MOORS FOR THE FUTURE PARTNERSHIP

A Year in Review 2016–2017

Protecting the uplands for the benefit of us all

Better together – partnership working delivers more for all of us

DAVID CHAPMAN
Chair of Moors for the Future Partnership and Deputy Chair of the Peak District National Park Authority

Though we are based in a remote corner of the Peak District National Park our influence spreads far and wide, and this year is no exception.

We addressed international conferences in Belgium and Switzerland as well as across the UK. Notably, we brought the topic of natural flood risk management to the agenda for the first time, with a presentation at the Environment Agency's Flood and Coast conference in Telford. There are too many conferences to mention each one individually, but I would like to thank all of our partners and friends within the peatland community for giving us the opportunity to meet with you and your audiences and share stories about the important work we are all doing to protect the uplands and peatlands across the UK and beyond.

We hosted visits from policymakers including the Estonian Ministry of the Environment and closer to home with a Board Member of the Environment Agency, several EA teams, Defra teams, the South Pennines Local Nature Partnership and many more. We are delighted to be able to share our knowledge and learn from others in whatever ways we can.

Natural flood risk management has become increasingly important over the past few years. In February 2016, Sir James Bevan, CEO of the Environment Agency, launched the critical review of the three Defra-funded Multi-Objective Demonstration projects; which includes our own Making Space for Water project. Following on from this, the EFRA Select Committee visited us last summer and highlighted the contribution of our work in their report on Future Flood Prevention which was presented to the House of Commons in November 2016.

I was proud to represent the Partnership at events throughout the year, including the presentation of a Best of LIFE Award in Brussels, for the outstanding results of our EU funded MoorLIFE project that brought life back to vast areas of the Peak District and South Pennines. Our partners, RSPB and United Utilities were also awarded a Natura 2000 award for exceptional work with volunteers in reintroducing sphagnum at Dove Stone.

Environment Agency Board Member Dr Clive Elphick visited us to learn about the benefits of protecting the uplands

Partnership Chair David Chapman receives a Best of LIFE project award along with team member Philip Straton and Brendon Wittram who were part of the MoorLIFE project team

I was pleased to be with so many of the staff team who contributed to the IUCN UK Peatland Programme Conference, by organising workshops and giving presentations. And I am delighted that this working relationship continues with this year's joint conference – BogFest – which takes place in Edale in September.

In addition to the brilliant conservation and land management, seriously good science and monitoring, and excellent communications and public engagement, the team has been involved in policy discussions on the effect of Brexit on the uplands, and in policy and planning for natural flood risk management as well as pursuing future funding sources.

This report is not intended to be a summary of everything that has been done in the year by the Partnership. This amounts to 29 individual projects, and includes conservation work over roughly 400 hectares that has protected active blanket bog over a much wider landscape. However, I hope that it will give you a flavour of the dedication and pioneering spirit that makes this partnership truly great.

From water companies to NGOs, statutory bodies to land owners and hard-working farmers, each and every one of you has come together to achieve so much for these uplands. The strength of this partnership is that though we have different interests in the land, we work together to protect the uplands for the benefit of us all.

Sphagnum moss

Managing landscapes for the benefit of us all

In the past twelve months, we've been busy preparing for our ambitious five-year project to protect the magnificent blanket bogs of the vast South Pennines Special Area for Conservation. These internationally important blanket bogs are one of the largest carbon stores in the whole of Europe, and need protection from threats such as wildfire and erosion. This was recognised by the EU in 2015 when they made the largest ever award to a UK-based nature conservation project.

The first steps of the €16 million MoorLIFE 2020 project started with the National Trust and RSPB who carried out works on their estates and kicked off this phase in our history.

We also took advantage of the economies of scale our programme offers to deliver additional works alongside our existing plans, starting with Snailsden Moor for Yorkshire Water and Natural England. In total this year we worked across an area of over 400 hectares, in order to protect a much larger area of damaged bog.

As part of the Blanket Bog Restoration Strategy, we've worked with many other organisations, including Natural England, Moorland Association and RSPB, to develop user friendly guidance for the six states of blanket bog. These guides will be produced in the coming year and will assist blanket bog land owners and tenants in assessing which of these states their land is in and what interventions are needed to bring it to a healthy condition.

The year also represented a landmark for our work in the northern part of the Peak District National Park. Here are two highlights from the year in more detail.

PAVING THE WAY TOWARDS KINDER SCOUT

In November 2016 we laid the final flagstone to a five kilometre path on Brown Knoll, one of the hills that flank the Kinder Scout plateau. This was the concluding chapter in a bigger story of partnership working, and how persistence and determination can achieve seemingly impossible results.

Plans for the path were first hatched in 2003 with the aim of protecting the habitat that is home to wildlife including bird populations of golden plover, curlew and grouse. The Brown Knoll path is a popular route for hikers and fell-runners and the fragile plant layer that covered the precious peat beneath has been damaged by high foot-traffic. Over time the path has become an ever-widening peaty footway, encroaching on the terrain used by ground-nesting birds.

The new path was laid to give a firm footing so that people can enjoy the wide open landscape, safe in the knowledge that they are not damaging the blanket bog that has formed this remarkable place. Crucially, it allows birds to move back into areas that they have avoided because of human disturbance.

Short-eared owl

The first two kilometres of flagstone path, from South Head near Hayfield, were successfully completed. But the plans then suffered from a series of setbacks, including changes in finance schemes and land ownership that threw the completion of the work in doubt. Funding from Natural England was finally secured in 2016 to complete the path that stretches across adjacent tracts of land owned by a private landowner and the National Trust.

When this last phase started in January 2016, five-and-a-half thousand flagstones were flown in by helicopter ready for each one to be positioned by hand. Contractors laid around 50 metres of path a day, only stopping for the bird nesting season and in the worst extremes of weather.

The path was completed in October 2016 and the landscape is beginning to heal. The land is on the watershed of the Derbyshire Derwent and the Upper Mersey catchments, providing water for Severn Trent and United Utilities. Our efforts to protect the habitat for biodiversity also have benefits for water quality and natural flood risk management.

Cotton grass in bloom and the newly flagged footpath at Brown Knoll

Below left: Contractors continued working even when snow lay on the ground

Below right: It is rumoured one of the path-builders shaved off the beard that he had been growing since the first day of the work and buried it under the final flagstone

CROSSING THE DIVIDE AT SADDLEWORTH AND WESSENDEN MOORS

Nature knows no boundaries. Birds fly in moorland skies and plants spread across healthy blanket bog no matter who owns them. The beautiful, windswept moors of Saddleworth and Wessenden are divided by a public footpath running north to south that marks a change in land ownership. The A635 road runs east to west from Greenfield to Holmfirth forming another human boundary and a route across the Pennines. Our conservation work, and the funding from Natural England, has brought these parcels of land back together, unifying them into one landscape that is healing from the damage caused many years ago by industrial pollution and wildfires.

We began our efforts to reverse the damage to these magnificent blanket bogs in 2007, completing the work in phases as funding has become available. Our work here is an example of the added value we bring by running a long-term programme of works and the confidence inspired by our longevity. If we can't get it done this year, our funders and the people who own the land we work on know that we will be around in future years to complete the job.

Our first actions on Wessenden Head Moor, south of the Greenfield Road, started in December 2007 with a five-year programme of works to stabilise bare peat, rewet and reintroduce native plants. Funding for nearby Saddleworth Moor first became available in 2003, from English Nature's Wildlife Enhancement Scheme. We've worked on the site intermittently since then, with significant amounts of funding available since 2008, funded by English Nature and Natural England.

Top: Saddleworth and Wessenden Moors now have the chance to recover following works to stabilise, rewet and reintroduce vital native bog plants

Right: Bare peat in Holme Clough was perilously unstable. Revegetation of these gullies helps put a stop to this massive peat loss

On the southern side there were many deep gullies that were becoming ever more eroded by the action of wind and rain. Our efforts ensured that many of these gullies were blocked, stopping the peat from being washed away and creating a wetter environment where sphagnum moss can thrive.

Peat is created through the build-up of sphagnum and other plant material in waterlogged conditions. An abundance of these incredible mosses is essential to the health of active blanket bog. And we're proud that our early works on Saddleworth were so successful. There was no sphagnum moss when we started and now it is so plentiful that we been able to harvest and relocate enough to reintroduce it to parts of Saddleworth north of the A635.

Sphagnum moss

Areas of bare peat were protected by seeding with fast-growing grasses

Meanwhile to the west of the footpath, Wessenden Moor, Close Moss and Pule Hill, owned by the National Trust have been revitalised thanks to additional funding from Yorkshire Water. Using similar techniques, areas of bare peat have been reseeded and dams have been put in place to hold back and filter water. This makes the moor wetter again and able to support birds such as curlews and short-eared owls. Water flowing down into reservoirs is cleaner and clearer, and needs less treatment before it enters the water supply.

We have taken a moment to celebrate this success but this is a continuing story. There is much more to do in forthcoming years to ensure that the landscape is protected for the future and continues to provide so many vital benefits to all.

Below: Chris Crowther and his sons meet Rory Stewart MP (second from left) at the MoorLIFE 2020 launch

A final word from Chris Crowther, owner of Saddleworth Moor, who spoke to us when the Natural England-funded work on his land came to a close in March 2017:

"I have been born and bred on Saddleworth Moor and for all that time there has been bare and eroding peat. The moorland has been brought back to its former glory by the Moors for the Future Partnership team and I have seen this encourage birds and wildlife back into these natural habitats which they need to survive.

"Since I was a lad there has been bare peat but now it has been put right, and between us we've made it happen. As sheep farmers we look forward to grazing for the future but we are also pleased that the public can enjoy all the benefits of the beautiful landscape."

The sky's the limit for our science

It was a great year for our science team who got to launch the partnership's first fixed-wing unmanned aerial vehicle (UAV). This new 'earth observation' technology will enable us monitor the huge scale of our conservation work.

After an intensive week of training in the wide open skies of Northumberland to help their training take flight, followed up with weekly practice sessions, the Partnership is proud to be a Civil Aviation Authority approved commercial flyer and have one qualified pilot.

It's onwards and upwards for surveying in 2017!

Here are two more stories from our monitoring programme.

GETTING BOGGED DOWN WITH NOGGIN THE NOG

One of our biggest challenges is keeping funding for the long-term monitoring that is essential to demonstrate the impact of our work. Changes to blanket bog take place over decades rather than years and long-term monitoring is crucial to provide evidence of the effectiveness of our work. It also allows us to continue to try out new innovative approaches, and focus on the elements of our work that achieve the best possible results.

In 2016 we were fortunate in securing the future of one of our most important monitoring sites. Making Space for Water was set up in 2010 with Defra funding, as part of a five-year effort to demonstrate the benefit of techniques including moorland conservation on natural flood risk management. Continued funding from the EU LIFE programme will provide us with a further five years' data on the longer term benefits of our conservation efforts.

The area of Kinder Scout known as 'the Edge' was used to set up four plots, three of which were named by Professor Tim Allott from the University of Manchester after the Noggin the Nog children's stories. Tim brought his sons along on the trip to identify the sites. We have an unwritten rule that whoever sets up a site can name it and the boys rose to the challenge.

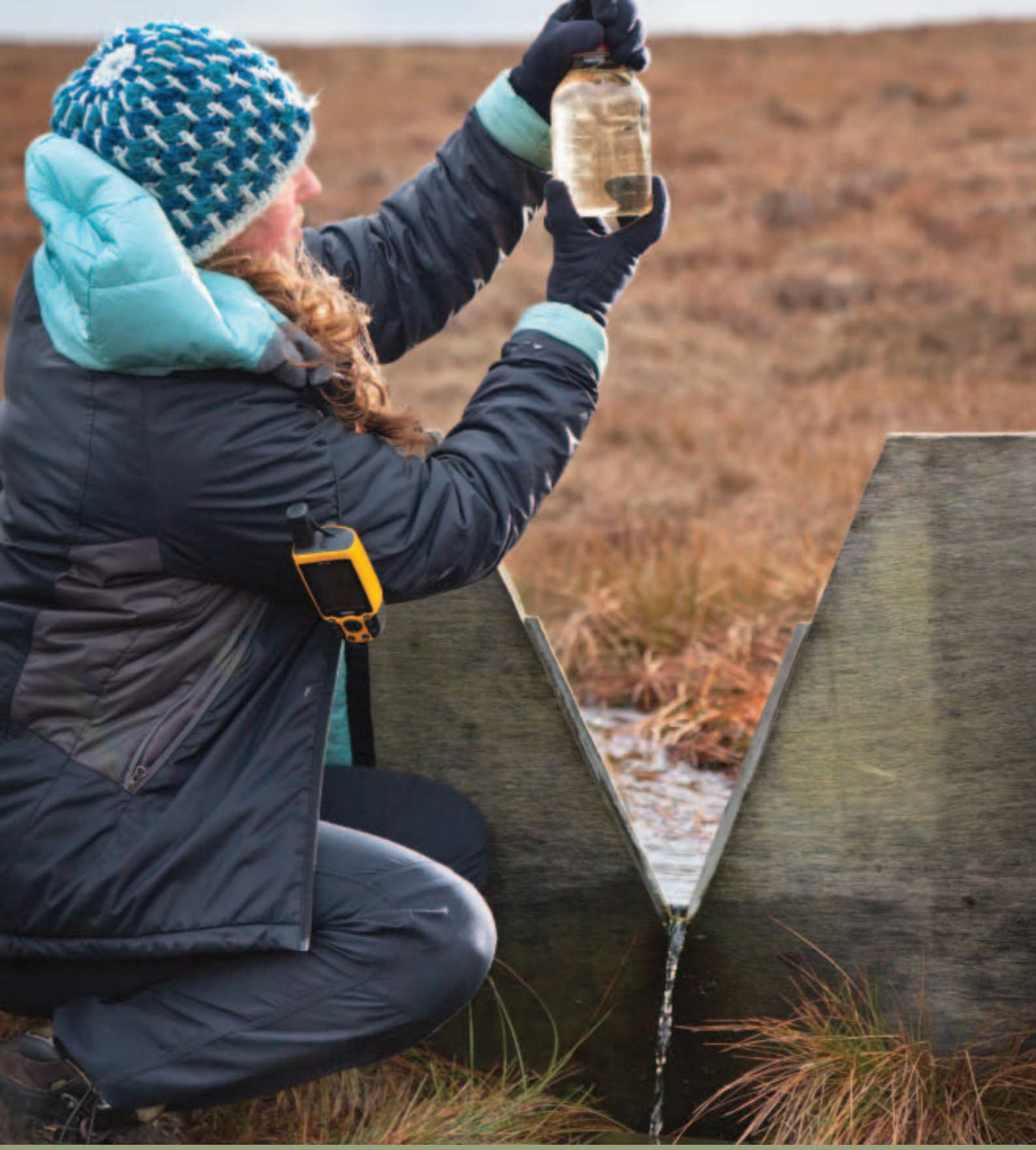
The area of bare peat at Firmin has been left as a control site, with no attempt to revegetate it. Works to reseed and reintroduce sphagnum mosses took place at Olaf and Nogson (which also had erosion gullies blocked). We also used an existing monitoring plot of intact blanket bog as a comparison. This plot was known as Penguins because of the extreme cold often encountered up there.

A weather station at Firmin takes measurements including temperature, rainfall, wind speed and wind direction. V-notch weirs have been installed where the water runs off these plots – the water collects behind them in a 'stilling pool' and the height is recorded and used to estimate the speed of water flowing through the weir.

These four legendary sites are monitored to record the flow of water in and out so that we can understand the difference our work is making to natural flood risk management.

We have learned that rainfall hitting the ground at these locations will leave the bare peat on Firmin faster than anywhere else, which means that storm water from bare peat will run faster off the hills and into the rivers lower down the catchment. But the good news is that over time Olaf and Nogson are behaving more like Penguins, where the runoff is much slower. This is perhaps not what the fictional king Noggin the Nog had expected of his subjects, but we are happy that the results of our work are good for natural flood risk management, giving communities and authorities more time to prepare for the effects of major storms.

Below: Cloudberry is a common blanket bog plant



Installing valuable scientific equipment on the Peak District's highest plateau is not without challenges. Early in 2016 monitoring equipment was hidden by a thick blanket of snow, so that staff who had bravely battled through thigh-high drifts were unable to take any measurements. But there are some advantages to being a guardian of data in this remote spot. One member of our team has been rewarded with sightings of kestrels, short-eared owls and shy mountain hares on his trips to download data from this lonely spot.

It is challenging work but well worth the effort. The data from Making Space for Water is part of twelve years' worth of evidence we have used to create trajectories of recovery of bare peat following conservation or land management changes. Topics so far include vegetation recovery, water tables, water flows and the accumulation of carbon. We are working closely with Natural England to include this evidence in their Blanket Bog Restoration Strategy for England.

Taking water samples from a V-notch weir at Penguins

BUBBLING UNDER – THE RECORD-BREAKING DIPWELL CAMPAIGN

Our annual autumn dipwell campaign kicked off again this year, with Community Science volunteers joining the team effort to record water table levels across the Peak District and South Pennines. Dedicated staff, volunteers and a student on placement went out whatever the weather, hiking across remote moorland without footpaths or tracks to ease their way.

The dipwells are positioned in areas that represent each of the stages of conservation works so that we can compare results from different treatment types. The wells are simple plastic tubes with holes to allow water in, randomly located in small clusters, within a 30 metre square.

Each of the 900 dipwells is checked manually, by blowing down a tube which is lowered into the well. When the tube hits water, bubbles are produced and the resulting depth is measured and recorded. This approach might seem low-tech but has proved to be the most reliable. Trials with automatic sensors have produced less accurate results, so now every reading is taken in this way.

The measurements were taken on the same day each week for twelve weeks, to give a snapshot of water levels at seven locations across the Peak District and South Pennines, from Chatsworth to Skipton. In total, a record-breaking 10,000 measurements were recorded, more than ever before, providing invaluable information on the effect of our conservation work.

Recording the water table level on Kinder Scout

Tales of the bog – spreading the message about the importance of blanket bogs

Our media coverage continued to be strong, from a six-minute slot on BBC Countryfile to mentions in the Guardian and the Times as well as frequent coverage on regional and local television, radio and newspapers.

Our established programme of citizen science also went from strength to strength, with the blossoming of new studies to track the emergence of moorland buds, berries and leaves, along with ring ouzels and redwings.

We took the driving seat to create the world's first bog in a van. Our Bogtastic van will allow people in towns and cities across the South Pennines to step inside the van and into a virtual blanket bog experience. The van will take to the road later this year.

We also decided to run our planned conference in 2017 as a festival-style celebration of the uplands. The first ever BogFest will take place in September in Edale as a joint event with the IUCN UK Peatland Programme. Local, national and international speakers are lined up ready to take part and there is a determination that there will be annual BogFest events every year in the future, thanks to the enthusiasm and energy of all of the individual partners that make up the Moors for the Future Partnership.

AN EVENTFUL TIME – CELEBRATING NATURA 2000 DAY

Sphagnum moss 'cake'

On 20th May 2016 we joined in the weekend of celebrations for Natura 2000 Day with the launch of our MoorLIFE 2020 project. Natura 2000 is the largest coordinated network of protected areas in the world and all of our conservation work takes place in this special area, prized for bird species such as the short-eared owl, golden plover and curlew.

Much of our work is funded by the EU LIFE programme, and through this funding stream we are able to protect blanket bog by conservation works, backed up with evidence from the monitoring of our science team. These important activities are consolidated by public engagement aimed at inspiring the public about the importance of active blanket bog and encouraging people to play their own part in protecting these special places.

Peak District National Park Authority Chief Executive Sarah Fowler welcomed the Chair of the Environment Agency, Emma Howard-Boyd, and the Chairman of Natural England Andrew Sells. They all spoke about the importance of protecting these special and unique places.

We were honoured to have Defra minister Rory Stewart officially launch the work of the project, which will continue until December 2020.

Our staff team were on hand to give demonstrations of how our work reduces flood risk, alongside National Park Rangers who showed how they fight moorland fires.

We didn't have a special cake to launch the project, but there was a display that fitted the occasion perfectly, along with an amazing contraption that showed the effect of sphagnum moss on improving water quality.

Later in the day invited guests were treated to a moorland walk and a series of inspiring talks by the dedicated staff team. The visit was planned with precision that allowed us to get 60 people out to get the full blanket bog experience and back to


Sarah Fowler, Andrew Sells, Rory Stewart MP, Chris Dean and Emma Howard-Boyd

the launch venue within the space of two hours. Separated into smaller groups, the parties fanned out along the footpath at Wessenden Moor to listen to a series of talks and ask questions of our well-informed and enthusiastic staff team.

Guests heard about the crucial role of our science team in gathering evidence of the effectiveness of our work. This included the secrets that are released from the moors in the form of samples showing the quality of the water that will end up in reservoirs used for drinking water. They also learned how landscape-scale land management and conservation activities will soon be monitored at a landscape scale using a fixed-wing unmanned aerial vehicle.

A talk on public engagement focussed on the citizen science delivered through our Community Science project, which has been amazingly successful in inspiring and encouraging the public to value the uplands and gives an opportunity for everyone to get involved in our work in a number of ways from filling in a wildlife survey to adopting a long-term monitoring site. This great work will soon be complemented by our Bogtastic van.

Members from our conservation and land management team explained the different techniques that have been used to bring life back to the moors of Saddleworth and Wessenden which are divided by the footpath. From this vantage point, it is possible to get a flavour of how the landscape recovers, as the works on each moor took place in different years. The team also highlighted the importance of everyone working together to achieve the best outcomes for nature.

Before they left, one of the groups was willing to oblige us with a photo opportunity to celebrate Natura 2000 day.

Above: Demonstrating the effect of our work using drainpipes and artificial grass

Opposite top: Celebrating Natura 2000 Day – the butterfly gesture symbolises the great power of small gestures. 'The flapping of a butterfly's wings can change the world'

Right: Community Science volunteers

BUDS, BERRIES AND LEAVES – A VOLUNTEER VIEW BY JEFF KRESSLER

"So, here I am slowly walking up a steep hillside. I'm a bit short of breath and the wind's cold and has a bit of a bite to it but do I care? No, because the sunshine is glorious and the views are just stunning.

The other side of Luddenden Dean is a patchwork of fields and woodland; steeper lower down then a shallower slope higher up as it becomes the shelf. Above that is the moor, bleaker but still beautiful and full of life, albeit not quite as showy as some other habitats.

I'm on my way from Jerusalem Farm car park to the beginning of the Midgley Moor transect to do the Buds, Berries and Leaves Survey. It's an easy task, I just have to check and record whether the specific plants being surveyed have buds, berries or leaves on them.

I'll then pass on the data to Moors for the Future Partnership, who'll use it to learn about changes in the timing of events in the plants' life cycles; important information to track the effects of climate change. I don't need to be a botanist, or even know that much about plants to do this, I got the training I need in a day and I know I can contact the Moors for the Future Community Science team if I need any advice.

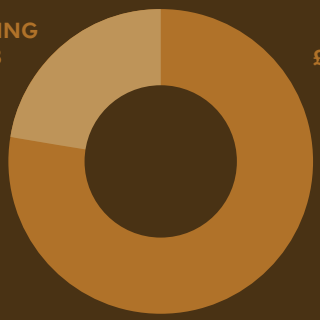
So, what do I get from doing this survey work for Moors for the Future Partnership? I've learnt more about certain plants and the moorland habitat, and have now started to work on my general plant identification skills and understanding of ecology. I get the satisfaction of contributing to scientific investigation of the natural environment and how to protect it. I get lots of fresh air and exercise and if I'm lucky I'll see a kestrel or other bird of prey! All round, well worth doing!"

The year in numbers

TOTAL INCOME £5,710,951

EXPENDITURE FOR THE YEAR £4,551,801

Our grant funding spans multiple years which means the income in a given year may be earmarked for successive financial years.



SOURCES OF INCOME

PARTNERS AND FUNDERS

Core partners

Environment Agency
National Trust
Peak District National Park Authority
Pennine Prospects
RSPB
Severn Trent Water
United Utilities
Yorkshire Water Services

Project funders

EU LIFE Programme
Environment Agency
Heritage Lottery Fund
National Trust
Natural England
Peak District National Park Authority
Pennine Prospects
RSPB
Severn Trent Water
United Utilities
Kirklees Council
Yorkshire Water Services
Woodland Trust
Private Landowners

OUR WORK IN NUMBERS

29 projects

8,317 bags of heather brash spread over nearly **42** hectares of bare peat

291 hectares of sphagnum plug application

5,116 gully blocks installed

42 hectares of sward diversification by seeding

24 waterbody catchments worked in

3 kilometres of flagstone path constructed

10,000 dipwell measurements taken

1 previous PhD student completed his PhD

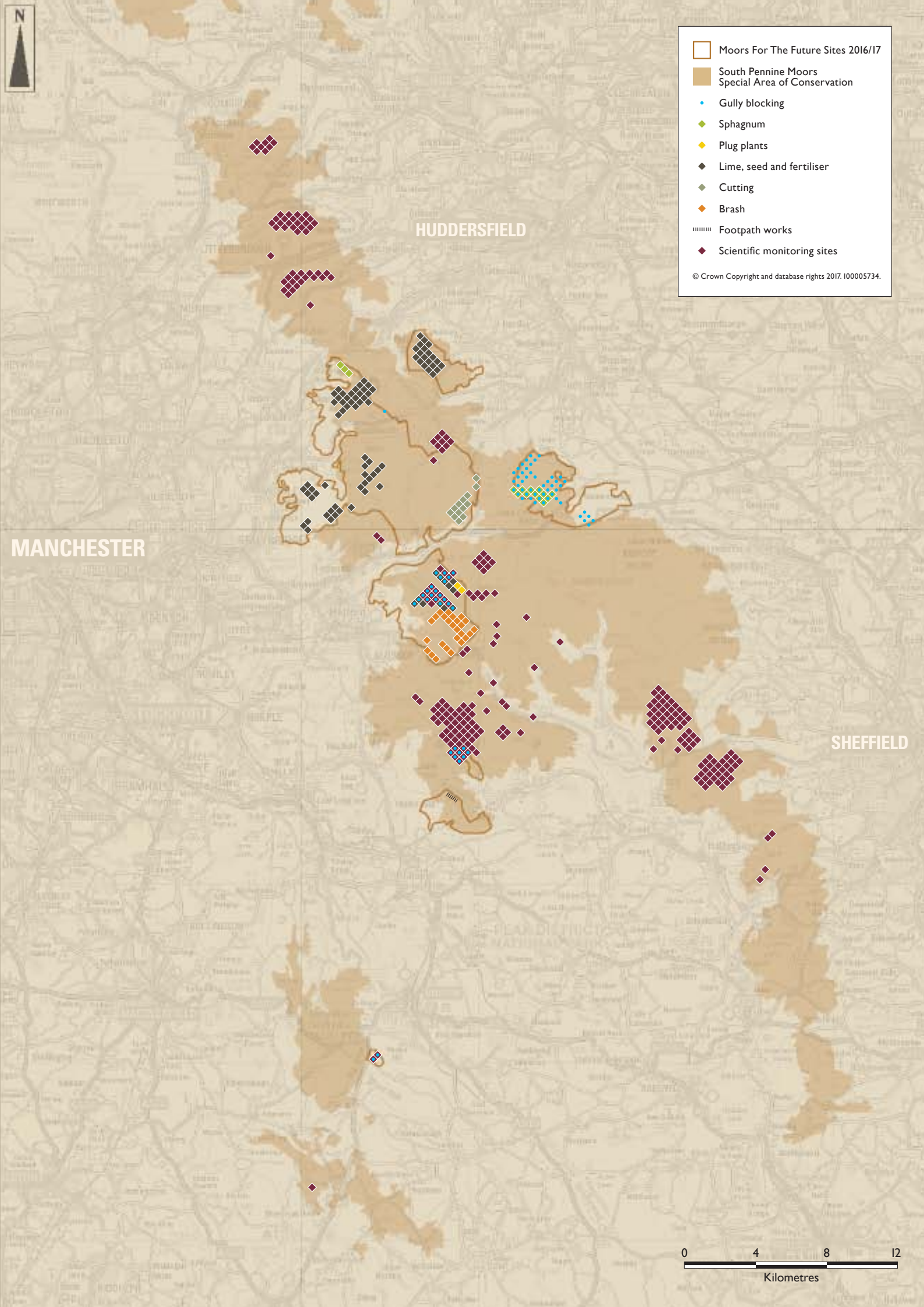
3 publications in scientific journals by previous PhD students

1 nine-month undergraduate placement student

2 PhD studentships

96 events attended or hosted to raise awareness of our work

4,564 community science volunteer hours


N
Moors For The Future Sites 2016/17
South Pennine Moors Special Area of Conservation
Gully blocking
Sphagnum
Plug plants
Lime, seed and fertiliser
Cutting
Brash
Footpath works
Scientific monitoring sites
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HUDDERSFIELD
MANCHESTER
SHEFFIELD
0
4
8
12
Kilometres

CONTRIBUTING PARTNERS

The work of the partnership is delivered by the Moors for the Future staff team through the Peak District National Park Authority as the lead and accountable body. We also receive financial support from our partners Environment Agency, National Trust, Pennine Prospects, RSPB, Severn Trent Water, United Utilities, Yorkshire Water, and support and advice from Natural England and representatives of the moorland owner and farming community including the NFU and Moorland Association.

www.moorsforthefuture.org.uk

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MOORS FOR THE FUTURE PARTNERSHIP