



SOUTH WEST PEAK
LANDSCAPE AT A CROSSROADS



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SOUTH WEST PEAK LANDSCAPE PARTNERSHIP

FINAL PROJECT REPORT

Name of Project	Glorious Grasslands
Delivery Partner	Peak District National Park Authority (PDNPA)
Name of Person Completing Report	Ann Cantrell & Karen Shelley-Jones
Start Date of Project	March 2017
End Date of Project	December 2021
Date of Report	May 2022



Aims and Objectives of the Project

The aim of this project was to enhance ecological connectivity in a 'landscape within a landscape' of species-rich grasslands. The prime purpose was to promote and secure good management and seek opportunities to enhance and restore grasslands, protect existing natural heritage, and expand the resource over a larger area, thereby making a more robust landscape of grasslands which would benefit a range of species, support ecosystem services and increase resilience against climate change. This would be achieved by:

- promoting good environmental management
- enhancing and restoring priority grasslands
- protecting existing natural heritage

- expanding the resource over a larger area
- building understanding of, and passion for, these glorious grasslands

The project focused on three key areas in the landscape where existing species-rich grassland clusters had been identified and where there was scope to strengthen this resource. The three target areas, shown in Appendix 1, were:

- Around the Warslow Moors Estate in the south of the project area
- Brand Top in the centre of the project area
- Cheshire Local Wildlife Sites in the north-west

Engagement with farmers, land managers, landowners and the local community would be through survey, management advice, practical enhancement works, support to access grants for conservation management, training and celebration events.

Bespoke farm plans would be developed for key holdings, such as flagship farms which have a good grassland resource. The plans would be user-friendly and eye catching and aim to engender a sense of pride and custodianship for species-rich grasslands.

The project set out to identify and establish management guidelines for important sites that could be used more widely beyond the project area. Innovative guidelines for the identification and management of waxcap grasslands would also be developed.

Project Delivery

The project was delivered by a team of people working together to deliver a range of activities including landowner liaison; hay meadow survey and report writing; waxcap grassland survey and report writing; hay meadow restoration with contractors and volunteers; walks, talks and films; training and celebration events.

Staff resource

The project was led by the Peak District National Park Authority (PDNPA), employing a part-time Project Officer for three days a week for a period of five years. Cheshire Wildlife Trust was also a delivery partner, completing site surveys in the Cheshire part of the project area and delivering some capital works such as brush harvesting of hay meadow seed and plug planting.

Budget resource

The initial project budget was set at £322,582 with a further £35,750 in-kind and volunteer contributions expected. The budget was revised to £294,000 as part of a whole programme budget review at the beginning of 2021. The resulting budget was divided as follows:

Capital costs (conservation work, contractors fees, management agreements, equipment) = £122,686
 Activity costs (staff costs, volunteer costs, equipment, consultants) = £170,680
 Other costs (recruitment and publicity) = £634

The project was funded by National Lottery Heritage Fund and the Esmée Fairbairn Foundation, with smaller grants from The Mercer's Company and Penny Anderson Associates.

Partnership working

The planning and delivery of the project was only made possible by collaboration and partnership working. The project was supported by a steering group comprised of representatives from partner organisations – Natural England, PDNPA, Cheshire Wildlife Trust, and Penny Anderson representing Nature Peak District.

Supporting resource was provided by PDNPA farm advisors who put together National Park Grant Scheme agreements and de minimis agreements with the landowners to ensure long-term management of the grasslands involved. The LPS Farm Link Workers were essential in liaising with landowners and contractors to identify survey and donor site and manage logistics.

Other SWPLPS team members provided further support to the project, particularly the Future Custodians project with 6 Countryside Worker apprentices participating in hay meadow surveys, data entry and restoration work.

The bulk of the waxcap grassland element of this project was managed by the SWPLPS Scheme Manager to increase capacity.

Volunteers

Volunteer involvement was much greater than initially planned and was a fundamental part of the delivery of this project. A range of volunteers participated, with 85 different people participating over the five years of the project. A core team of 15 volunteers regularly volunteered on activities including: grassland training sessions, hay meadow survey and monitoring, 'waxcap grassland' scoping and survey, hand harvesting of wildflower seed, seed sorting, creating plots and sowing seed, growing and planting plug plants. Overall 445 days of unskilled, skilled and professional volunteer time were given, valued at £52,800.

Consultants and contractors

Delivery of specialist elements of the project was carried out by a number of contractors, these were appointed in accordance with agreed procurement procedures.

For hay meadow restoration works of brush harvesting, green hay collection and spreading, and ground preparation local contractors were used, largely coordinated by the Farm Link Workers.

Grassland fungi training and surveys involved 3 different local mycologists – Jeanette Maddy, Rob Foster and Neil Barden, with Neil Barden appointed for the bulk of the survey work between 2019 and 2021. As this element of the project progressed, thanks to funding from the Esmée Fairbairn Foundation, we expanded the remit to include eDNA analysis of soil samples and appointed Gareth Griffith, chair of mycology, and Andrew Detheridge, researcher, at Aberystwyth University to extract and analyse the data.

A volunteers coordinator was contracted for the summer periods in 2019 and 2020 to support volunteer activities, which was extremely effective and helped to bind together a dedicated team of volunteers.

What Has Been Achieved

Outputs

Table 1. The intended and achieved outputs from the project

Intended Output	Delivered Output
150 ha grassland sites surveyed and assessed	262 ha botanical sites surveyed 1378 ha grassland fungi sites surveyed
300 ha targeted survey and assessment of Cheshire Local Wildlife Sites.	146 ha botanical sites surveyed by CWT 43 ha grassland fungi sites surveyed by CWT
Map of grassland resource linked to survey data	Map of grassland survey data created in Earthlight GIS and added to BAP and non-BAP habitat data held by the PDNPA. Priority habitat data will be provided to the NE Priority Habitat Inventory.
450 ha - grassland survey report produced and results and the importance/value discussed with farmers, land managers and landowners.	Management reports on 1480 ha have been produced and shared with land managers.
Long-term management regimes initiated.	Long term management has been initiated on 21 sites.
Follow up monitoring visits undertaken during the life of the project and support and advice provided for farmers.	78 ha of grassland including recipient and donor sites have been monitored.
20 farm plans produced for key flagship sites (affiliated to wader farm plans)	13 flagship reports produced along with 62 other survey reports for plant and fungi surveys, all of high quality.
50 hay meadows sites (50 ha) enhanced - seed spreading (green hay, hand spreading, machine seed harvesting and spreading etc.)	61 ha received local wildflower seed using green hay, brush harvested seed or hand collected and/or plug plants.
1 new Cheshire Local Wildlife Site identified	5 new sites have been identified, 3 of which have been designated.
Traditional boundaries restored to support conservation land management.	Another LPS project (Future Farmscapes) funded fencing to protect one important hay meadow and waxcap fungi site from livestock encroachment
50 sites (fields) supported to access agri-environment support – national and local	49 fields were helped to enter into Countryside Stewardship or the National Park Grant Scheme. Many sites were already part of an agri-environment scheme & changes to national

	schemes made it more challenging to encourage uptake by some.
4 guided hay meadow walks conducted and leaflets produced	6 guided walks were held.
4 illustrated talks	5 talks were given.
3 grassland fungi training sessions	7 training activities on grassland fungi took place (attended by 97 different people).
4 Grassland wildflower training sessions (1 by CWT)	6 training events were delivered.
10 meadow monitors trained and developed (4 by CWT)	More than 14 volunteers were trained and participated in meadow monitoring/survey activities.
People will have volunteered time (165 days)	Volunteers contributed 445 days to the project

Key Outputs

Area surveyed

The area of grassland surveyed has hugely exceeded the target (a total of 1829 ha against a target of 450 ha) which is an important output as it means we have a better understanding of the location, extent, condition and quality of grassland habitats in the South West Peak. This has also helped inform potential recipient and donor sites for hay meadow enhancement works. Note that some sites had surveys for both botanical interest and for grassland fungi interest. Appendix 2 gives a map of the LPS area and the elements of this project completed.

The surveys are particularly critical for our knowledge of grassland fungi sites which were relatively under-recorded before the project. From field survey of grassland fungi sites, we have identified 15 internationally important and 13 nationally important sites, of which 14 meet criteria for notification as Sites of Special Scientific Interest. Using eDNA analysis of soil samples indicates a further 14 sites of national or international importance.

A separate report has been produced for the grassland fungi work, so this report focuses on the remaining elements of the Glorious Grasslands project.

Restoration

Restoration targets were also surpassed, meaning that more hay meadows received interventions to increase their diversity. This was either carried out through the use of green hay, brush or hand harvested seed, or with plug plants, or a combination of approaches, but all using propagules originating from the local area. This is important because it means that a larger area of grassland is better able to support a wider range of species – not just wildflowers, but insects and other wildlife. This work also means that plant communities and species from the South West Peak are better preserved including their genetic adaptations.

The hay meadow part of the project worked on 22 farms comprising 47 fields, of which different combinations of techniques were used to restore the fields.

Table 2. The seed or plant sources used to restore botanical diversity

Seed introduction method	Number of fields	Area/ha
Green hay strewing	10	10.9
Green hay + brush harvested seed	1	0.97
Green hay + brush harvested seed + hand collected seed	3	3.07
Green hay + brush harvested seed + hand collected seed + plug planting	6	9.46
Brush harvested seed	4	4.05
Brush harvested seed + hand collected seed	8	11.07
Brush harvested seed + hand collected seed + plug planting	8	8.99
Plug planting	4	5.43
Hand collected seed + plug planting	3	6.15
Total	47	60.36

These methods were used, often in combination, to attempt to maximise the chances of species establishing, or to introduce additional species. Brush harvested seed and green hay were the most used techniques and employed for whole field restoration.

Ground preparation prior to the seeding involved different techniques depending on the site. Tine harrowing was the main method used to scarify fields, with mostly around 5-10% bare ground exposed for seeding. Chain harrowing was used instead in two fields. Grass or rush cutting was needed first in a few fields, with cattle or sheep grazing providing the disturbance required prior to seeding. In 11 fields, multiple plots usually 2x2m or 4x4m in size were hand trimmed and then scarified for receiving seed on the basis that the plants would spread naturally in future years. This was adopted in fields where there were restrictions (e.g. their rushy nature) on more vigorous and widespread disturbance. Other fields were seeded after hay cuts.

13.17 ha of green hay from donor sites was used on 20 fields (23.4 ha); > 463 kg of brush harvested and hand collected seed was spread onto 33 fields (37.61 ha) and 2782 wildflower plug plants were planted out into 21 fields.

Restoration took place in both the Warslow and Brand top target areas, but also where opportunities arose, outside of these areas.

The restoration work led to positive changes for several sites. 31 fields were monitored in 2021 in order to assess progress after enhancement measures. In most, quadrats were recorded to match the base-line surveys, but three only had species lists with their relative abundance recorded. Measures of success compared with the base-line recording are:

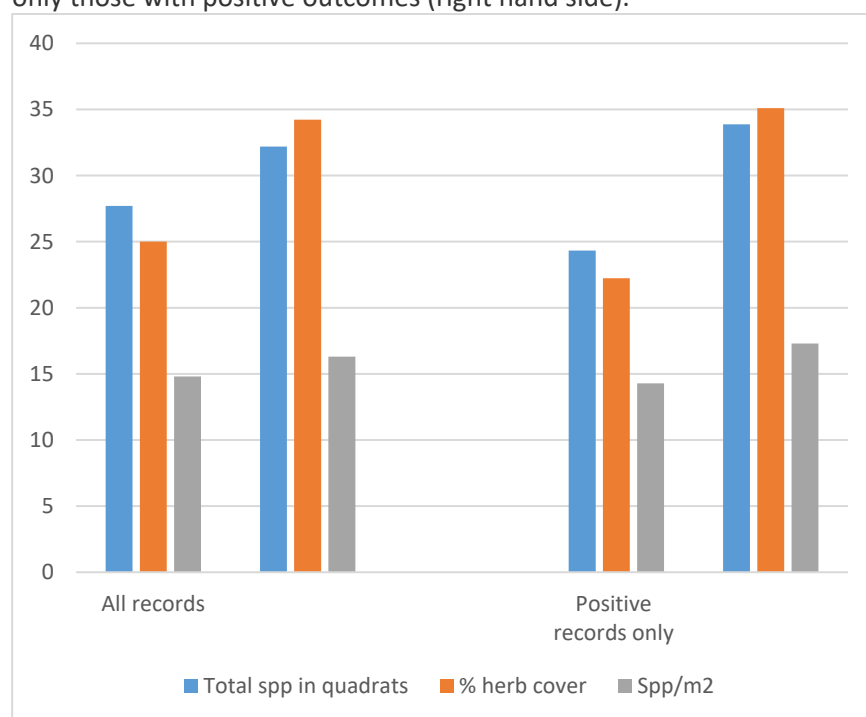
- Total number of species in the quadrats
- % herb cover
- Species/m², and
- Presence of Peak District hay meadow indicators

Comparing the baseline data collected prior to any enhancement measures were implemented with that recorded after the works had been completed, shows some positive changes. Table 3 reveals increases in average total species across all quadrats, the % herb cover, and species/m² as averaged across all the fields where monitoring has been conducted. A few fields did not show positive improvements in all the measures presented, although only one ‘failed’ against all the measures used. The averages have been recalculated using just the fields that showed positive improvements in the measure shown – given in the lower section of Table 3. The differences can be clearly seen in Fig. 2 and are significantly greater for the group of sites where positive change was found. The baseline was generally collected 2017-2019 and the post-works monitoring in 2020/2021. This is a relatively short period in which to expect large-scale changes, but shows more the positive direction of change. In addition, it was noticeable that many sites were affected negatively by the severe 2018 drought and the post-works monitoring may also be witnessing some recovery after this and the drought in 2020 spring.

Table 3. Monitoring results from a range of grasslands subjected to enhancement measures

		Total spp in quadrats	% herb cover	Spp/m2
All records	baseline	27.7	25.01	14.8
	post works	32.19	34.22	16.31
Positive records only	baseline	24.33	22.23	14.28
	post works	33.87	35.1	17.3

Figure 1. The average scores for different measures across all fields monitored (27) on the left hand-side and only those with positive outcomes (right hand side).



The results suggest that the fields that show lower or negative changes were those that were richer prior to the works, whilst the baseline averages are generally lower for the fields that have improved most: a result that might be expected and which shows the benefits of the restoration works.

The number of positive indicators per field has also changed, although even 10 quadrats are not likely to cover them all, especially if they are sparsely distributed, and many might have been missed. In addition, quadrats were used to sample whole fields and if seed was introduced in plots, many areas of higher plant richness will have been missed in random quadrats. The indicators are based on the hay meadow report by Buckingham and Chapman, 1997, modified through knowledge of the South West Peak meadows by the project officer. Table 4 shows some promising changes of the frequency of occurrence of the more abundant quality meadow indicators.

Table 4. The more frequent meadow indicators before and after enhancement works recorded in 27 fields

Species	Base line	Post works monitoring
Hay-rattle	17	27
Meadow vetchling	15	18
Eyebright	8	19
Autumn hawkbit	5	18
Black knapweed	7	11
Oval sedge*	6	8
Ox-eye daisy	5	8
Greater burnet *	3	7
Ragged robin*	3	3
Sneezewort*	1	2

*Species preferring damper soils

The number of meadow indicator species will differ between fields dependent on the species added (which will vary according to the soils), the speed at which they establish (some are much slower than others) and the amount of seed added. With these factors in mind, the increase in cover of the top five species on the table is very positive, particularly as hay-rattle and eyebright are key species that are also semi-parasitic, thus reducing grass vigour and enabling other species to establish. Their persistence will be important in facilitating the further enhancement of these fields in the future. The increases in the wetter soil species (* in the table) are also good in that this shows that more than one type of grassland community has responded to the enhancement measures. There were only two fields where increases in indicators were not detected in the quadrat data. One of these fields was already quite rich in indicators, whilst in the second, too many of the indicators were only rarely found in the baseline survey and were more likely missed by chance in the post-works monitoring.

Long term management

Long term management regimes have been initiated at several sites and adjustments to management have been implemented to balance the needs of different grassland species. This will lead to better outcomes for a range of taxa that are associated with, or rely on, grassland habitats, including plants, fungi and others. The project case studies highlight some of the grasslands where long term management has been implemented.

Overall changes have been initiated at most sites – these are often simple changes to management such as timing of hay cut, reintroduction of aftermath or spring grazing, which can lead to better outcomes for the grasslands when implemented over the long term, or they may be measures such as reduction or cessation in nutrient applications, which will also lead to long term benefits and decreases in soil fertility. This will enable wildflowers to establish or spread and for reductions in more competitive species and weeds to occur over time.

People engagement

Engagement with people has also seen targets exceeded with the number of volunteer hours almost three times the target and the number of people engaging with the project beyond expectations. In the region of 50 people have given up their time to volunteer for the project at least once, but many have volunteered several times with 15 people regularly participating in surveys and meadow restoration activities.

The volunteers range from those living in the South West Peak, who may be landowners themselves, to people living on the urban fringes of the Peak District in places such as Buxton, Leek and Congleton. The volunteer engagement has meant that different communities have come together to help with the project, consisting of individuals with common interests. As a result, a cohesive and enthusiastic group of grassland volunteers has developed. Collectively, the group is better skilled and capable as a result of their engagement with the project: they are able to survey and assess grassland habitats; have a greater knowledge and understanding of the techniques to restore grasslands; have increased skills and knowledge in the identification of wildflower and grass species; have a better understanding of plant ecology and how to grow wildflowers. The volunteers have also developed a better understanding of grassland fungi and their identification.

Outcomes

Table 5. The intended and achieved outcomes from the project

Intended Outcome	Delivered Outcome
Farmers, landowners and land managers will have an understanding of the importance of grasslands and be committed to their long-term protection.	This outcome has partially been met. The project has worked with a range of land managers and farmers, many of whom are committed to the long-term protection of their land. For others, the outcome has been more about a better understanding of their grasslands, but that economic drivers are heavily influential in the decisions of some to commit to long-term protection or restoration and many farmers feel they are in a precarious position with the changes to farm subsidies, agri-environment schemes and Brexit all creating uncertainty.
Agri-environment support will be better accessed to support the conservation	Several land managers were already participating in schemes but new or replacement agreements

management of these key sites of hay meadows, waxcap grasslands and rush pastures.	for farms have secured management of important grassland sites. 6 farms (area totalling 30ha) were entered into new 5-10 year National Park Grant Schemes detailing management requirements and providing annual payments. 14 farms (area totalling 39.6ha) signed de minimis agreements for restoration works
Potential markets for flower-rich hay/haylage researched.	Not achieved due to time constraints.
Hay meadows will be protected, restored or enhanced; rush pastures and waxcap grasslands will be protected and enhanced and long-term management regimes initiated.	Meadows and other grassland types have been enhanced; recommendations provided for management of 1480ha meadows, pastures and waxcap grasslands, and formal management agreements secured for land on 21 farms (69.6ha). More work is needed to support protection of grasslands, especially for waxcap grasslands.
Farmers and land managers giving their time to engage with the project, will learn about their species rich grasslands; volunteers will learn survey skills and give time for monitoring and some capital works.	Land managers have given up their time to engage with the project through discussions and some have helped with surveys and meadow restoration activities and also allowed their land to be used as demonstration sites and for public visits. Volunteers have been involved in all aspects of the project from baseline surveys, to collecting seed, processing seed, sowing seed and spreading green hay to carrying out monitoring surveys. The skills built up by the volunteers span this whole range.
Improved grassland management will be over a larger landscape area and enhancement/restoration will expand the resource, helping to benefit a range of species (e.g. flowers, birds, insects), increase resilience towards climate change and contribute to ecosystems services (reduce flooding, increase carbon storage and carbon sequestration, improve soil health and reduce diffuse agricultural pollution)	The grassland resource has been expanded in key areas – particularly in the Warslow area, where a significant amount of restoration work was focused. Grasslands are being better managed, too, meaning they are better placed to provide essential services.
Local communities will be enthused about the grassland heritage; the hay meadow celebration/ scything events will bring communities together, to share, value and celebrate their natural and cultural heritage.	People have been brought together from different communities to learn about and celebrate grasslands rich in wildflowers and fungi. People living in the urban fringe areas have come together with those living and working in the South West Peak and have been able to celebrate

grasslands e.g. through farm walks led by landowners on National Meadows Day, through talks and the training events for farmers and volunteers.

Key Outcomes

Describe the important outcomes of your project, why they matter and what difference they make to heritage, people and communities.

Farmers have a better understanding of grasslands & are committed to their long term management

This outcome is critical to the preservation of grassland habitats. Most of the farmers we have worked with have gained a greater understanding of the grasslands on their farms and their context locally within the Peak District, and nationally.

As a result of the surveys, management reports, advice, training and restoration interventions that they have received through the project, several landowners/farmers are not only implementing changes to the way the grasslands are being managed, but they are also looking at how they can protect the sites in perpetuity. There are examples of landowners who are considering how they can ensure, when they come to sell or pass on their land, it is protected from potentially damaging land management changes. They are considering protection either through statutory designations, mechanisms such as land clauses when it comes to selling land, or through other legacy arrangements and conservation covenants. See case studies 1 and 2.

Providing grassland managers with information about the value of their sites, having regular contact and providing ongoing support are essential to achieving long term protection for grasslands.

Land managers engaging with the project will learn about their grasslands

Land managers have given up their time in different ways but this has been key to delivering the project's aims for grasslands and has significantly contributed to other project outcomes. Time has been given to the project through conversations with project officers; reading reports and survey information; land managers getting involved in surveys and restoration activities; attendance at training events; public and volunteer engagement; promotional activities etc.

The participation of volunteers in the project has also enabled more information to be collected and shared, and supplemented restoration activities.

This has resulted in a closer community of people with an interest in grassland conservation and the dedication of the people involved has inspired both volunteers and land managers to do more and to continue their work.

A few events for land managers, notably a grassland information evening in 2019 and a waxcap fungi information session in 2021 brought them together as a group where they were able to share ideas

and experiences, and this helped to create a network of farmers that are keen to preserve their collective grassland habitats.

What Made The Difference

The dedication, curiosity and generosity of people, and their willingness to come together as a community – this includes the staff team, apprentices, volunteers and land managers, all of whom want to make a difference and protect the South West Peak's natural assets. These people are inspiring; they have been willing to share their knowledge, to learn from each other and provided support to the project. They have immersed themselves in all aspects of the project and wider SWPLPS and gone above and beyond.

One example of this is landowners collecting seed from their own fields and providing it (fully processed – a time consuming activity) to the project. This has meant the project has been able to carry out additional activities such as growing wildflowers and plug planting on sites and extend its reach to others. We have provided seed to other projects at the Back Dane Trust and at Manifold Academy in Warslow. The former project has grown plug plants to restore a small meadow and the school has grown wildflowers with children to help restore fields belonging to the school and engage the children. Seed was also provided to enhance a road verge just outside Sheen which was carried out with the help of Jackie Wragg and young people through the Beyond the Classroom project.

The LPS employed six countryside worker apprentices in two tranches who were trained in a range of countryside skills including use of brushcutters. They were thus able to provide support for restoration activities and, together with a trained volunteer, were crucial to restoration work where plot creation was needed.

The project was supported by a well-functioning steering group that helped set priorities, manage workloads, and direct the project. Staff in the PDNPA were invaluable in supporting and facilitating the work on the Warslow Estate (owned by the PDNPA). The extent of enhancement work carried out and the programming of this in terms of connecting donor and recipient sites and managing all the intricacies of the works programme could not have been carried out without the substantial support and input of the Farm Link Workers, thus illustrating the importance of the integration of the whole scheme and its different elements. In addition, temporary part-time support in managing the volunteers was instrumental in organising and facilitating the volunteer involvement in response to the numbers exceeding the project's target.

Involvement from the Scheme Manager and Programme Administrator in managing and coordinating the waxcap fungi element of the work meant that this became a much more significant part of the Glorious Grasslands project – a separate report is provided on this.

Challenges

Practical issues

There were several practical challenges that affected the project, some caused by the variabilities of the weather, which were essentially overcome by the fact that the project lasted a full five years,

allowing the works to be spread out over a longer period of time than might be expected. This meant that some of the works were carried out into 2020 and 2021, limiting the post-works monitoring, although this did not affect the preliminary results as described above. The hot dry summer in 2018, the second year of the project, meant that hay yields were seriously compromised so many farmers received a derogation to cut their crops early in order to salvage what fodder they could. This meant that there was no opportunity to harvest green hay or seed for restoration works that year, meaning that more of the works had to be undertaken in the other years. As a result, the wildflower resource, particularly annual and later flowering species were notably diminished within the sward of many meadows in 2018 – again increasing the dependency on other years.

A second practical challenge was locating and then matching suitable donor sites each year, ensuring that none were over-used. However, with the support of different team members we were able to find donor areas and modify our techniques to carry out restoration activities.

Achieving appropriate levels of bare earth through ground preparation had to be carefully considered and alternative approaches sometimes sought when various restrictions were found. Poor weather during the restoration season, August to October, can mean mechanical ground preparation cannot always be undertaken because of risks of cutting up or compacting soil. There can also be rushes or other problematic species present and opening up the ground could result in the spread of these species, which is not desirable. There were access issues for some smaller or isolated sites. Archaeological features, such as historic ridge and furrow, are often present in grassland sites in the South West Peak, which require well-considered and considerate methods of ground preparation. Our knowledge around soils and in particular the presence of grassland fungi can also influence decisions on methods for creating bare earth. Many grassland sites also have remnant botanical interest and soil disturbance wasn't always appropriate to avoid damage to the existing sward. However, we do know that effective ground preparation results in better germination and establishment for wildflowers. As a result, alternative means to generate open areas of soil were used, including the use of livestock and methods such as small plot creation through strimming.

Securing appropriate contractors with the necessary equipment and availability to deliver work, often at a relatively small scale over a dispersed area was sometimes difficult. Many of the meadows of interest as donor sites for green hay or seed harvesting and for recipient sites were small and needed smaller machinery than some contractors had. We were unable to locate a contractor who could deliver brush harvesting using a quad bike and small seed harvester, but were fortunate to be able to work with the PDNPA Countryside Maintenance and Projects Team and Cheshire Wildlife Trust to complete this work. Thus, by working together we were able to identify and work with local contractors for ground preparation and green hay harvesting and spreading.

Land manager engagement

Relationships with farmers and land managers can take time to build up and are important to foster. Engagement in some areas (notably Brand Top) required more time resource than the project had. Where existing relationships were already in place, the project was able to work closely with those land managers and often positively influence management. However, there were still many farmers who were reluctant to engage, or who needed substantial and dedicated time over a prolonged period to build trust. Many aspects of the project required significant time with land managers and

repeated visits to farms to discuss its various aspects, which wasn't always achievable, even with the support of the Farm Link Workers. As always, more could have been achieved with additional time and resources, but the project shows that a large number of farmers/land managers were involved and valuable improvements were achieved.

Influencing management

The project has been successful in being able to influence a good number of land managers, but there were a number where this approach failed. There are constraints to what can be achieved as many land managers are under significant pressure, particularly economically, and a range of land manager attitudes, ideas and preferences were obviously found. This also relates to having sufficient capacity to match landowners and agri-environment schemes that pay farmers adequately for their conservation work.

Agri-environment situation

Unrelated directly to the project but linked through timing, and therefore of importance, has been the current suite of schemes through Countryside Stewardship, its administration and that of scheme agreements still running through Environmental Stewardship. The situation with these schemes and uncertainty about the new Environmental Land Management scheme (the details of which are not yet clear) nationally has been a barrier to helping land managers get into schemes. As a result, there has been little scope to amend existing agreements that would relocate or amend options to support changes to management suggested through the project. The poor perception of Countryside Stewardship has led to low uptake of the schemes nationally and this is also reflected locally, along with a lack of confidence and trust in the schemes. Due to resource constraints within Natural England and the takeover of the administration of the schemes by the Rural Payments Agency, sites that would normally have been suitable for Higher Level Stewardship (when Environmental Stewardship was still open for applications) or newer CS Higher Tier have been directed to CS Mid-Tier agreements. This element of Countryside Stewardship scheme has been improved over time, but lacks flexibility and appropriate options for many sites, and payment rates for some options are not sufficient to incentivise people to join.

The National Park Grant Scheme was presented as another option for land managers, where they were unable to access national schemes, and we were able to sign up 6 farms each into 5-10 year management agreements, covering just over 30 ha.

Case Studies

High Ash Farm - Case Study 1 (full details provided separately)

High Ash Farm is located in Barrowmoor in the Brand Top target area. It is owned and managed by Denis Moors. The project has supported Denis to modify management of approximately 10 hectares of grassland, which includes hay meadows and pasture. Small scale interventions to enhance an area of rush pasture have also taken place through seeding and plug planting. Changes in management to an area of pastureland and the meadows have been implemented, with later cuts and later grazing.

This has transformed the grasslands, just through simple changes in management. During follow up visits, newly recorded and high conservation value species were identified, including grassland fungi, giving even greater importance to the site.

Denis gets immense pleasure from his land and having seen and experienced the increases in diversity over the last few years is keen to continue enhancing the site that he now refers to as 'Happy Valley', and to share it with others. He is looking to the future to consider ways that he can protect the land for generations to come, Denis has commented *"Because I now know how important my land is for wildlife, I've been thinking about how my land can be protected after I'm gone. My kids will probably sell the house and the land but I want my land to be sold as a conservation farm, so I intend to speak to the land agents to make sure this happens, as my kids understand my wishes."*

Cowlow Pastures – Case Study 2 (full details provided separately)

This site is owned by the Peak District National Park Authority and is rented out to a local farmer. The site was enhanced in 2019 using the plot creation method. Several plots were created by hand and sown with locally harvested wildflower seed. The work has resulted in a dramatic change for the site, from a sward rather dominated by grasses and relatively species-poor, to one where wildflower indicator species are increasing and spreading out of the plots. Hay-rattle is now frequent in the field and helping to suppress the grasses; newly established wildflower species have flowered or have germinated in the second year after the work was carried out, further changing the appearance of the meadow and, interestingly, greater butterfly orchid was recorded for the first time in 2021. This is a quite rare species in the Peak District.

Volunteer group

The project brought together several volunteers that refer to themselves as 'the grassland girls' later changed to the 'grassland gang' to be more inclusive! They formed a strong social network around their shared interest in wildlife. Through the project they were able to develop their skills in wildflower identification, survey methodologies, grass identification and grassland restoration techniques. The volunteers were the backbone of the project, supporting all aspects of delivery.

Many of the group meet up regularly for social walks outside of the project. They also share information with each other and support one another by sharing photographs of species they have seen, or places they have visited. One volunteer put together a list of wildflowers and their medicinal/historical uses and alternative names for plants. They share useful websites, Apps and other information. Several volunteers are involved in other environmental activities and even involved in setting up initiatives in their local areas. This includes Biodiversity and Climate Action groups and looking to connect with farmers in their areas to support them in similar ways to the Glorious Grassland project, so they are taking the knowledge and skills they have developed and expanding it into other areas.

Legacy

Skills/knowledge/experience

A dedicated team of volunteers have formed a social network but also formed positive working relationships with land managers. The volunteer group has developed skills that will enable them to continue to help protect and enhance grasslands in the South West Peak. They have skills in plant identification, survey methods, habitat mapping, waxcap fungi identification and grassland restoration. This has resulted from training events and regular opportunities to be involved in surveying and supporting restoration over the last 4 years through seed collecting and seed spreading.

Habitat/species improvements

Grasslands are in a better condition and should continue to develop and increase in diversity over time as a result of interventions to support their recovery to a species-rich condition and encouraging uptake of agri-environment scheme agreements. Methods to achieve this have included seeding whole fields through the use of locally brush harvested seed or green hay; wildflower plug planting and seeding plots with specific species.

Capital Works

60.36 ha of hay meadow restoration work has been completed. Fields on 21 farms, totalling 69.6 ha are in either a full National Park Grant Scheme agreement or de minimis agreement (this included fields which did not receive any restoration measures).

Data

Reports on 225 hectares of grasslands that detail the habitat types and the wildflowers and grasses present have been produced, provided to landowners and saved on file with the PDNPA to help inform future management opportunities. Habitat and management information is also included. All surveyed sites, donor sites and hay meadow restoration sites are mapped on GIS and habitat data included in the PDNPA database to inform future Nature Recovery Networks.

A list and map of donor sites has been produced which provides information on the habitat type and species that could be collected. This list will enable any future projects to be in a better position.

Reports on 1421ha of grassland fungi surveys, plus further reports on eDNA analysis for fungi, have been produced and provided to the land managers and saved on file with the PDNPA to help inform future management opportunities. The data have been provided to Natural England to increase the knowledge of this, often internationally, significant resource.

Equipment

A range of equipment has been obtained that will be available for future restoration work and other surveys. These include sieves for seed processing; seed vacuum; scarifiers for restoration activities; hand lenses and weather writers to support future grassland survey work.

Connections/collaboration

The project has furthered a range of connections and collaborations that will be valuable in the future for new projects, partnership working and new contacts. This is generated first by the steering group that brings together the Cheshire Wildlife Trust, Peak District NPA, Natural England, and Nature Peak District. The Farm Link Workers were part of this group and, although their role is completed with the end of the Landscape Partnership Scheme, their local contacts and work with the steering group has enabled many new connections with landowners/managers and others.

The project has also provided connections that may not have existed previously between different specialists – the Working for Waders project and RSPB, the cultural heritage projects and Historic England and the Glorious Grasslands project have all had to collaborate when the different interests overlapped, particularly where land owners might be receiving multiple reports. It is important that none of these contradict each other to secure maximum understanding and interest from the land owners.

Finally, the major grassland fungi project, supported by match funding from the Esmée Fairbairn Foundation, has enabled new connections and collaborations with local specialists, the Glorious Grasslands steering group, national experts at Aberystwyth University and volunteers who have become very interested in this newly emerging field.

Educational Resources/Other Resources

The project has been promoted through various articles and locally with the production and dissemination of leaflets about grasslands and their importance. With a generous donation of time a professional BBC cameraman worked with the project officer, volunteers and landowners in 2021 to create a short film to promote grasslands and highlight the need for further protection and focus on them. The film premiered during the National Lottery Open Week in March 2022 and is available on the LPS website and YouTube channel.

Management guidelines for hay meadows (including a handy hay meadow management calendar) and waxcap grasslands have been produced as part of the project resources for land managers and owners. These are available for anyone to download on the Landscape Partnership Scheme website. Similarly, simple guides to wildflowers and waxcap identification have also been produced and provided to owners/volunteers and are available on the website.

Lessons Learned

The project has been very successful in a number of respects, all of which are repeatable:

- The Farm Link Workers and how they have facilitated the contact with landowners/managers and the restoration works;
- The restoration works that have resulted in enhanced grassland communities and their increased value for nature conservation in the face of a biodiversity crisis;
- The brilliant network and number of volunteers who have benefited the project and benefited from it themselves;

- The scope and scale of field survey and eDNA analysis of CHEGD fungi or 'waxcap grasslands' which has increased our knowledge of this resource dramatically;
- The coverage of surveys and level of information fed back to landowners.

Aspects that would be done differently would include:

- Employing a full-time project officer instead of only three days a week. Given the range of work required to deliver this project throughout the year a full time post was definitely needed. The staff resource had to be supplemented with contractors, time from other team members and time from the Scheme Manager.

Advice for future projects:

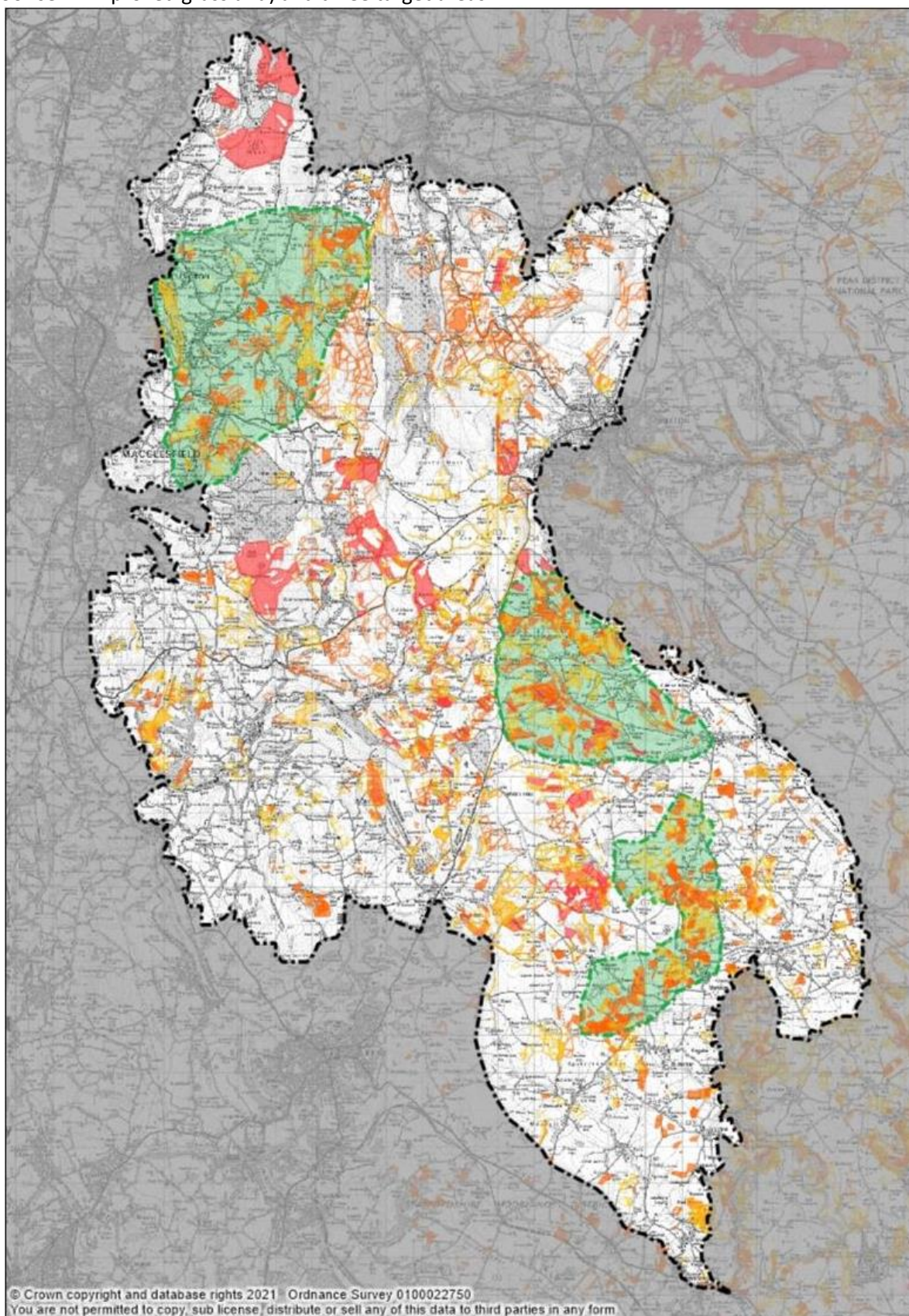
- Carrying out whole farm surveys to see the grasslands in the context of the whole farm business and work with individuals over several years to deliver interventions and to support changes in management would be beneficial.
- There is also a need to deliver cross-taxa advice or advice that spans multiple objectives. Farm businesses are usually not in a position to make sweeping changes to their farms and need time to transition and support to understand the impact of any changes.

The Big Headline

The most important outcome from the project has been the network of people with an interest in grasslands that has developed. They are raising the profile of grasslands, wildflowers, specialist grassland fungi and environmental issues and have strong desire to continue with this work. This is a great legacy for the project as it means there is scope to build on the work of the Glorious Grasslands project and for this group to take it to the next stage.

Through the leadership of the Scheme Manager and the dedication and knowledge of a skilled contractor, the project has been able to contribute important learning about grassland fungi of conservation interest, inspire grassland owners and participate in scientific examination of environmental DNA (eDNA). The South West Peak has been shown to be of high value for grassland fungi, both on a national and international scale.

Appendix 1. Map of the project focus areas showing existing grassland habitat resource (excluding improved and poor semi-improved grassland) and three target areas



Appendix 2. Map of different project elements

