yorkshire-next-month/</a>
Coast magazine (February 2019 edition)	Circulation: 29,203 Readership: 213,000 AVE: £13,972.80	Ten things to do this month 5 Count your lucky stars
Landscape magazine (February 2019 edition)	Circulation: 5,800 Readership: 19,580 AVE: £43.70	Yorkshire Dark Skies Festival
Yorkshire Living - Harrogate (February edition)	Circulation: 12,500 Readership: 37,500 AVE - see articles	Front page cover Diary - Dark Skies Festival AVE: £566.40 And Starry starry night AVE: £1,851.42
Yorkshire Living - York, North and East Yorkshire (February edition)	Circulation: 15,000 Readership: 40,500 AVE - see articles	Front page cover Diary - Dark Skies Festival AVE: £358.40 And Starry starry night AVE: £1,118.60
North East Living (February edition)	Circulation: 5,300 Readership: 15,000 AVE - £1,491.75	Starry, starry nights
Reeth & District Gazette (February edition)		Heavens above <a href="http://2dales.org.uk/2019-02_februarygazetteweb.pdf">2dales.org.uk/2019-02_februarygazetteweb.pdf</a>

Handy Mag Ryedale February 2019		Astrophysicist Tim O'Brien at North York Moors Dark Skies Festival <a href="http://issuu.com/handymag/docs/handy_mag_ryedale_feb19">issuu.com/handymag/docs/handy_mag_ryedale_feb19</a>
Handy Mag York February 2019	Circulation: 50,000 Readership: 100,000 AVE: £438.62	Astrophysicist Tim O'Brien at North York Moors Dark Skies Festival <a href="http://issuu.com/handymag/docs/handy_mag_york_feb19">issuu.com/handymag/docs/handy_mag_york_feb19</a>
Esk Valley News (February edition)		Front cover + Editorial, Dark Skies Festival 15 February to 3 March (page 3-4) plus event listings
Coastal View and Moor News (February edition)	Circulation: 25,500 Readership: 63,000 AVE: £395.08	New exhibition looks at Whitby's groundbreaking role in our understanding of the universe
Yorkshire Reporter (01/02/19)	Circulation: 40,000 Readership: 100,000 AVE: £540.90	National Park Authorities over the moon with landing space star for 2019 Dark Skies Festival
Whitby Gazette (01/02/19)	Circulation: 9,047 Readership: 27,141 AVE: £1,775.58	Exhibition look's at Whitby's role in understanding the universe
Yorkshire Post (02/02/19) (web)	Reach 199,000	24-inch telescope makes Grewelthorpe observatory astronomy hotspot <a href="http://yorkshirepost.co.uk/news/24-inch-telescope-makes-grewelthorpe-observatory-astronomy-hotspot-1-9571937">yorkshirepost.co.uk/news/24-inch-telescope-makes-grewelthorpe-observatory-astronomy-hotspot-1-9571937</a>
Yorkshire Post (02/02/19)	Circulation: 21,817 Readership: 65,451 AVE: see articles	Look to the skies Astronomy (AVE £9,920.85) Yorkshire Treasures No. 92 Dark Skies Festival (AVE £1,331.64)
Northern Echo (02/02/19)	Circulation: 21,498 Readership: 64,494 AVE: £7,909.56	Starry, starry night
Sunday Mirror (03/02/19)	Circulation: 426,992 Readership: 1,280,976 AVE: £9,920.85	Travel Insiders Sky aye (full page article on Dark Skies Festival)
Yorkshire Coast Radio (03/02/19)	Reach 17K	Return Of Dark Skies Festival In North Yorkshire <a href="http://yorkshirecoastradio.com/news/local-news/2796420/return-of-dark-skies-festival-in-north-yorkshire/">yorkshirecoastradio.com/news/local-news/2796420/return-of-dark-skies-festival-in-north-yorkshire/</a>

Country Life (02/02/19) (web)		Why February is the perfect time for stargazing – and how you can help the fight against light pollution <a href="http://countrylife.co.uk/country-life/february-perfect-time-stargazing-can-help-fight-light-pollution-192011#uD0sdEGOLijAllxs.99">countrylife.co.uk/country-life/february-perfect-time-stargazing-can-help-fight-light-pollution-192011#uD0sdEGOLijAllxs.99</a>
Yorkshire Post (04/02/19)	Reach 198K	Five of the best Yorkshire beauty spots for stargazing <a href="http://yorkshirepost.co.uk/news/five-of-the-best-yorkshire-beauty-spots-for-stargazing-1-9575283?page=1">yorkshirepost.co.uk/news/five-of-the-best-yorkshire-beauty-spots-for-stargazing-1-9575283?page=1</a>
The Scarborough News (05/02/19) (web)		Stars attraction on show around Whitby at Dark Skies Festival events <a href="http://thescarboroughnews.co.uk/news/stars-attraction-on-show-around-whitby-at-dark-skies-festival-events-1-9576026">thescarboroughnews.co.uk/news/stars-attraction-on-show-around-whitby-at-dark-skies-festival-events-1-9576026</a>
Whitby Gazette (05/02/19) (web)	Reach 4K	Stars attraction on show at Dark Skies Festival events <a href="http://whitbygazette.co.uk/news/stars-attraction-on-show-at-dark-skies-festival-events-1-9576026">whitbygazette.co.uk/news/stars-attraction-on-show-at-dark-skies-festival-events-1-9576026</a>
The Enquirer (05/02/19) (web)		Star Gazing stays <a href="http://theenquirer.co.uk/star-gazing-stays/">theenquirer.co.uk/star-gazing-stays/</a>
Yorkshire Reporter (05/02/19)	Reach 1K	<a href="http://yorkshirereporter.co.uk/national-park-authorities-moon-landing-space-star-2019-dark-skies-festival/">yorkshirereporter.co.uk/national-park-authorities-moon-landing-space-star-2019-dark-skies-festival/</a>
Harrogate Informer (06/02/19)		Exclusive ice cream celebrates Dark Skies Festival <a href="http://harrogate-news.co.uk/2019/02/06/exclusive-ice-cream-celebrates-dark-skies/">harrogate-news.co.uk/2019/02/06/exclusive-ice-cream-celebrates-dark-skies/</a>
Craven Herald & Pioneer (07/02/19)	Circulation:8,624 Readership: 25,872 AVE: £3,356.64	The sky really is the limit during big celebration
Richmondshire Today (07/02/19) (web)		New ice cream created for Dark Skies Festival <a href="http://richmondshiretoday.co.uk/new-ice-cream-created-dark-skies-festival/">richmondshiretoday.co.uk/new-ice-cream-created-dark-skies-festival/</a>
Thurrock Enquirer (07/02/19)	Circulation: 25,000 Readership: 62,500 AVE: £277.89	Star gazing stays
East London Enquirer (07/02/19)	Circulation: 50,000 Readership: 100,000 AVE: £934.50	Star gazing stays



Essex Enquirer (07/02/19)	Circulation: 50,000 Readership: 100,000 AVE: £866.25	Star gazing stays
Craven Herald & Pioneer (07/02/19) (web)	Reach 9K	Make the most of the Dales with this month's Dark Skies Festival <a href="http://cravenherald.co.uk/news/17396105.make-the-most-of-the-dales-with-this-months-dark-skies-festival/?ref=rss">cravenherald.co.uk/news/17396105.make-the-most-of-the-dales-with-this-months-dark-skies-festival/?ref=rss</a>
Ryedale Mumbler (07/02/19) (web)		Dark Skies Festival <a href="http://ryedale.mumbler.co.uk/dark-skies-festival/">ryedale.mumbler.co.uk/dark-skies-festival/</a>
Whitby Gazette (08/02/19)	Circulation: 9,047 Readership: 27,141 AVE: See articles	Stars attraction on show at Dark Skies Festival events. Stellar line-up of activities planned in and around Whitby AVE: £893.85 Gallery to showcase the work of prestigious artists (including Moon
Darlington & Stockton Times (08/02/19)	Circulation: 17,345 Readership: 52,035 AVE: £62.08	Dark Skies film on show at event
The Guardian (09/02/19)	Circulation: 140,497 Readership: 421,491 AVE: £57,300.10	National Treasures North York Moors Dairy Date 15 February- 3 March annual Dark Skies Festival
The Guardian (09/02/19) (web)	Reach 2million	Peaks and Downs: the best family-friendly breaks in national parks: North York Moors Dairy Date 15 February-3 March annual Dark Skies Festival <a href="http://theguardian.com/travel/2019/feb/09/family-breaks-national-parks-england-wales-peaks-lake-district-yorkshire">theguardian.com/travel/2019/feb/09/family-breaks-national-parks-england-wales-peaks-lake-district-yorkshire</a>
Yorkshire Post (09/02/19)	Circulation: 21,817 Readership: 65,451 AVE: £3,962.04	Travel & days out Where to go
The Northern Echo (09/02/19)	Circulation: 21,498 Readership: 64,494 AVE: £8,068.72	Freezing the moment – Dark Skies Festival
Darlington & Stockton Times (09/02/19) (web)	Reach 9K	Dark Skies film on show at event <a href="http://darlingtonandstocktontimes.co.uk/news/17420997.dark-skies-film-on-show-at-event/">darlingtonandstocktontimes.co.uk/news/17420997.dark-skies-film-on-show-at-event/</a>

The Sunday Times (10/02/19)	Circulation: 710,665 Readership: 2,131,995 AVE: £40,119.75	Night Shift
Sunday Express (10/02/19)	Circulation: 278,545 Readership: 835,635 AVE: £12,283.60	First look – Visit Dark Skies Festival
Teesside Live (11/02/19)	Reach 154K	Your little one a fan of Cbeebies? This star of the show is coming to Saltburn <a href="http://gazettelive.co.uk/whats-on/family-kids-news/your-little-one-fan-cbeebies-15812123">gazettelive.co.uk/whats-on/family-kids-news/your-little-one-fan-cbeebies-15812123</a>
Yorkshire Post (13/02/19)	Circulation: 21,817 Readership: 65,451 AVE: £583.62	Events North Dark Skies Festival
Gazette & Herald (13/02/19)	Circulation: 8,097 Readership: 24,291 AVE: £2,535	Shedding light on the dark skies
Gazette & Herald (13/02/19) (web)	Reach 6K	<b>DARK SKIES FESTIVAL:</b> Huge programme of events for annual event <a href="http://gazetteherald.co.uk/news/17416117.dark-skies-festival-huge-programme-of-events-for-annual-event/">gazetteherald.co.uk/news/17416117.dark-skies-festival-huge-programme-of-events-for-annual-event/</a>
The Scarborough News (14/02/19)	Circulation: 13,191 Readership: 39,573 AVE: £6,976	10 of the best – your guide to events you must not miss this week 1. Dark Skies Festival 3. Owl Prowl 4. Showcase Exhibition and Moon
Pocklington Post (14/02/19)	Circulation: 3,302 Readership: 11,686 AVE: £5,229.18	10 of the best – your guide to events you must not miss this week 1. Dark Skies Festival 3. Owl Prowl 4. Showcase Exhibition and Moon
Bridlington Free Press (14/02/19)	Circulation: 10,545 Readership: 31,635 AVE: £4,536	10 of the best – your guide to events you must not miss this week 1. Dark Skies Festival 3. Owl Prowl 4. Showcase Exhibition and Moon
BBC News online (14/02/19) (web)		Tan Hill Inn's red light for stargazers' delight <a href="http://www.bbc.co.uk/news/av/uk-england-york-north-yorkshire-47240555/tan-hill-inn-s-red-light-for-stargazers-delight">www.bbc.co.uk/news/av/uk-england-york-north-yorkshire-47240555/tan-hill-inn-s-red-light-for-stargazers-delight</a>

Metro (London) (15/02/19)	Circulation: 3,060,898 Readership: 9,182,694 AVE: £5,744.92	Pick of the week around the country Dark Skies Festival
Metro (Scotland) (15/02/19)	Circulation: 120,633 Readership: 361,899 AVE: £1,005.32	Pick of the week around the country Dark Skies Festival
Metro (15/02/19) (web)		Going out: Pick of the week Dark Skies Festival
The Press (15/02/19)	Circulation: 13,104 Readership: 39,312 AVE: £548.12	Five things to do this weekend – Celebrating the winter sky at night
York Press (15/02/19) web	Reach 93K	5 things to see this weekend <a href="http://yorkpress.co.uk/news/17435449.5-things-to-see-this-weekend/">yorkpress.co.uk/news/17435449.5-things-to-see-this-weekend/</a> and DARK SKIES FESTIVAL: Huge programme of events for annual event <a href="http://yorkpress.co.uk/news/17435854.dark-skies-festival-huge-programme-of-events-for-annual-event/?ref=rss">yorkpress.co.uk/news/17435854.dark-skies-festival-huge-programme-of-events-for-annual-event/?ref=rss</a>
Whitby Gazette (15/02/19)	Circulation: 9,047 Readership: 27,141 AVE: £5,460.06	10 of the best Your guide to events you must not miss this week 1. Dark Skies Festival, 3 Owl Prowl 4. Showcase Exhibition (and Moon)
The Press (18/02/19)	Circulation: 13,104 Readership: 39,312 AVE: £1,985.16	Shedding light on Yorkshire's dark skies
The i newspaper (20/02/19)	Circulation: 233,868 Readership: 701,604 AVE: £24,007.37	Starry, starry nights in darkest Yorkshire
The Scarborough News (21/02/19)	Circulation: 13,191 Readership: 39,573 AVE: £1,884.00	#SocialBuzz Stargazing at Cober Hill
Yorkshire Post (21/02/19) (web)	Reach 199,000	The Yorkshire viaduct which captures natural beauty and man's ingenuity <a href="http://yorkshirepost.co.uk/news/the-yorkshire-viaduct-which-captures-natural-beauty-and-man-s-ingenuity-1-9606521">yorkshirepost.co.uk/news/the-yorkshire-viaduct-which-captures-natural-beauty-and-man-s-ingenuity-1-9606521</a>

MSN Lifestyle UK (21/02/19) (web)	Reach 252K	Yorkshire's Dark Skies Festival is the place for stargazing, moonlight trekking and wildlife watching <a href="http://www.msn.com/en-gb/lifestyle/travel/yorkshires-dark-skies-festival-is-the-place-for-stargazing-moonlight-trekking-and-wildlife-watching/ar-BBTRu3I">www.msn.com/en-gb/lifestyle/travel/yorkshires-dark-skies-festival-is-the-place-for-stargazing-moonlight-trekking-and-wildlife-watching/ar-BBTRu3I</a>
i News (21/02/19) (web)	Reach 2 million	Yorkshire's Dark Skies Festival is the place for stargazing, moonlight trekking and wildlife watching <a href="http://inews.co.uk/inews-lifestyle/travel/dark-skies-festival-yorkshire-2019-north-york-moors-events-night-walks/">inews.co.uk/inews-lifestyle/travel/dark-skies-festival-yorkshire-2019-north-york-moors-events-night-walks/</a>
Yorkshire Post (22/02/19)	Circulation: 21,817 Readership: 65,451 AVE: £4,003.14	Runners leave trails in their wake as they light up the sky
Whitby Gazette (22/02/19)	Circulation: 9,047 Readership: 27,141 AVE: £2,763.36	#SocialBuzz Dark Skies Festival and Perfect Planets
York Press (23/02/19)	Reach 93K	Castle Howard celebrates Dark Skies festival with night time run <a href="https://www.yorkpress.co.uk/news/17454750.castle-howard-celebrates-dark-skies-festival-with-nigh-time-run/">https://www.yorkpress.co.uk/news/17454750.castle-howard-celebrates-dark-skies-festival-with-nigh-time-run/</a>
Yorkshire Living – West & North Yorkshire (March edition)	Circulation: 15,000 Readership: 40,500 AVE – see articles	Front page cover Diary – Dark Skies Festival AVE: £357 And Starry starry night AVE: £1,127
The Press (26/02/19)	Circulation: 13,104 Readership: 39,312 AVE: £502.68	Runners light up Brideshead night
Whitby Gazette (01/03/19)	Circulation: 9,047 Readership: 27,141 AVE: £1,602.87	#SocialBuzz Stargazing Evening and Dark Skies at Danby
Yorkshire Post (16/03/19)	Circulation: 21,817 Readership: 65,451 AVE: £4,562.10	Dark Skies Festival is poised to continue
The Guardian (22/03/19) (web)	Reach 2million	Leaps in the dark: 12 of the best night-time activities in the UK <a href="http://theguardian.com/travel/2019/mar/22/12-best-night-time-activities-uk">theguardian.com/travel/2019/mar/22/12-best-night-time-activities-uk</a>

**E-newsletters, blogs and other**

Forestry Commission England (23/01/19)		Have you lost sight of the stars? Explore the effects of light pollution at this exclusive screening in Dalby Forest
Visit York (24/01/19)		An exciting start to 2019 with York Ice Trail, Viking Festivals and more   Visit York Newsletter January 2019 - Dark Skies Festival in the North York Moors National Park
OS GetOutside blog (27/01/19)		Dark Skies Festival (Helen Pollard) <a href="http://getoutside.ordnancesurvey.co.uk/guides/dark-skies/">getoutside.ordnancesurvey.co.uk/guides/dark-skies/</a>
Classic FM North (Jan/Feb)	28,827 sent 9,512 unique opens 3,213 clicks	Classic FM – Win a break with York and the North York Moors
Land Rover blog (February)		Dark Skies Festival (Helen Pollard) <a href="http://landroverexplore.co.uk/stories/dark-skies/">landroverexplore.co.uk/stories/dark-skies/</a>
Welcome to Yorkshire (05/02/19)		February Festivals – Dark Skies Festival
Forestry Commission England (23/01/19)		Have you lost sight of the stars? Explore the effects of light pollution at this exclusive screening in Dalby Forest
Visit York (24/01/19)		An exciting start to 2019 with York Ice Trail, Viking Festivals and more   Visit York Newsletter January 2019 - Dark Skies Festival in the North York Moors National Park
OS GetOutside blog (27/01/19)		Dark Skies Festival (Helen Pollard) <a href="http://getoutside.ordnancesurvey.co.uk/guides/dark-skies/">getoutside.ordnancesurvey.co.uk/guides/dark-skies/</a>
Classic FM North (Jan/Feb)	28,827 sent 9,512 unique opens 3,213 clicks	Classic FM – Win a break with York and the North York Moors

## Radio interviews

BBC Radio York (24/10/18) God's Own Countryfile – How house lights could harm bats...

BBC Radio York (09/01/19) Interview with curator Roger Osborne, Whitby Museum on the 'Whitby and The Cosmos: the search for dark matter' exhibition including promotion for the Dark Skies Festival [bbc.co.uk/sounds/play/p06vh5sq](http://bbc.co.uk/sounds/play/p06vh5sq) ((from 1h 35m, then a short break and again from 1h 46m)

Dales Radio (24/01/19) Coverage of Dark Skies Festival on the breakfast programme

Minster FM (30/01/19) Interview with Mike Hawtin (pre-record)

BBC Radio York (20/02/19) Sam Dilcock (God's Own Countryfile programme) broadcasting live from Castle Howard for a Dark Skies special with Castle Howard, Mike Hawtin and The Farmhouse (7pm to 9pm including four separate slots on the Festival) [bbc.co.uk/sounds/play/p06yv4vj](http://bbc.co.uk/sounds/play/p06yv4vj)

BBC Radio York (22/02/19) Friday breakfast previewing the weekend dark sky events (Richard Darn) and Yorkshire True Grit

Classic FM North advert on radio and linked competition (14/01/19-10/02/19) on website [campaign.classicfm.com/miy0119classic](http://campaign.classicfm.com/miy0119classic) plus sponsored e-newsletter. Results: 19,135 page impressions and 12,599 competition entries

## TV coverage

BBC Look North (North East and Cumbria) 12 February 2019 (Tan Hill Inn) Lunch time News 1.30pm (5.12-7.31) Seeing stars

BBC Look North (Yorkshire) 12 February 2019 (Tan Hill Inn)

Channel 4 The Yorkshire Dales and The Lakes (A Guided night walk under the stars at Grimwith and A run into oblivion, Askrigg) (spring 2019 transmission date tbc)

## Other

York Railway Station banner advertisement (48 sheet poster) – live from 28/01/19 for 2 weeks

## Journalist visits

Andrew Eames (Sunday People) (28-31/12/18) (NYM focus)

Andrew Eames (Sunday Times) (Dales focus) 21/01/19

The Sun (Anna Roberts) 15-17 February (with Welcome to Yorkshire)

The i newspaper (Kate Simon) 15-17 February (with Welcome to Yorkshire)

Dalesman magazine (Charlotte Oliver) 19/02/19 (Hidden Horizons)

Simple Things magazine (22-25 February 2019) – for publication October 2019