MOORS FOR THE FUTURE PARTNERSHIP

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# CommunityScience

## Annual report 2018

December 2018

heritage lottery fund
LOTTERY FUNDED

## Overall outcomes

Community Science's vision is to evidence the impact of climate change on the internationally important blanket bog habitat in the South Pennine Moors Special Area of Conservation by engaging local communities in environmental monitoring and biological recording – raising awareness of the natural world through citizen science.

## With thanks…

…to the Heritage Lottery Fund, our project partners and most of all, Community Science volunteers.

## Table of contents

## Executive summary

In the fourth year of delivery Community Science has achieved a potential audience reach of over 12,659,384 including radio, print and online coverage – bringing the project total to a potential 44 million people.

We have engaged 189 named volunteers as well as 146 un-named volunteers as members of organised groups. This year volunteers dedicated 4,329 hours (618 working days) to Community Science bringing the project total to 17,153 hours (2,450 working days).

14,332 Opportunistic Monitoring (OM) postcards were distributed in 2018, far exceeding the annual target of 5,000. Since 2015 3,985 records have been submitted through these surveys of a total of 11,745 individual animals. 891 of these records have been received in 2018. The associated Heritage Lottery Fund (HLF) target was for 100 records to be received in 2015, doubling each year with an expectation of 800 being received in 2018.

During 2018 we trained 208 volunteers in ecological survey techniques during 16 Targeted Monitoring (TM) survey sessions and volunteers spent 811 hours completing 496 targeted monitoring surveys.

We have extended the network of Environmental Monitoring (EM) sites to nine, one more than our suggested target. Routine monitoring has continued across sites through-out the year and will continue in 2019 and beyond. By the end of the 2018 vegetation monitoring campaign volunteers had surveyed 1080 square metres of moorland.

During 2018 we have put plans in place to ensure the legacy of the project beyond the HLF funded period. These plans can be found in our legacy strategy document.

## Introduction

This report is an overview of the delivery of the Heritage Lottery Funded (HLF) Community Science project (CSP) delivered by Moors for the Future Partnership (MFFP) in 2018.

Community Science entered its final year of HLF funding in 2018 and due to a project extension agreed in 2017, the end date was extended from 31st May 2018 to 31st December 2018. This additional seven months provided an opportunity for the project team to dedicate time to ensuring the legacy of the project by working closely with the volunteers who were already actively performing surveys and monitoring tasks. Some training events for existing surveys did take place but a number of these were performed by volunteers already active on the project.

As the focus for the year was on supporting existing volunteers and surveys, no new OM or TM surveys were launched in 2018. However, the total number of EM sites was increased from seven to nine this year with the addition of two monitoring areas located on Crompton Moor near Oldham. These sites were not equipped with the full suite of equipment but have been set up to assist with land management decision making regarding the planting of *Sphagnum* moss on Crompton Moor.

A keen 'Friends of Crompton Moor' group that has been active for some years (and which CSP first had contact with back in 2015) have taken on the monitoring which will involve annual vegetation surveys to monitor the success of *Sphagnum* planting on the site.

In August of this year the project manager left their post and the existing project officer and communications and engagement officer 'stepped up' to share the role of project managing CSP until the end of December. As a new team member was not recruited this meant additional work on the project was covered by casual members of the MFFP team.

Budget revisions were made by the new project management team, mainly to provide equipment to ensure a strong future for the project beyond the HLF funding period. A legacy plan has also been created to outline how the different monitoring and engagement strands of the project will continue within the MFFP programme into the future.

## Communicating Community Science

Sharing and exchanging information about Community Science with a broad range of audiences in an accessible and engaging manner has been highlighted as one of the strengths of the project and remains key to ensuring its sustainability.

Using digital communication tools (social media; blog and e-newsletter) and face-to-face engagement (guided walks; talks; displays and survey training sessions for multiple taxa), Community Science raises awareness of and attracts attention to the importance of the internationally important blanket bog habitat on which MFFP work. Whilst this function alone is valuable, Community Science communications aim to hold people's interest and inspire the decision to take action by volunteering with the project.

### Face-to-face engagement

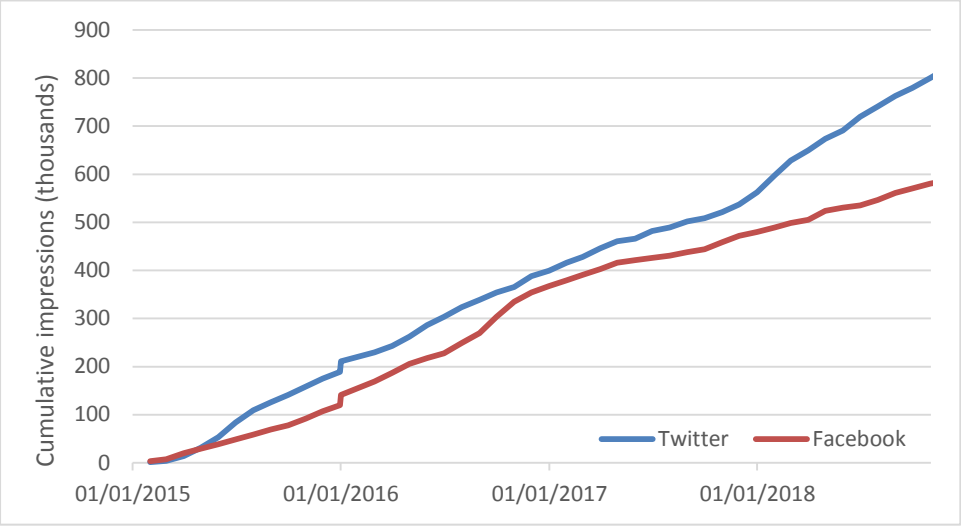
Community Science was represented at 57 local, regional and national events in 2018. These events included: ten meetings with a focus on our Targeted Monitoring surveys; four events to promote Opportunistic surveys; four survey taster sessions; four stands at promotional events and many events in MFFP's new 'Bogtastic' Van, as per the annual project target.

Community Science reached over 1,500 people in 2018, bringing the projects total face-to-face audience reach through engagement events to over 10,100 in the last four years.

### Digital community

Having developed our web presence in 2015 we continue to have a growing online community. We have attracted 1869 *MoorCitizens on social media through Twitter (1149) and Facebook (747). This exceeds the project target of 500 Twitter followers and 500 Facebook followers. *As undoubtedly some individuals will be represented more than once this figure is likely to be a slight overestimate.

Throughout 2018, 222 tweets attracted 4,073 profile visits, 552 retweets and 211 mentions, resulting in 258, 065 impressions (number of times tweets were loaded onto user pages) – a 158% increase from 2017. There has also been a significant increase in the social media cumulative impressions (see graph below).




**Cumulative social media impressions since January 2015**

On Facebook 181 posts had a total user of reach of 66,921 with an average of 11 unique users engaged daily and 747 page likes - exceeding the annual target of 156 posts.

| | |
|---|---|
| **1,149** Twitter followers | ↑ **171** |
| **747** Facebook page likes | ↑ **102** |
| **10,613** Views of Community Science blog | ↑ **2,332** |
| **62,523** Views of Community Science webpage | ↑ **21,275** |

In October 2015 we launched a Community Science blog which generated 1343 Blogger page views in the last three months of that year. This increased to 4,875 by the end of 2016 – nearly double the target of 50 page views per week. This increased to 10,631 in 2018. Community Science created content, guest and external blogs in 2018 included:

- Adventures in the Uplands (12/04/2018) Jay Birmingham Blog
- British Uplands photographic competition winners announced (02/05/2018) - Kirklees TV
- How Community Scientists are caring for Peak District moors (04/07/2018) - Campaign for National Parks
- Community plants `super sponge'' moss on moorland to help tackle flooding (04/08/2018) - Environment Journal

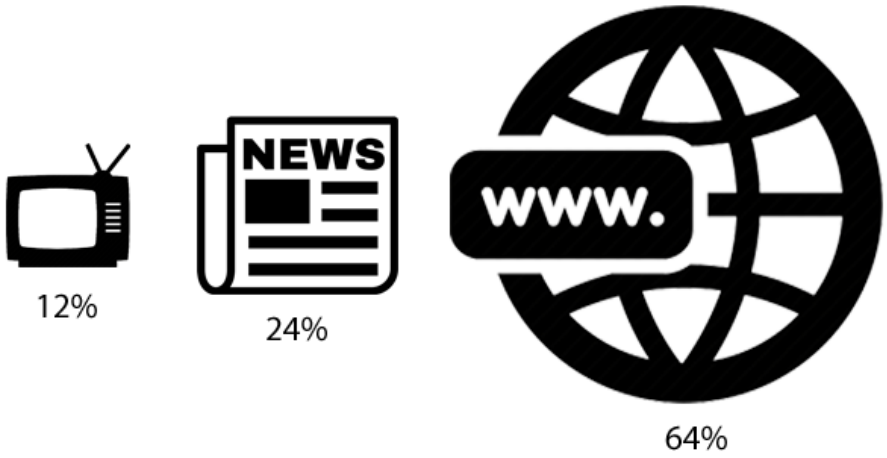
## Community Scientist

Our quarterly newsletter, Community Scientist was launched in 2015. It has proved a good way of feeding back short updates on our survey results to volunteers, which is widely recognised as a key element of volunteer retention, as well as keeping existing and potential volunteers and partners

informed of new opportunities and items of interest. In 2018 due to GDPR regulations, our mailing list figures dropped. However we took the opportunity to update the newsletter style and move to the Mailchimp platform. Summer and Autumn editions of Community Scientist were sent to 555 people of which 61% and 62% opened them respectively, including people in Australia, USA and Japan. 3 – 12 % clicked a link to view content in more detail.

## Media coverage

As a result of press releases inspired by monitoring or engagement events, Community Science achieved a potential audience reach of 12,659,384 this year through 24 television, radio, print and online articles, including two appearances on BBC's Countryfile to discuss mountain hares and *Sphagnum* moss. Since 2015, the start of the Delivery Phase, Community Science's total audience reach through media sources has now extended to a potential 44 million people (far exceeding the annual target of 10,000).




**In 2018, 24 media articles featured Community Science across television, print & online features – the relative coverage of each is shown above.**

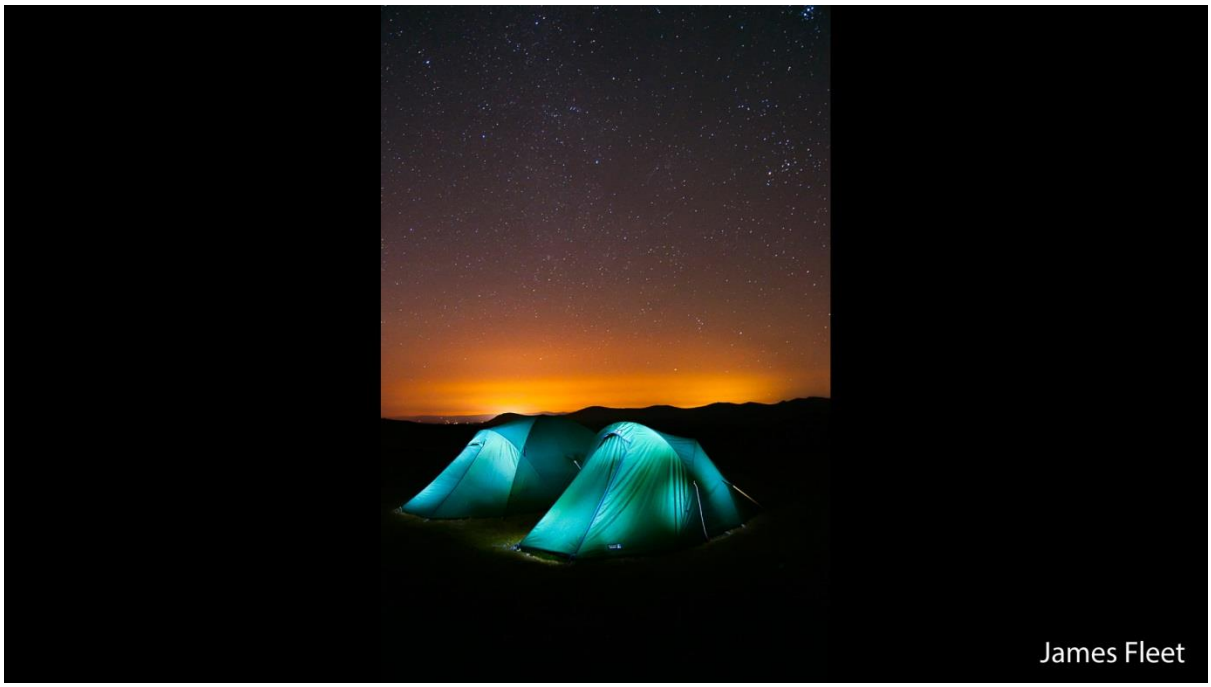
## Annual photo competition

Following on from the success of previous years, 2017 saw the launch of the third Community Science Photo Competition. The competition meets a delivery target whilst maximising on the opportunity to engage new audiences which Moors for the Future Partnership may not otherwise reach. Not only does the competition draw interest from those entering images, it creates significant social media and press coverage. Its audience is extended through subsequent winning and short-listed images being collated into a touring display.

The competition attracted 416 entries (including 48 entries in the '15 and under' category') from 14 different countries. Winners were announced and prizes (donated by several different companies and worth around £700) were awarded in April 2018 at Buxton Adventure Film Festival by renowned photographer John Beatty.

The winning images in each category were:


**Jay Birmingham's winning entry in the 'Adults' category**




**James Fleet's winning entry in the '15 and under' category**

Judges Kate MacRae and Jack Perks commented on Jay Birmingham's winning image: "Such an atmospheric shot! The colour combination of blue sky and purple heather and the rising sun make you just want to get outdoors and have a moorland adventure. I wanted to get into the photo and share the view over those rocks! You can almost feel the chill in the air. I love this image!"

"Timing is everything and this image certainly has everything coming together with the jet lines leading you in to the hiker. The sun bursting through the rock is fantastic along with the late summer heather."

During 2018, the competition exhibition of wining and shortlisted entries visited 9 locations including Halifax Dean Clough Mills Gallery, Castleton National Park Visitor Centre, and Manchester Museum, where it was displayed both physically and digitally.

## Knowledge sharing

Networking with other professionals in the fields of ecology and communications has been an important aspect of learning for the Community Science team, enabling the project to develop to its greatest potential

In 2018, one member of the Community Science team travelled to Estonia to a LIFE+ platform meeting titled 'Volunteering for Nature Conservation'. At the meeting, Community Science was presented to almost 70 representatives of numerous other volunteer projects from countries far and wide within Europe, including Italy, Belgium and Ukraine. The talk was well received and the meeting was a fantastic opportunity to share knowledge about volunteering projects focussed on nature conservation, with topics also discussed including 'Setting up a successful and sustainable network of volunteers', 'Social benefits from volunteering for nature conservation' and 'Citizen science – a new type of volunteering'.

The Community Science team also attended the annual IUCN Peatlands Programme conference which provided an opportunity to network with over 200 professionals working within peatland conservation. Lessons learned from the conference included the need to manage engagement with conservation targets to ensure landscapes are protected and not overexploited as well as new methods of citizen science within a peatland context.

In May 2018, Community Science hosted a visit from a fellow HLF funded project 'Black to Green' which is co-ordinated by Leicestershire and Rutland Wildlife Trust. This visit was an opportunity to share knowledge and experience with a similar 'citizen science' focused project. Their volunteers and staff representatives were provided with a bumblebee survey training session which was also attended by a member of the Pollinating the Peak HLF project run by Bumblebee Conservation Trust (BBCT). Community Science has continued to represent MFFP on the steering group of this project throughout 2018.

A quote from one of the Black to Green visitors after their bumblebee training visit:

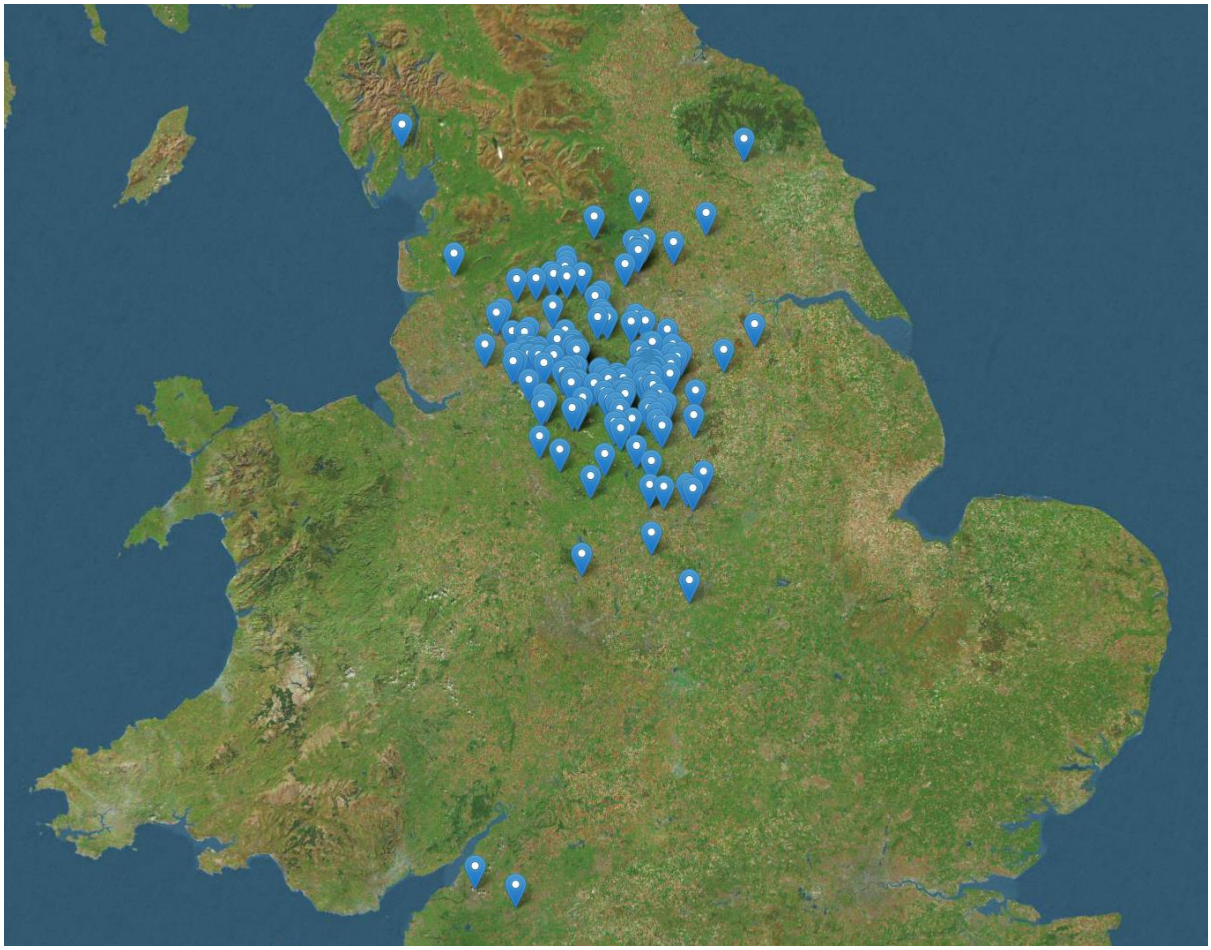
***"…It really was an absolutely fantastic day and I'm pretty sure everyone felt the same."***

In 2018, Community Science continued to work closely with other local organisations including Sheffield Wildlife Trust, whose 'State of Nature' report we fed into with species records from both our Opportunistic and Targeted Monitoring surveys.

## Volunteer participation

Over the last 12 months the Community Science team has continued to engage with new audiences as described in the section above, but a greater focus has been placed on supporting existing volunteers to ensure that participation in the surveys and environmental monitoring continues beyond the end of the HLF funded phase of the project.

The map below shows the wide spread of registered volunteer home addresses which we are now able to map thanks to the introduction of the new volunteer management system 'Better Impact'. As can be seen, the majority of our volunteers live in close proximity to the Peak District National Park or South Pennines, with clusters existing around the major cities of Sheffield and Manchester.



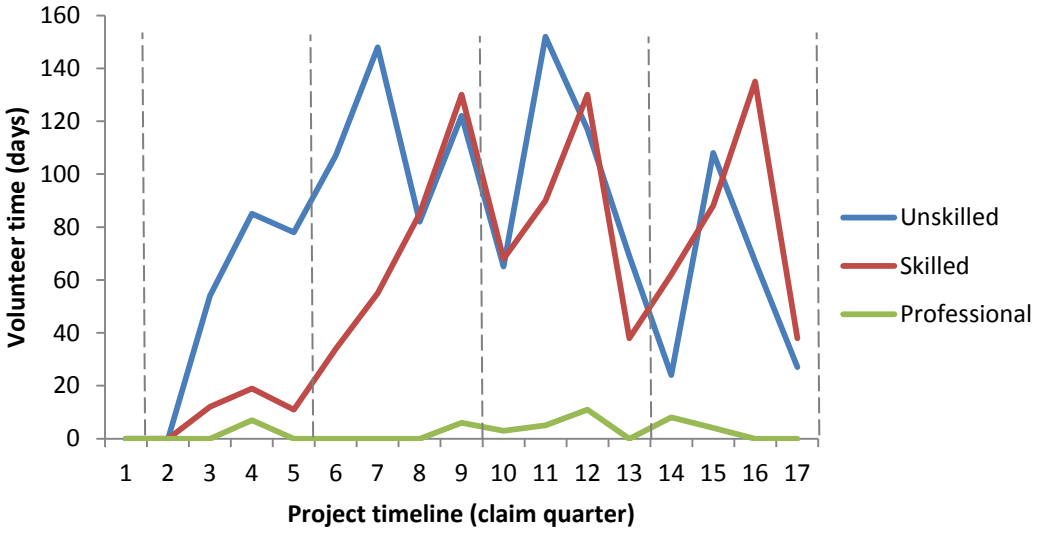
**Registered volunteer home post codes**

During 2018, volunteers have given 4,329 hours (618 working days) of their time to the project, taking the total number of hours given since January 2015 to 17,153, equivalent to 2,450 working days (based on a 7 hour working day).

The project target for volunteer participation was set at £171,050 financial equivalent of volunteer time. This financial equivalent of volunteer time is based on the assignment of volunteer tasks to 'unskilled', 'skilled' and 'professional' categories with the categories being worth £50/day, £150/day or £300/day respectively.

The category of 'unskilled' relates to activities that do not require prior training, for example submitting a wildlife sighting to the opportunistic monitoring surveys; examples of 'skilled' tasks are taking part in environmental monitoring activities or completing targeted monitoring surveys – tasks that require training before they can be conducted; the 'professional' category is assigned to activities such as providing expert advice, being a guest speaker or producing GIS maps for reporting purposes.

As the project target for volunteer participation was reached in December 2017, all the volunteering time dedicated to the project in 2018 has represented 'added value' with this added value being worth the equivalent of £63,944. The chart below shows how volunteer participation has varied within the categories throughout the duration of the project. The winter months show reduced activity corresponding with the survey season of many of our target species coming to an end.




**Volunteer time through the duration of the project as split by categories 'unskilled', 'skilled' and 'professional' (Dashed lines mark the beginning/end of calendar years)**

## Accessibility and inclusion

In addition to engaging visitors and local communities who may be familiar with exploring the green spaces of the Peak District and South Pennines, an essential outcome of the project is to inspire and engage individuals and groups for whom moorlands and their wildlife may be a new experience. In doing so we not only increase the audience we are able to raise awareness of moorland conservation to but are also providing opportunities for all volunteers to be physically active; connect with people; be more aware of their surroundings; learn new things and be part of a community that is helping out in a big way – all of which contribute to personal health and well-being.

Young people under the age of 25 are underrepresented in their access to green space. In 2018 Community Science again led the Moorland Indicators of Climate Change Initiative (MICCI) – 'a UK-wide project that has been developed to give secondary school students the opportunity to take part in real world climate science – helping to make concepts learned in the classroom come to life' (http://www.nationalparks.gov.uk/students/micci-project ).

MICCI was initially set-up by the Peak District National Park Authority's Learning and Discovery team, with Moors for the Future Partnership providing the Science advice and support. In 2017, with funding from National Parks UK and working with the PDNPA Learning and Discovery team, Community Science revised the methodology to refresh the activities, learning objectives and equipment use. Twelve MICCI sites were incorporated into Community Science Environmental Monitoring system, meeting several of our HLF deliverables.

During 2018, despite British Science Week being severely affected by the freezing weather conditions during 'the Beast from the East', in the Peak District, 46 Youth Rangers and school students explored their local moorlands and learnt how to monitor indicators of climate change. MICCI was again conducted by schools in the North York Moors National Park.

Data from additional Community Science Environmental Monitoring sites give context to MICCI data – which represents a snapshot of environmental conditions at specific moorland sites. Data collected included wildlife sightings, vegetation monitoring, peat depth measurements, weather recording and blowing bubbles to measure the water table.


2018 saw the third year of our monthly Creative Conservation programme developed with CRISIS's South Yorkshire Skylight centre team. The course mixed Community Science surveys with art activities, and to date 28 monthly 'moorland trips' have been run, and 171 visits have been made my members from Sheffield, Rotherham, Doncaster and Barnsley, many of whom have never accessed the green spaces in the National Park at all. One Crisis member, arriving at Brunt's Barn in Grindleford for a bumblebee survey training session: ***"I didn't get the memo that we were coming to heaven"***. Through creative conservation, 9 Crisis members achieved a Certa qualification in Data Handling and Walk Planning

From 2019, the Creative Conservation course will continue, but will be supported by National Park Rangers, rather than Moors for the Future Staff members. To support this transition Community Science funding has been used to purchase additional outdoor clothing and boots to help remove this potential barrier for Crisis members' attendance.

## Science: Moorland monitoring

2017 saw the introduction of the final round of new surveys to be delivered within Community Science so the focus in 2018 was to ensure a lasting legacy for all the surveys developed throughout the life of the project.

We continued to share our data with partners and other organisations including Derbyshire Amphibian and Reptile Group (DARG), Butterfly Conservation (BC), Bumblebee Conservation Trust (BBCT), National Trust (NT) and Eastern Moors Partnership (EMP).

Stockholm Environment Institute (SEI) performed the first round of analysis on all of the data collected from 2015-2017 and produced a report which was shared with volunteers and partners in

May 2018. This document is available on the Community Science website at http://www.moorsforthefuture.org.uk/community-science/newsletter.

Data collection has continued with volunteers throughout 2018 and Environmental Monitoring manuals covering fieldwork, data input and processing and analysis have been created along with survey manuals for all OM and TM surveys to ensure that all aspects of each monitoring strand can continue into the future.

The following sections provide brief summaries of the monitoring undertaken in 2018 for each of the monitoring strands.

## Opportunistic Monitoring (OM)

Community Science's OM surveys are designed to enable anyone to engage with wildlife recording of species either indicative of upland habitats or a changing climate, or both. The OM surveys are as follows (with the target species in brackets):

- Bird Survey (red grouse, curlew, swallow)
- Butterfly Survey (orange-tip, peacock, green hairstreak)
- Hare Survey (mountain hare, brown hare, rabbit)
- Ring Ouzel & Redwing Survey
- Scales & Warts Survey (adder, common lizard, common toad)

The simple survey methodology of 'see it, record it' is easily accessible and provides information on broad ecological patterns including the distribution of species and timing of natural events including bird migration and coat colour change in mountain hares.

Since 2015, 11,745 individual animals have been recorded through 3,985 record submissions, with 891 of these being submitted in 2018. The associated HLF target was for 100 records to be received in 2015 (the first year of the delivery phase of the project) with this target then doubling each year resulting in an expectation of 800 records being received in 2018. This target was therefore exceeded.

14,332 OM postcards were distributed in 2018, which exceeded the annual target of 5,000. This brings the total number of OM postcards distributed since the start of the Delivery Phase (2015) to approximately 67,000.

Throughout 2018 Community Science expanded its audience reach both inside and outside the National Park through the distribution of OM postcards, with these being distributed at the same locations as were used in 2017 alongside other, new locations and events. Postcards will continue to be distributed at events attended by MFFP and will be a primary call to action for people visiting the MoorLIFE2020 Bogtastic van as that visits events, towns and cities within and surrounding the Peak

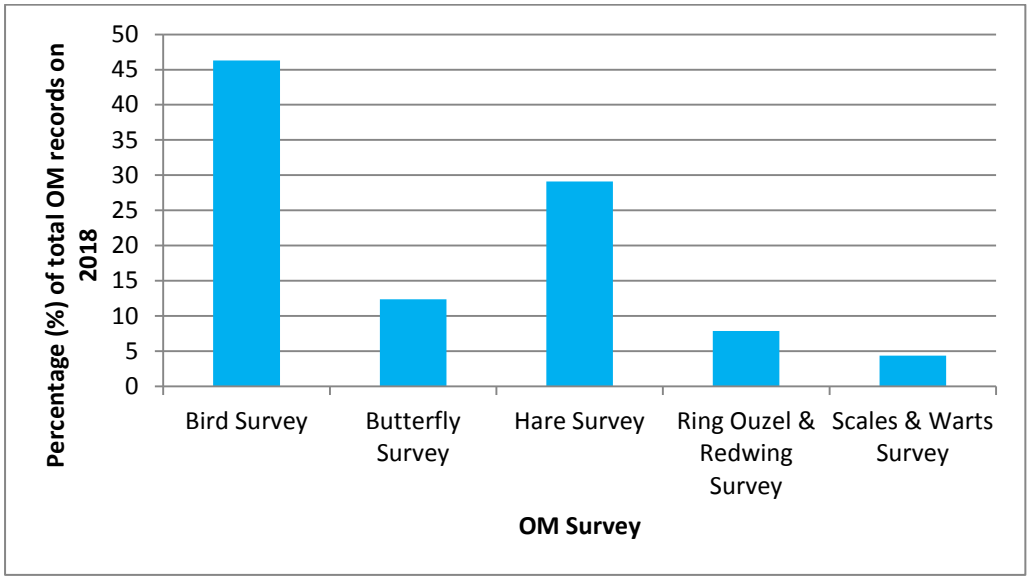
District and South Pennine moorlands. The Eastern Moors Partnership will also be taking on the distribution of postcards within the area they manage on the eastern side of the National Park with new leaflet holders being installed at several car parks for this purpose.

The response rate for OM surveys in 2018, based on the total number of records submitted through all channels (891) divided by the total number of survey cards distributed (14,332), was 6.2%, slightly over the project average of 5.9% (based on 3,985 records from 67,000 postcards distributed). The HLF target of between 1 -10% has been achieved annually and for the project as a whole.

There are three different methods for members of the public to submit sightings to the OM surveys:

- Returning the Freepost survey cards
- Using the recording function on the MoorWILD app
- Submitting records directly to the Community Science iRecord page (https://www.brc.ac.uk/irecord/moors-for-the-future)

All three of the above methods have contributed to the total records received in 2018. In 2018, the OM survey that generated the most records was the Bird Survey, followed by the Hare Survey and then the Butterfly Survey. The Ring Ouzel and Redwing Survey along with the Scales and Warts Survey generated the fewest records but this is to be expected as the targets of those surveys have a less general distribution, meaning they are likely to be encountered less often.




**Percentage contribution of each OM survey to the total number of OM records in 2018**

## Bird Survey

416 records were submitted to the bird survey in 2018. 190 of these were of curlew, 100 were of red grouse and 126 were of swallows. This annual total is the highest since the Bird Survey was launched in 2013.

As well as giving us an idea of the distribution of these species within the project area, we can also

look at the timings of migration of two of the target species – curlew and swallows. The first record of swallows submitted to the survey in 2018 was dated 8th April, over a week later than last years' first arrivals. The first curlews reported in the project area in 2018 were observed on 21st February, two and half weeks later than the first arrivals in 2017. The harsh spring in 2018 may account for the apparent later arrival of these birds. Red grouse were recorded all year round as expected.

### Butterfly Survey

111 records were submitted to the butterfly survey in 2018. 44 of these were of peacocks, 40 were of orange-tips and 27 were of green hairstreaks.

As well as giving us an idea of the distribution of these species within the project area, we can also look at the timings of emergence of two of the target species that do not over-winter as adults – orange-tip and green hairstreak. The first record of an orange-tip submitted to the survey in 2018 was dated 23rd April, over three weeks later than last years' first orange-tip record. The first green hairstreak reported in the project area in 2018 was observed on 3rd May, two weeks later than the first of 2017. The harsh spring in 2018 may account for the apparent later emergence of these butterflies. Peacocks which can fly at almost any time of the year were seen as early as March and as late as September.

The 2018 records from the Butterfly Survey will be sent to the Derbyshire County Recorder in early 2019 for verification and the verified records will then feed in to the national dataset held by Butterfly Conservation.

### Hare Survey

251 records were submitted to the hare survey in 2018. 106 of these were of mountain hares, 115 were of brown hares and 30 were of rabbits.

The hare survey was featured on BBC Countryfile during their Easter Sunday edition of the show.

### Ring Ouzel & Redwing Survey

67 records were submitted to the Ring Ouzel & redwing Survey in 2018. 56 of these were of ring ouzels and 11 were of redwings.

As well as giving us an idea of the distribution of these species within the project area, we can also look at the timing of ring ouzels returning to their breeding grounds in the uplands of the Peak District. The first ring ouzel spotted as part

of the survey in 2018 was observed on 28th March, roughly two weeks later than in 2017.

As in previous years, the sightings to the survey were passed to the EMP which manages much of the prime ring ouzel breeding habitat in the Peak District. EMP promotes the survey on social media as well as at their car parks and events to increase awareness of ring ouzel conservation.

### Scales and Warts Survey

46 records were submitted to the Scales & Warts Survey in 2018. 26 of these were of common lizards, 4 were of adders and 16 were of common toads.

After 100 records were received in the launch year of the survey (2017), 2018's numbers represent a drop in records submitted of over 50%. The reduction in the number of records submitted to this survey may be a result of reduced awareness this year as the survey was more highly publicised in 2017 as the launch was held and was attended by many people. This potential reduction in interest for the survey highlights the need of continual promotion to ensure records continue to be submitted.

## Targeted Monitoring (TM)

The CSP Targeted Monitoring surveys are more scientifically robust than the OM surveys described above as the methods have been designed to collect information in a standardised way, allowing for a greater breadth of analysis to be performed on the resulting datasets. As the method for each survey requires more than just recording the target species as and when they are seen, as in the OM surveys, training has always been provided for people wishing to take part in these more complex surveys. 2018 saw a shift away from formal, seated training events to more one-to-one sessions led by some of the most experienced survey volunteers. This method of training will be continued beyond 2018 as staff capacity on the project is reduced after HLF funding comes to an end. The OM surveys are as follows (with the target species in brackets):

- Bumblebee Survey (bilberry, tree, red-tailed bumblebees)
- Sphagnum Survey: The Big Moss Map (*Sphagnum* moss – not to species level)
- Buds, Berries & Leaves Survey (heather, bilberry, crowberry, rowan – focus on phenology)
- Tails of the Uplands Survey (otter, water vole, mink)

Each of these surveys rely upon repeat visits by volunteers at varying frequencies to either fixed points or transects, allowing information such as the timing of events and abundance to be calculated rather than just general distribution.

During 2018 we have produced detailed transect packs with maps and guides for all of the transects used in the Bumblebee Survey and Buds, Berries & Leaves Survey, therefore making it easier for volunteers to choose and locate a survey location.

### Bumblebee Survey

The bumblebee survey and the associated training sessions continued to prove popular throughout 2018, with more surveys being submitted for bumblebees than for any other TM survey this year. Anecdotal evidence suggests that this survey is so popular because people see bumblebees as very charismatic creatures and the profile of bee conservation as a whole has been on the increase over the last few years.

During 2018:

- 120 volunteers attended eight bumblebee survey training sessions
- 172 transects were surveyed between March and October
- 1239 bumblebees were observed in total. Of these, 180 individuals of our three target species were seen (28 bilberry; 45 tree; 107 red-tailed)

This year, three new transects have been setup with/by volunteers. One was setup at the most northerly part of the project area near Ilkley with 'Friends of Ilkley Moor' through their HLF funded 'Nature for All' project. The other two new transects were setup by independent volunteers who wished to survey their local moorlands at Shatton Moor and Baslow Edge.

### *Sphagnum* Survey: The Big Moss Map

*Sphagnum* moss, being a key group of bog-building plants, was chosen back in 2015 as a perfect candidate to be the subject of a TM survey. As it is a difficult group of plants to identify to species level, 'The Big Moss Map' survey was designed to focus on the distribution of the *Sphagnum* genus across the project area rather than being the focus of a species level study. This simple survey design allowed for greater uptake from less experienced members of the public, thereby increasing awareness while still creating a useful dataset.

During 2018:

- 73 people attended five *Sphagnum* survey training sessions
- 76 separate survey routes were submitted

- Volunteers walked a total of 88.4 km surveying *Sphagnum*
- 433 patches of *Sphagnum* were recorded

The system of dividing the project area into 'squares' that volunteers could then adopt as their own survey areas – first rolled out in 2016 – continued to show success.

### Buds, Berries & Leaves Survey

The Buds, Berries & Leaves survey, introduced in 2016, is designed to capture the occurrence of natural events such as the opening of leaves and flowers or the ripening of berries, to see if the timing of these events is shifting as the climate changes.

During 2018:

- One new volunteer was trained during a one to one session with one of our most experienced Buds, Berries & Leaves surveyors
- Volunteers walked 116 transects throughout the year
- These surveys totalled a distance of 137.9km

### Tails of the Uplands Survey

This survey, focussing on the tracks and signs of otters, water voles and mink was launched in 2017. The initial plan was for a two-pronged approach to surveying, with points being monitored for otter and mink signs and transects being performed in upland habitats for water voles, based on the methodology used by the People's Trust for Endangered Species (PTES).

Unfortunately, due to logistical reasons, the water vole transect monitoring proved unfeasible and so the monitoring strategy was changed to focus solely on fixed points where signs of all three mammal species could be recorded. Many of these points were adopted from the Environment Agencies (EA) previous National otter surveys and others have been setup by volunteers with assistance from the CSP team. Some of the points included are also focussed on a mammal raft which is designed to pick up the footprints of animals walking over a clay pad embedded in it.

During 2018:

- 14 volunteers attended two training sessions, one of which was led by one of our experienced volunteers

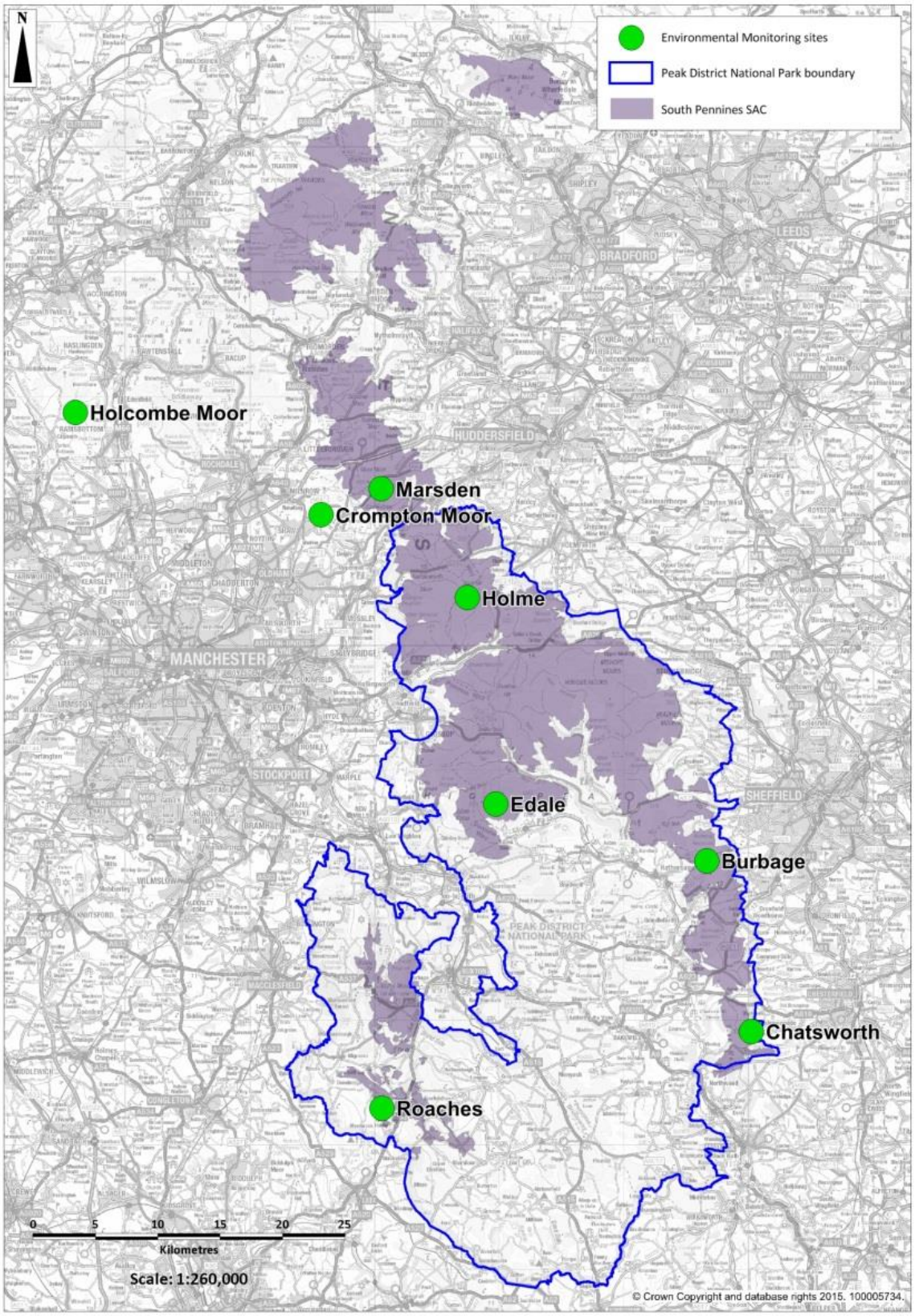
- Volunteers carried out 132 surveys
- Potential positive otter signs were identified on 25 occasions and water vole signs were spotted on 47 occasions.
- Five new mammal rafts were launched, with one of these picking up the presence of mink

The remaining mammal rafts that were constructed by Peak Park Conservation Volunteer's 'Fit for Work' programme back in 2017 will be made available to partners and other organisations to deploy in areas that they identify.

## Environmental Monitoring (EM)

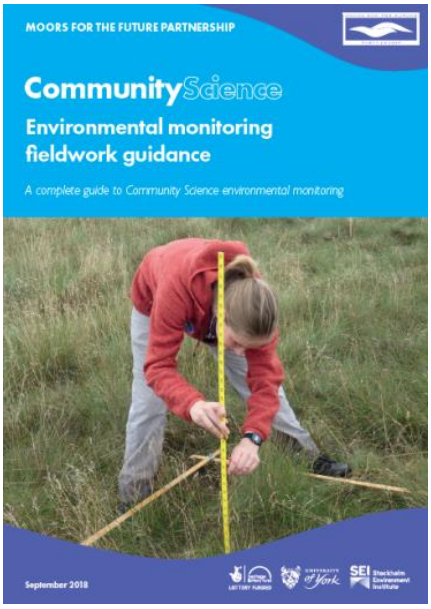
2018 saw the installation of the final two sites in a network of nine EM sites spread throughout the Peak District, South Pennines and West Pennine moors. The final two EM sites added this year differ from the seven installed between 2013 and 2017 in that they will only be monitored for vegetation instead of a full suite of environmental monitoring and they are both located close together on Crompton Moor. The electronic equipment present at the other sites – such as rain gauges, automatic water table loggers and air and humidity sensors – has not been installed. The reasoning for this decision is that the moor in question is closer to urban areas than the other sites and is heavily used meaning the equipment would be much more visible to people and would be at greater risk of theft or vandalism.

The reason why the two new EM sites are located so close together is because there is a different focus on the monitoring objectives at Crompton Moor. City of Trees, based in Manchester, secured some funding to plant *Sphagnum* moss on the moor to help it become wetter with the hope that it may potentially help reduce flood risk further downstream. The CSP team were approached to assist with a monitoring set-up to help understand the success of this *Sphagnum* planting. One of the two monitoring sites has been planted with *Sphagnum* moss plugs while the other has not been treated and will therefore be acting as a control site. This setup will allow the local Friends of Crompton Moor group (who we have trained in vegetation surveying) to assess how successful *Sphagnum* planting on the moor has been and whether it could be rolled out on a larger scale to make the moor more resilient. The map below shows the geographical distribution of the monitoring sites including the new ones at Crompton Moor which lie outside of the South Pennine Moors Special Area of Conservation (highlighted in purple).



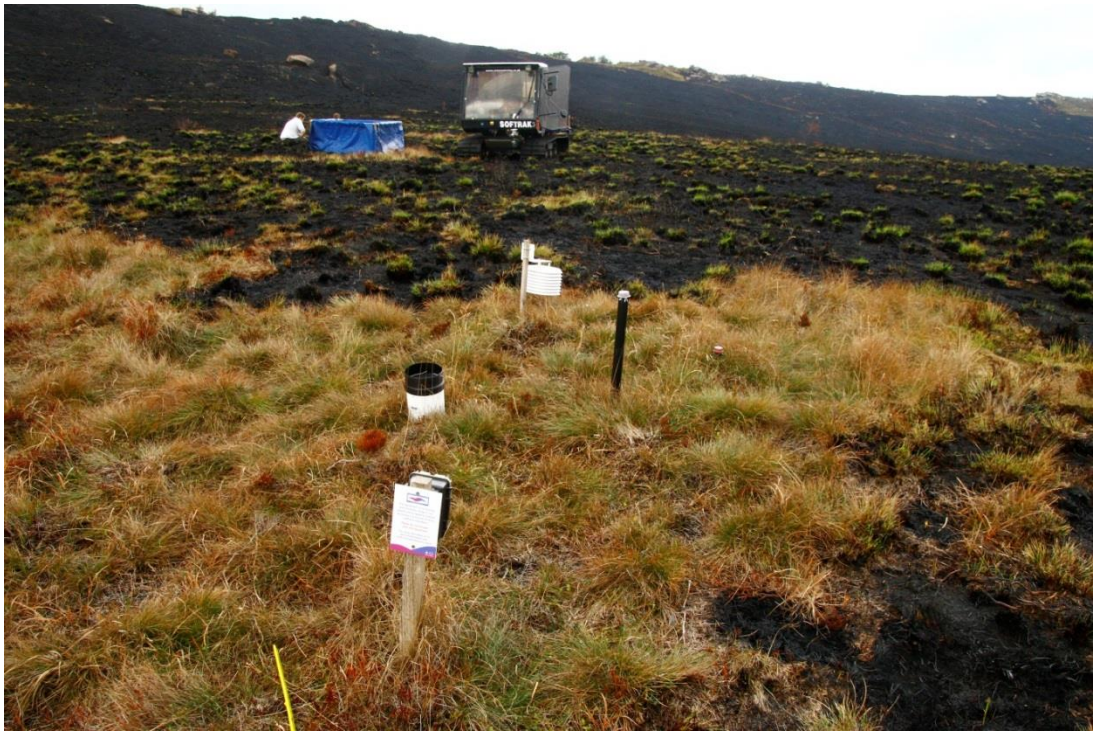

**A map of the locations of EM sites spread throughout the project area**

The seven sites that were already setup before 2018 have continued to be monitored for vegetation in summer and on a monthly basis by groups of volunteers, some of which are pre-existing volunteer groups, such as at National Trust Marsden Moor and others that are exclusively CSP volunteers. These groups are now equipped to continue with monitoring and upkeep of their adopted sites beyond the end of the HLF funding. Structures have also been put in place by the CSP team at MFFP to ensure the data is regularly processed and kept up to date so any interested volunteers can perform analysis of the data at the end of each calendar year. Guidance documents for fieldwork, data input and processing and data analysis are all available for volunteers to use to ensure that every step of environmental monitoring can continue with minimal staff input.




A major fire at the Roaches in August swept through the monitoring site located there two days after the vegetation surveying had been completed by volunteers. The site is now of international importance due to the rarity of baseline data for sites affected by wildfire and future monitoring will allow us to understand the recovery of this moorland area. The image below shows the flames of the fire as it swept by the monitoring equipment. Fortunately, the automated data loggers on the site were unscathed by the fire as it passed by the wetter area that they are located on, leaving an island of green vegetation as shown in the second image below.


**Roaches EM site during the summer fire of 2018**



**Roaches EM site centre, a miraculous escape for the monitoring equipment!**

Replacement dipwells and quadrat markers were quickly installed in place of those melted by the fire and dedicated volunteers returned to the site to do a fresh round of vegetation surveying, providing us with valuable data on the site's road to recovery.

## Legacy strategy update

Building on 2017's evaluation of the project, work in 2018 focussed on implementing improvements to communication, engagement and monitoring elements of Community Science; strengthening and increasing sustainability of the volunteer network, long term wildlife surveying and environmental monitoring.

Survey methodologies and data submission processes have accordingly been updated and streamlined, and full guidance documents have been completed. The Community Science web pages on the MFFP website have been refreshed and will be transferred over to the new MFFP website when it goes live in 2019. This should help to ensure the longevity of Community Science's online presence.

In addition, a legacy strategy document outlining the planned future of each project strand has been produced, and recommendations made have been put in place to help ensure that the project is able to achieve its long term aims.

## HLF Approved purposes

| HLF Approved purposes | Summary of progress in the first year of delivery – 2016. | Percentage complete |
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| Set up the project management structure and recruit appropriately skilled project team members to deliver the project. Ensure timely support and management of the team. | Project management structure established and strong project team now in place until the end of the funding period. Additional regular casual staff were recruited to provide additional capacity. | 100 |
| Establish a pool of volunteers that are trained and supported through the life of the project and beyond. Additionally identify 'Super volunteers' to support other volunteers and work with Project staff. | Volunteers contributed 2450 working days of their time over the course of the project undertaking a suite of activities including: 43.19 days of 'Professional', 1036.13 days of 'Skilled' and 1371.08 days of 'Unskilled' activities. The project total for volunteer time was reached in 2017, meaning an additional £63,944 of value has been added to date. The new volunteer management system (Better Impact) is in full use and volunteer group committees have been set up on the system to allow EM volunteers to communicate more efficiently. Volunteer inductions have welcomed 25 new volunteers during the final quarter of the project and we continue to support Wildlife Survey Training volunteers ('Super volunteers') to train others. Environmental monitoring volunteers have been trained in kit maintenance and data handling and are now taking responsibility for these tasks with minimal staff input. Survey manuals for both OM and TM surveys and EM guidance have been produced to ensure the longevity of these monitoring strands. | 100 |
| Identify and establish Environmental Monitoring on the Moors on 6 sites plus 2 sites in reserve. | During the course of the project, a total of nine Environmental Monitoring sites have been setup and all are now being monitored monthly by volunteers (Crompton Moor and its associated Sphagnum planting trial site are monitored annually for vegetation only). The sites are as follows: Edale, Holme, Marsden, Burbage, Roaches, Chatsworth, Holcombe Moor, Crompton Moor and Crompton Sphagnum. Seasonal vegetation surveys have taken place at all sites each year (where sites were established) with a total of 790 quadrats surveyed to date. Over 5000 hours has been dedicated by 195 hard-working volunteers at these EM sites, collecting over 2500 electronic data files and 2740 manual dipwell measurements. Peat depth surveys have been conducted at all appropriate monitoring sites and new monitoring equipment including wildlife camera traps and air temperature and humidity loggers have been added to the original equipment at each site. After a devastating fire on our Roaches EM site, replacement kit as needed has been installed | 100 |

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| | by volunteers, and additional vegetation surveys have been undertaken and time-lapse cameras installed so that the site regeneration can be monitored. This site is now one of potentially global importance. | |
| Work with groups using the moorland and establish Targeted Monitoring. | Volunteers spent 371.7 working days of their time over the course of the project undertaking 1708 TM surveys including: 863 bumblebee and 406 Buds, Berries and Leaves transects, 248 Sphagnum routes and 191 Tails of the Uplands points. We have delivered bumblebee and Sphagnum training to the MoorLIFE2020 youth engagement officer so that these surveys can be incorporated into junior ranger activities within the MoorLIFE2020 project beyond the end of the funding period. As the project progressed, training gradually shifted away from group training sessions led by staff, to a volunteer led one-to-one mentoring system where training takes place in the field. At the time of writing the number of volunteer mentors stands at: Bumblebee Survey (12), Buds, Berries and Leaves (4), The Big Moss Map (7) and Tails of the Uplands (4). We have worked with many different moorland user groups including National Trust and Wildlife Trust volunteers, staff from the Environment Agency and Defra, Friends of groups (e.g. Crompton & Ilkley Moors), University conservation groups (e.g. Sheffield, Manchester, Bournemouth, Salford & Derby) as well as members of the general public. | 100 |
| Create and deliver Opportunistic Surveys for tourists and day visitors. | Approximately 67,000 OM postcards have been distributed throughout the duration of the project at static locations and events. Please see attached Events log.pdf for more details of events. 3985 OM records have been submitted in total from across the five different surveys taking the project total of individual animals recorded to almost 12,000. To accompany the postcards we developed the pre-existing MoorWILD app (available on Apple iOS and Android) to allow recording of our OM target species. The overall return rate (record received from postcards distributed) from 2015 to 2018 is 5.3%. The annual target number of records was exceeded in all years - by an average of 363%. | 100 |
| Work with partners to deliver the project and enable the sharing of data. For example the Stockholm Environmental Institute at York University, Landowners, Environment Agency, Utilities and others. | We have worked closely with several partners for the duration of the project, including using National Trust and United Utilities/RSPB land for environmental monitoring sites. The steering group consisted of staff members from each of our partners and was instrumental in providing clear direction for the project. Surveys were developed in close collaboration with Stockholm Environment Institute (SEI) and in early 2018 the first round of data analysis was performed by SEI along with instructions to ensure future analysis can be completed by interested volunteers. Throughout the project, the data has been available to partners and other organisations. Examples of when this data has been shared include: Potential otter presence recorded through the Tails of the Uplands survey was shared with Joint Nature Conservation Committee (JNCC) for their statutory reporting to the European Union; Information collected from the hare survey was shared with a PhD student | 100 |

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| | to feed into their research on mammal seasonal crypsis; Data from the scales and warts, butterfly and ring ouzel surveys has been shared with various organisations such as Eastern Moors Partnership, who are responsible for managing a large area moorland on the eastern edge of the Peak District, Butterfly Conservation to feed into their UK wide recording as well as Derbyshire Amphibian and Reptile Group; Sheffield Wildlife Trust used data from Community Science wildlife surveys to feed into their 'State of Nature' report in 2018; Bumblebee Conservation Trust have direct access to bumblebee records so they can be fed into the national Bee Walk programme; All species data has been passed to National Trust High Peak and RSPB Dove Stone to feed into their management plans; Students from University of Salford based their group project around species data from the OM surveys; Data from rainfall gauges at Community Science environmental monitoring sites has been shared with Peak District Raptor Monitoring Group to feed into their studies on merlin breeding success. Contact has been made with an academic at the University of Exeter studying fire sites regarding the use of the Roaches EM site data and there is potential for this data to now be included in a student project. The two Crompton Moor sites (Sphagnum treatment and control) will be used to inform land management and potential widespread Sphagnum planting across the moor by City of Trees/Oldham Council. | |