

Dartmoor Farming Futures

Evaluation Report



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Foreword

Dartmoor Farming Futures is a good example of the ‘Dartmoor way’ – when we identify a problem we seek to work in partnership to provide a solution.

Farming Futures was developed in response to concerns from farmers that their agri-environment agreements, so essential for their businesses, were unlikely to deliver the environmental benefits that the schemes sought and that the process imposed on them failed to engender any sort of ownership of their agreements. Farmers designed Farming Futures and are now undertaking trials of this innovative approach to agri-environment. Throughout the project the farmers have benefited from a supportive partnership that has involved the Duchy of Cornwall Estate, the National Park Authority, Natural England, South West Water, RSPB, Rural Payments Agency and Defence Infrastructure Organisation. Some might see this as an eclectic partnership; the reality is that all of the partners have contributed their own expertise and worked well together.

The success of Farming Futures is a fitting tribute to Professor Ian Mercer (1933 - 2016). Ian was the first National Park Officer for Dartmoor and during his so-called retirement he was invited by the commoners to Chair the Dartmoor Commoners’ Council. It was in this role that Ian helped shape the proposal to the Secretary of State that led to the Farming Futures pilot. Ian had a desire to ensure that Dartmoor remained a grazed landscape and that the families who have sustained it through the generations remain a part of it for generations to come. It is fitting that he was so involved and supportive of Farming Futures: it will have a lasting legacy by demonstrating the benefits of empowering the farming community to deliver environmental outcomes; engaging them in designing the management to deliver those outcomes; and supporting them to do the monitoring to demonstrate whether the agreements are delivering.

Finally, we must acknowledge the contribution that the commoners have made to this project – without their time, commitment and passion we would not have a Farming Futures scheme – thank you.

John Waldon, Chair Dartmoor Commoners’ Council

Tom Stratton, Deputy Land Steward, Duchy of Cornwall

Kevin Bishop, Chief Executive, Dartmoor National Park Authority

Report Summary

Dartmoor Farming Futures (DFF) is a farmer lead, experimental pilot project aimed at developing an outcome focused approach to the management of the public and environmental benefits associated with Dartmoor's moorland. The initiative was developed by Dartmoor Commoners, Dartmoor National Park Authority, the Duchy of Cornwall and Dartmoor Commoners' Council with support from Natural England, Royal Society for the Protection of Birds, South West Water, Rural Payments Agency and the Defence Infrastructure Organisation.

DFF links into and complements the Dartmoor Vision, which sets out what the moorland will look like in 2030. It is focused on two areas of common land within the National Park; (i) Haytor and Bagtor Commons; and (ii) the Forest of Dartmoor. The pilot is now in its fourth year and has been subject to longitudinal evaluation through two qualitative studies. The first study was completed in 2013 and included an evaluation of the design phase of DFF (Dartmoor Farming Futures Project Evaluation, Cumulus 2013) and outlined the impacts of the trial at an early stage. Results from the study showed that;

- DFF allows commoners to take more responsibility for the design and delivery of their agri-environment agreements.
- The DFF process facilitated a collaborative approach to setting outcomes, delivery on the ground and scheme monitoring.

This second report has focused on evaluating the impact of DFF on farmer behaviours, perceptions and farm businesses. Results from face to face semi-structured interviews with participating and non-participating commoners found that;

- The process of engagement has led to greater understanding and ownership amongst the farming community of their agreement and of the outcomes that they are delivering.

“Under Farming Futures we have got some ownership of the agreement and we feel we have some control in asking for things that might help to produce the outcomes.”

- The training and monitoring process has increased the commoners understanding of the biodiversity and environmental features that can be found on their commons.

“I think it's very valuable to be able to assess it yourself, so that you know what's happening, so when NE come in and do their assessment you know what they're talking about.”

- The approach has the potential to allow commoners to have more flexibility than would be allowed under traditional agri-environment schemes.

“It makes you look at the patches that you keep, it makes you look at what you're doing, are we actually meeting the criteria, are we grazing this properly, are we overgrazing it, are we under grazing it.”

The report provides evidence that farmer engagement in the design, delivery and monitoring of agri-environment schemes can lead to better understanding and ownership of agreements and that the increased ownership is likely to lead to better delivery of the outcomes given the commoners growing pride in managing the commons for public and environmental benefits.

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1. Introduction

1.1 Introduction

Dartmoor Farming Futures (DFF) is a farmer led, experimental pilot project aimed at developing a new outcome focused approach to the management of the public and environmental benefits associated with Dartmoor's moorland that:

- Offers farmers and landowners more responsibility for the design and delivery of agri-environment schemes;
- Focuses on the complete range of public benefits (ecosystem services) that are associated with upland farming (from food production to carbon sequestration) and identifies priorities for particular spatial areas; and
- Facilitates a collaborative approach to agreeing the outcomes sought, delivering the management required and assisting with the monitoring of the process.

The initiative was developed by Dartmoor Commoners, Dartmoor National Park Authority (DNPA), the Duchy of Cornwall and Dartmoor Commoners' Council (DCC) with support from Natural England (NE), Royal Society for Protection of Birds (RSPB) and South West Water (SWW).

The background to the initiative and how it was developed is detailed in the report "[Dartmoor Farming Futures](#)" (2011) by John Waldon. The central theme of DFF is farmer engagement in the design, delivery, and monitoring of environmental outcomes. DFF links into and complements the Dartmoor Vision. It is focused on two areas of common land within the National Park: (i) Haytor and Bagtor Commons; and (ii) the Forest of Dartmoor.

1.2 Evaluation Aim

Now in the fourth year of the trial, the evaluation reported in the following pages focuses on the lessons that can be learnt from DFF with an emphasis on attitude and behaviour change and monitoring and evidence of delivery. The research builds on the findings of the initial evaluation undertaken by [Cumulus Consultants](#) that examined the design phase of DFF and outlined the impacts of the trial at an early stage¹.

Through investigating the longitudinal impacts of the trial of DFF, this research aims to:

- Further assess the extent to which DFF has succeeded in developing a more collaborative approach to agri-environment, leading to a better understanding of the

outcomes being sought, the management required to deliver those outcomes and how the outcomes will be monitored.

- Investigate the impact of DFF on individual farm businesses and farmer behaviours, including, what we can learn from DFF in terms of how to influence farmer behaviour and, in particular, how to develop and implement agri-environment schemes on commons with a potential future link to enclosed land.

2. Dartmoor Farming Futures Background

2.1 Dartmoor Farming Futures Timeline

August 2009

Concerns had arisen over agri-environment delivery on Common Land by commoners following the transition from ESA to Environmental Stewardship. An opportunity to discuss these concerns arose in 2009 when DNPA, DCC, the Duchy of Cornwall and farmers met with the then Secretary of State for Environment, Food and Rural Affairs Hilary Benn MP. A submission was invited that set out the issues arising from agri-environment delivery on Common Land and the diverse range of ecosystem services found on the uplands of the South West. It was also requested that the submission should include potential solutions to overcome the problems identified.

December 2009

A proposal was submitted to DEFRA by DCC, DNPA and the Duchy of Cornwall with support from SWW and the RSPB. DFF arose from the proposal and was met with a positive response from DEFRA. The proposal highlighted the importance of upland farming and grazing to the delivery of a range of public benefits for the nation and concerns over the long term viability of hill farming. It focused on developing a collaborative approach, offering farmers and landowners more responsibility for delivering the correct management of the moorland and its associated public benefits². Central to the proposed solutions was to empower the farming community to take more responsibility for land management, making the case that farmers should be given the opportunity to design a new approach to agri-environment delivery, based on the delivery of outcomes.

2010

By 2010 the idea had been developed and NE allowed the design stage to be progressed as part of their South West Ecosystem Services Pilot. Later that year the initiative evolved into a partnership steered by DNPA.

The DFF project began in August 2010, supported by DNPA, DCC, the Duchy of Cornwall and NE. There have been two stages of DFF to date; the first stage

involved the development of the DFF trial and the second stage is the ongoing trial of the DFF approach.

August 2010 – March 2011

Stage 1 focused on developing a new approach to agri-environment delivery. It involved a group of active graziers on two chosen commons designing a new agri-environment agreement model and agreeing the outcomes with Defra, NE, DNPA and other statutory bodies, including English Heritage and the Environment Agency, together with a programme for review and monitoring³. The development stage of the project consisted of the following components;

1. Identification of potentially suitable commons for entry into HLS

An assessment of ecosystem services was undertaken on commons that were highlighted to be suitable for the pilot and that were coming to the end of their ESA agreement. Two commons were identified, both with different characteristics; the Forest of Dartmoor, a large common of high moorland and Haytor and Bagtor Common, a small common located on the moorland edge. Initially, only the South Quarter (5000 acres) of the Forest of Dartmoor was proposed to participate in DFF, however, it was felt that because the Forest is a contiguous block with the same management structure and one majority owner that the enthusiasm and support from the commoners and the owner to enter the entire land area into the pilot.

2. Invitation to commons associations to participate

Associations from the two chosen commons were invited to participate with Stage 1 of the project. A group of commoners composed of active graziers from each chosen common were responsible for the design of the scheme.

3. Development of key outcomes for each participating area

Relevant ecosystem services and public benefits were identified for each of the two individual commons and the outcomes were then agreed by the group of commoners. The outcomes were chosen to reflect the ecosystem services and for commoners ability to deliver them. Commoners and landowners decided upon suitable land management to deliver the chosen outcomes, the management was then set out in an annual work programme and a monitoring programme was agreed by NE.

Important to the scheme design was that all participating parties, particularly the management committee and NE, must be able to understand the outcomes, what the outcomes should look like and what is meant by good condition.

August 2011 to date

Stage 2 invitations were sent to the commons involved in stage 1 to trial the design, commoners agreed to participate and the trial was carried out under a new Higher Level Stewardship agreement in conjunction with NE. No amendments to payments

have been offered under DFF, existing agri-environment agreements were used to underpin the pilot.

Steering group

A steering group was established to guide the development and implementation of DFF. Organisations with representatives on the group include;

- Dartmoor National Park Authority
- Dartmoor Commoners' Council
- Duchy of Cornwall
- Forest of Dartmoor Trustees
- Haytor and Bagtor Commons Association
- Natural England
- Rural Payments Agency
- Facilitator
- RSPB

2.2 Pilot Areas

The Haytor and Bagtor Commons Association and the Forest of Dartmoor Trustees are the key groups representing the commoners for the two DFF pilot areas. They are responsible for co-ordinating and delivering the management, managing the temporary adjustments and monitoring the results. They are party to agri-environment scheme agreements with NE, which underpin the DFF trial. They receive the agri-environment scheme payments and then distribute these to the commoners.

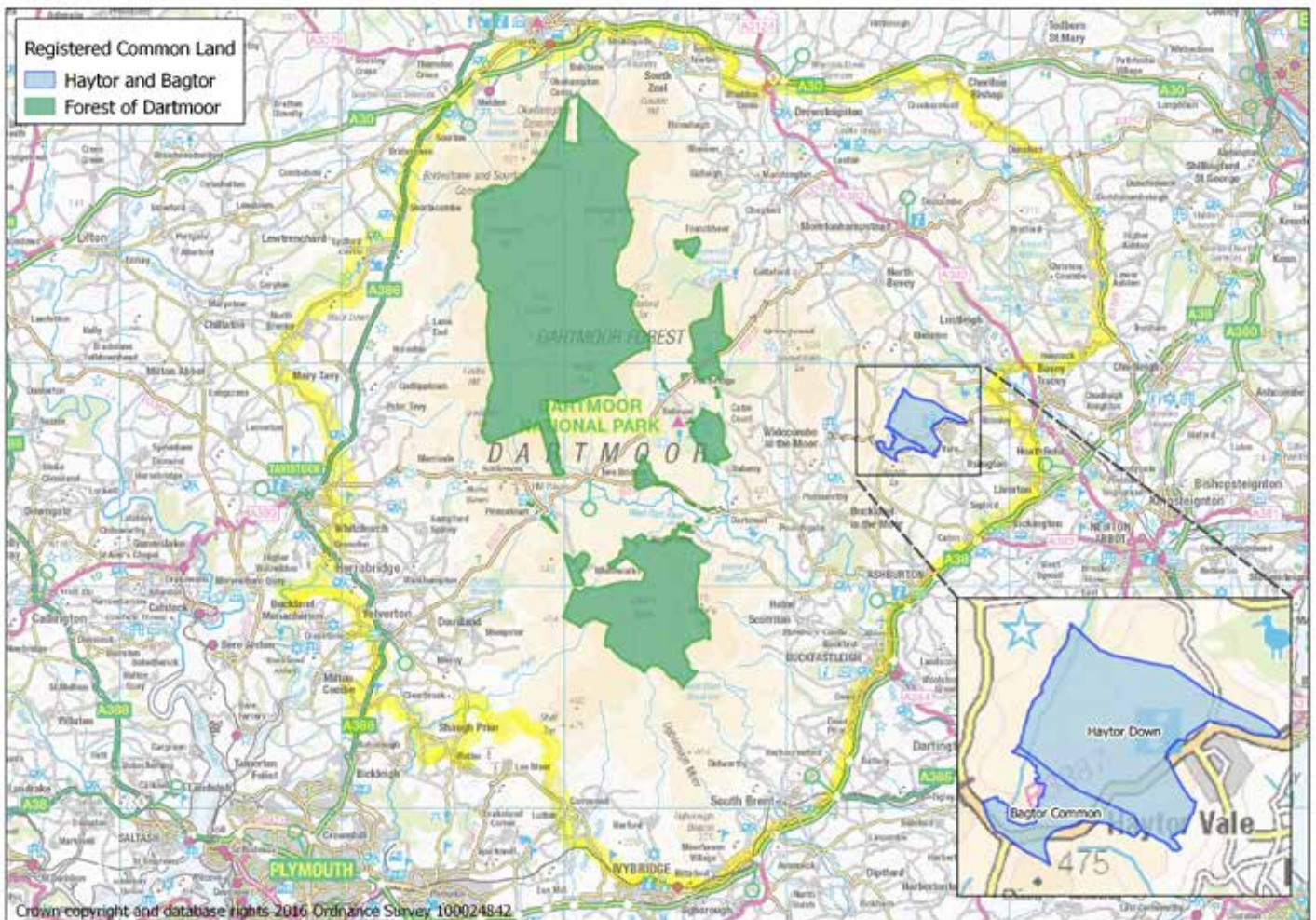
The DFF pilot areas comprise of two commons made up of different characteristics (Table 1), the two commons were chosen deliberately for the trial due to these differences. Given these differences, the evaluation does not seek to compare the two, but to evaluate the impact of DFF on the individual areas. Figure 1 illustrates the location of the two pilot areas in the context of the National Park.

Table 1 Pilot area characteristics

| | Haytor/Bagtor Common | Forest of Dartmoor |
|------------------------|----------------------|--------------------|
| No. of active graziers | 8 | 80 |
| Size | c. 554 ha. | c. 11, 170 ha. |
| SSSI | Geological | Biological |
| Characteristics | | |
| Public pressure | High | Low |

| | | |
|--------------------------------------|---|--|
| Archaeology and historic environment | 4 SMs + multi entry on historic record | 56 SMs of National and international importance |
| Nature or biodiversity | BAP species present | Blanket, bog, mires and upland heath, national and international designations – SSSI and SAC |
| Water – quality and quantity | No direct link to abstraction | 13 Water catchments providing a source for at least 10 water abstraction points |
| Carbon | Little deep peat | Stored carbon in peat |
| Land owner | The majority of the land is owned by DNPA | The majority of the land is owned by the Duchy of Cornwall |

Figure 1 Location of the two pilot areas in the context of Dartmoor National Park



2.1 Haytor/Bagtor

Haytor and Bagtor Common is an outlying and almost separate block of common land, comprising approximately 554 ha. and is managed as one unit. The majority of land is owned by DNPA. The Common is well used for public access, the lower and upper car parks saw a combined total of 116,475 cars visit between 1st April 2015 and 31st March 2016; is rich in archaeological sites and includes a geological SSSI. The Haytor and Bagtor Commons Associations is made up of the eight active graziers, non-active graziers are also involved with the agreement.

2.2 Forest

The Forest of Dartmoor makes up the main central part of Dartmoor and covers approximately 11,170 ha. It is mainly owned by the Duchy of Cornwall. There are 280 signatories to the Forest UELS/HLS, of which 80 are active graziers. The Common is a large area of high moorland dominated by blanket bog and deep peat. It is almost entirely notified as a SSSI (and Natura 2000 site). The common includes nine important water catchments and a number of archaeological sites and historical monuments. The Forest of Dartmoor trustees are made up of nine commoners and a representative of the land owner (Duchy of Cornwall). The Trustees also employ an administrator who deals with the agreement and is a commoner in her own right. The Forest of Dartmoor Trustees is the main body responsible for DFF on the Forest and for co-ordinating the 80 active graziers subject to the HLS agreement. There is also, however, a separate Forest of Dartmoor Commoners Association that represents all those with common grazing rights. There is a close link between the Trustees and the Forest of Dartmoor Commons Association.

2.3 Operation

Existing agri-environment scheme agreements have been used to underpin the pilot and secure funding, with the trials progressing as a temporary adjustment to the existing schemes. On the Forest this required waiting for the HLS agreement to begin (March 2012) and on Haytor and Bagtor an existing ESA agreement was used, the common is now in an HLS. Both pilots are now operating under HLS agreements. This approach provided security to NE and to both the participating commons; should one of the trials have failed for any reason an agreement would be readily available to ensure the land remained under agreement and a mechanism was in place to ensure appropriate land management. For the participating farmers this gave confidence that funding would be available to them. A drawback to this approach was that existing schemes had already allocated payments to the commoners and a re-allocation of funds to reflect work associated with the outcomes was not possible. The internal deeds were retained from the existing agreement. The original proposal sought to look at payments and potential alternatives to income foregone; this was not however, agreed with DEFRA.

3. Methodology

3.1 Commoner interviews

Semi-structured face to face interviews were undertaken during the period of February to March 2016; this method was used in order to obtain more detailed information, in a relaxed atmosphere with conversational type communication, guided by common questions. Interviews included both participating commoners and commoners with little or no involvement with DFF. The semi-structured interview consisted of five sections;

1. Farm business
2. Individual characteristics
3. Agri-environment scheme engagement
4. Dartmoor Farming Futures
5. The farming community

The first section looked at the farm business, including the type of farm, size and tenure and the second section looked at the individual characteristics of the farmer. The third section discussed farmer's experiences with agri-environment schemes and the impacts on farm management. The fourth section looked at DFF, including the experiences and understandings of farmers that have been involved and the barriers to engagement of those that have had little or no involvement. The final section looked at the impacts of DFF on the farming community.

28 commoners were interviewed in total, 19 of them are involved with DFF and 9 had little or no involvement. From Haytor/Bagtor seven out of the eight active graziers were interviewed, five are actively involved with DFF and two are not. From the Forest, 22 commoners were interviewed in total (one is a non-active grazier but a trustee for the Forest), 15 are actively involved with DFF and seven are not. The sample size was considered large enough when data saturation had been reached, when similar themes and ideas were being heard in the interviews and no new data was being found.

3.2 Stakeholder interviews

The stakeholder's represent key partners involved in developing the original project proposal and in steering its implementation. Face to face and telephone interviews were carried out with key stakeholders involved in DFF. Key stakeholders interviewed included representatives from, NE, DNPA, the Duchy of Cornwall, the Rural Payments Agency (RPA) and the independent facilitator. The purpose of these interviews was to understand stakeholder's perceptions of the delivery of DFF, what

they have learnt from their involvement and how DFF should be carried forward in the future.

Commoner and stakeholder interviews were recorded and subsequently transcribed and analysed. The analysis was structured around key themes that emerged from the interviews. Appropriate quotes have been used throughout to illustrate and emphasise the findings. Detail has been omitted in places to maintain confidentiality.

4. Results

4.1 Commoners' views

This section brings together the results from the two pilot areas, drawn from the face to face interviews.

Key strengths and weaknesses identified by the commoners include;

4.1.1 Strengths

- Increased flexibility
- Improved working relationships between the farmers and the bodies involved and the development of closer working relationships among farmers
- Greater involvement and discussion for commoners
- Increased recognition and use of farmer knowledge
- Management focused towards individual areas
- Improved understanding of the species, habitats and archaeological features found on the commons
- Improved understanding of outcomes desired under agri-environment schemes
- Empowerment of commoners to take ownership of the outcomes, management and monitoring

4.1.2 Weaknesses

- Increased risk and pressure on the commoners to produce the outcomes
- Increased paperwork and administration for commoners
- Greater work load to achieve the outcomes

4.1.3 Engagement with DFF

The main drivers for engagement among participating commoners are outlined below;

- Commoners felt that DFF presented them with an important opportunity to use their expertise, experience and knowledge to shape an agreement and not be dictated to.

- To be able to prove they are responsible land managers, who can deliver environmental benefits and will not destroy the common
- Commoners also felt that DFF presented them with an opportunity to address the issues with agri-environment schemes.

The key issues associated with current agri-environment schemes as highlighted by the response from commoners include;

- 'Blanket schemes' that cover the whole country, that are not tailored to individual areas and therefore do not meet the management needs for individual sites.
- Lack of flexibility and working to tight prescriptions that do not fit into the management or within the calendar of upland farming, for example, the rigidity of the schemes does not allow for adaptation to seasonal variation or weather conditions and can often result in clashes between sheep and cattle management.
- No farmer input, but instead being dictated to by people that do not know the land. Farmers feel that this results in prescriptions that are not suitable for the area and a lack of understanding of hill farming. It is felt that an understanding of the appropriate stock management and grazing schedules for specific areas would benefit scheme design.
- The ability of schemes to separate commons and destroy relationships, largely a result of dispute over pots of money and grazing allocations, schemes do not encourage joined up working among commoners to achieve outcomes.

Two key barriers to engagement with DFF were identified by those who have not participated;

1. Little or no knowledge of DFF or no understanding of what the pilot is trying to achieve, either because they prefer to continue with their current farm management and therefore do not see a reason to become involved with DFF or because they feel they haven't received enough information on DFF, this can lead to confusion with other projects taking place on Dartmoor, in particular the Dartmoor Hill Farm Project (DHFP).
2. No perceived benefits from participating in DFF. Commoners not involved felt that DFF would not make a difference to their farm system or they didn't want to or have any need to make changes to their farm management

"I mean as it goes for keeping cows out (extended grazing) that really wouldn't affect me because I've got to get cows in for the start of November and I always bring them in a bit before because you can never find them.....so regarding farming futures, well it doesn't really affect me..."
Forest, non-participant

"Well because we've only got ponies, the biggest thing up there is the cattle and the sheep and they sort it out amongst them..." Forest, non-participant

4.2 Key themes identified from face to face interviews

4.2.1 Agri-environment scheme understanding and ownership

Building on and supporting the findings from the Cumulus report, participating commoners feel that DFF has helped to, and is continuing to increase their understandings of what agri-environment schemes are trying to achieve, an increased ownership of the scheme is also felt amongst commoners. The farmer led approach of DFF, including their involvement with the scheme design, the monitoring and the improved relationships between commoners and NE are thought to contribute.

Forest

“I feel a bit more ownership of the agreement because the Forest is such a big agreement, you don’t feel like they’ve offered you a contract and you’ve got to sign it, you feel like you’ve had some ownership of it.” Forest, participant

“...where under farming futures we have got some ownership of the agreement and we feel we have some control in asking for things that we think we might be able to help produce the outcomes...” Forest, participant

“...but farming futures has been much better at showing us what they want, it’s just I think something that we’ve all got to do rather than just a few basically.” Forest, participant

Haytor and Bagtor

“...before Dartmoor Farming Futures the outcomes weren’t so specific...” Haytor/Bagtor, participant

“...it was worth doing rather than being dictated to and feeling well, we don’t like that, so we can mediate...” Haytor/Bagtor, participant

“Most of it is just understanding what they want from you, it’s alright putting a set of rules in place but explaining why and what and what they are trying to achieve and why they’re doing it...” Haytor/Bagtor, participant

As a result of DFF, commoners feel that they have a better understanding of what agri-environment schemes are trying to achieve and the outcomes that they are delivering. The increased understanding of agri-environment schemes is leading to improved environmental awareness and understanding and is demonstrated in the attitudes of participating commoners.

4.2.2 Environmental attitudes and understanding

Participating commoners from both pilot areas feel that through DFF they have gained a better understanding and awareness of the key species and habitats present on their common and the archaeological features. They have found that this has given them a greater understanding of how to manage the commons for environmental outcomes and how this can be incorporated within their livestock management.

Forest

“I think that is the biggest advantage farming futures has given to farmers, to engage more with the environmental side than they have done in the past, which I think is a big step forward.” Forest, participant

“...rather than just looking at there’s grass there so we can eat it, we are looking at, oh there’s grass there, we need to keep longer grass, shorter grass there because the birds like that particular landscape...” Forest, participant

“I think it’s improved knowledge without a doubt and it’s actually made us think about what else the land delivers apart from grazing, because I think whilst we’d heard these phrases of environmental benefits we probably didn’t understand what they were.” Forest, participant

Commoners on the Forest feel that the training and monitoring plays an important role in increasing their environmental understanding and their understanding of the connections between their management decisions and the desired environmental outcomes. Where management for environmental outcomes was originally seen as an imposed constraint on their farming, it is now increasingly being seen as an additional product or as a reward for their chosen management decisions, with environmental outcomes therefore becoming embedded within good farming practices.

Haytor and Bagtor

“...it’s made us more aware of things and being aware of it, it’s caused more interest, we weren’t aware that we had an adder breeding colony in one area until somebody identified it and now we swipe around that and burn around that....” Haytor/Bagtor, participant

“...it’s made us think about the common as a whole rather than just our own individual bit...” Haytor/Bagtor, participant

“...if somebody’s got an idea its proactive, whereas before it was always they couldn’t but they wanted to, it was just like they said we can’t sort of attitude, it was negative, it was always a negative attitude towards it,

whereas now it's quite positive, now you get people saying well I think I should do more in August or less in August and yeah it's quite positive". Haytor/Bagtor, participant

A number of commoners from both pilot areas commented on the management of the commons for the public benefit, in recognition of agri-environment support coming from tax payer's money;

"There has to be public benefits, such as keeping the common open for the public, agri-environment money should help other people as well because its public money, you feel obliged to." Haytor/Bagtor, participant

"...you've got the public who are the taxpayers, the funders of many schemes, well if they think well my moneys being wasted basically because this is just rank vegetation, this is just a fire risk, why am I paying for this to be delivered, the scheme has failed in its first instance..." Forest, participant

"...you need to be aware that you've got to deliver something for the public benefit, you know, for the environmental benefit, you need to have that mind-set, that it's not just your farming business you are doing it for, I see it as a big benefit." Forest, participant

The increased understanding and awareness among the commoners of the environmental features on their common is leading to these becoming incorporated into management decisions and commoners are increasingly considering their role as land managers that produce not only livestock but environmental outcomes.

"...when the cows can stay out they deliver a lot of benefit then because the sheep have gone, it's easier to manage the cattle, you can move them around more, you can take them to areas where you want to specifically target a bit of grazing..." Forest, participant

"...it also makes you look at the patches that you keep where you've got your leer, where you run your sheep, where you run your cattle, it makes you look at what we are doing, you know are we actually meeting the criteria, are we grazing this properly, are we over grazing it are we under grazing it..." Forest, participant

4.2.3 Monitoring

It is important to recognise the different approaches undertaken for monitoring on the two pilot areas and the impacts that these differences may have had on the individual commons. The different approaches were chosen for deliberate reasons; the approach undertaken on the Forest for the monitoring of SSSI condition requires a high level of involvement from the commoners, including training. The purpose of this approach was to develop a greater understanding of habitat types and SSSI condition. Upon starting the pilot, NE assessed the condition of the Forest SSSI to

provide a baseline against which to assess the impact of DFF. The SSSI units were also aligned with the commoner's known management areas to assist the commoners with linking the two together. On Haytor/Bagtor, however, where there is no biological SSSI, monitoring is largely undertaken by third party bodies, with little direct involvement from the commoners, see Appendix 1. The differences between the two monitoring approaches have resulted in different experiences and behavioural changes within the two pilot areas.

Forest

Monitoring on the Forest involves training for species identification for the assessment of SSSI condition, followed by the monitoring of SSSI condition through the use of quadrats. Maps are used to show the locations of priority habitats and the indicators of good/favourable condition. Crib sheets accompany the maps to aid the identification of key species that are required within the quadrats (Appendix 2 and 3). Participating commoners from the Forest are aware of the monitoring process and the majority of them have been or are involved with undertaking monitoring. Those that have not yet been involved in the monitoring said that they plan to be involved in the future. The importance of the training and monitoring was recognised by all commoners involved due to its ability to increase their own knowledge and awareness of species found on the common and to better understand what NE are looking for and hoping to achieve, which they feel provides them with an understanding of how to influence their management decisions to manage their livestock constructively to reach the desired outcomes.

Picture 1 Forest participants undertaking quadrat training



“.....and you can see it from their point of view a little, of the overgrazing you know, there’s that little beautiful flower and if it’s eaten right out, well it’s gone, whereas at the moment we’ve got a mosaic there of species. So the monitoring, although it takes a bit of doing is useful because it makes you think outside the box.” Forest, participant

“And I definitely think the idea of doing the quadrats is a good idea because it shows us what they want and we learn something.” Forest, participant

“I’m hoping it will help me understand that, you know, what we’re trying to achieve sort of thing, we want to see more of this, certain species sort of thing.” Forest, participant

“....we’ve done a couple of lessons on the quadrats and you know, being able to assess the vegetation yourselves and it gives a little more insight into perhaps what they’re looking for because sometimes it’s different to what you’re looking for, so yeah it gives you a bit more insight and understanding of how it works.” Forest, participant

Commoners felt that the training for SSSI condition monitoring provides them with the knowledge to work with NE more effectively and gives them the confidence to challenge their findings, creating a balanced power dynamic whilst giving the commoners more confidence to become involved with the decision making.

“...I think it’s very valuable to be able to assess it yourself, so that you know what’s happening so when NE come in and do their assessment you know what they’re talking about and you can say yeah I understand what you’re talking about, but what about this that I have seen...” Forest, participant

“....it’s not complicated but I just think it empowers farmers a bit to know what the ecologists are looking for and it just gives you some common ground then because you can say well no I saw that...” Forest, participant

Haytor and Bagtor

Haytor/Bagtor does not have a biological SSSI, therefore the monitoring approaches undertaken are different to those on the Forest, see Appendix 1. The monitoring has largely been delegated to third party groups, who then provide the commoners with a management report. Commoners have therefore had little engagement with the monitoring process.

“...the farmers only get involved in the stocking rates, that’s all we monitor ourselves really”. Haytor/Bagtor, participant

“Not me personally, but as a group, two or three of us will go up with either a National Park Ranger or Butterfly Conservation for instance. They go up and

do a report and we will have a chat with them to see how they feel things are going". Haytor/Bagtor, participant

Training and monitoring on the Forest plays an important role in the shaping of commoners attitudes and understandings towards the management of the commons and the impacts that their management decisions have on the biodiversity, this is leading to empowerment among commoners to actively engage with and take control of their agri-environment agreement. On Haytor/Bagtor however, where there has been little direct involvement with the monitoring, commoners have not received such an educational experience (in large part because it is not a biological SSSI). Third party monitoring can be considered to be a successful approach to monitoring to increase commoner understanding of the impacts of their management if the results are fed back to the commoners. However, the level of commoner engagement is significantly decreased and therefore the possibility of behaviour and attitude change is reduced.

There is also a difference between the monitoring undertaken through DFF and standard HLS schemes; monitoring for standard HLS schemes takes place through Integrated Site Assessments (ISAs) and aftercare visits. The ISAs examine the effectiveness of HLS, to ensure the management on HLS agreements is appropriate and will deliver the defined environmental outcomes. The ISAs are based on indicators of success (IoS). ISAs and aftercare visits consider if the holding is on track to deliver the environmental outcomes set out in the agreement. HLS Schemes will usually be visited once throughout the duration of the scheme and following the visits a letter is sent to the land manager reporting the findings. If the holding contains a SSSI then a combined assessment will be undertaken to judge against the SSSI targets⁴. The only records that are required to be kept by land managers include a stocking diary that details stock numbers, type of stock, stocking dates and any other information required.

4.2.4 Farm business impacts

Economic

Commoners felt that DFF provides them with little additional income benefits as the payments under DFF have not been enhanced. A few commoners continue to recognise that there could be cost savings under DFF relating to extended cattle grazing periods and the associated reduction in bedding and feed costs.

"...so it will have a financial gain there because you're extending your grazing period really so that burden of straw purchases and hay purchases, time and labour, that is a saving for those extra three weeks or month."
Forest, participant

"...probably the income is similar, but of course the expenses are a little bit less so the margins stretch a little bit further when you do your sums.....you

know it's really expensive when you've got cattle in to stock additional fodder when there is lots of grazing left on common land....." Forest, participant

Management

It was recognised among commoners that DFF offers increased flexibility to manage their livestock and farm systems through the temporary adjustment, the increased flexibility allows for more adaptable schemes that allows commoners to respond to weather conditions and seasonal variations, therefore removing the pressure of having to farm to rigid dates.

"...definitely because they are more flexible, if you have a target day when you have to turn your animals out, life's not like that and farming's not like that..." Forest, participant

"November is always tricky for a true hill farm because that's when the sheep are always put into ram, so it's always a busy time of year, for then to get your cattle off at the same time puts a lot of burden on those farmers at the end of October start of November, it brings everything to a head..." Forest, participant

"...the farming futures approach, it gives us a bit more flexibility, it gives the farmer a bit more flexibility to manage..." Haytor/Bagtor, participant

"It's the right way to go, I mean it's the outcomes determining what you're doing on the commons.....but if the outcomes were determined by all this foliage management etc. and everybody was looking at diverse management plans and the bogs were improving etc. but we're still allowed to manage it in terms of how we wanted to in terms of stock numbers well then that's going to benefit both people really". Forest, participant

Findings from the Cumulus report show that the increased flexibility offered by DFF scored the second highest out of all the benefits for the commoners, with commoners agreeing that they had adopted new or different management methods to benefit the common. At the time of the Cumulus report, temporary adjustments being considered by commoners included, extending the cattle grazing period, increasing stock numbers and swaling, current temporary adjustments to date have seen little further changes to management. A number of commoners feel that the only management changes they can offer to influence the commons are alterations to their grazing.

"So therefore that's all we can do for the management is the grazing side so, so whether we play with different dates of turning things out or different numbers, so that's all we can do at the moment". Forest, participant

“...apart from changing my stocking levels slightly, other management, there’s nothing to be crushed bracken wise out there, there’s not too much else I can do differently from what we did before really...” Forest, participant

Commoners identified key issues they have found with making changes to their management;

“...only the Forest is in the farming futures, so it’s very difficult to keep your cattle out there on the Forest when all the time, especially in rough weather they want to walk back to the home common, so it would benefit quite a bit just to keep them up there as well so they could still graze the two”. Forest, participant

“We could potentially up our stocking numbers and I think there’s room for that, the trouble with that is we’re adjacent to another common which we haven’t got rights on and our cattle have to cross that common to get home.....so influencing numbers on the Forest then influences all the other commons as well.” Forest, participant

The financial support provided by the agri-environment schemes is of great importance to the farming community. DFF, as a pilot scheme does not offer additional income for any extra work undertaken, suggesting that participation in DFF is not purely based on financial incentives.

Results across the longitudinal studies suggest that despite the increased flexibility offered under DFF, there has been very little innovation among commoners to trial new management practices to reach the desired outcomes. Any changes made have focused on grazing management and/or burning, however, a number of commoners that expressed an interest in increasing their stock on the commons have not done so. A key barrier highlighted by commoners on the Forest is the relationship between the Forest and the home commons.

Further potential barriers to innovation include;

- Time constraints and amount of organisation required to implement a trial
- Fear and red tape, commoners aren’t used to having the increased flexibility and might not actually think the flexibility is there to try something
- Costs
- Commoners may have reduced stock numbers as a result of previous agri-environment schemes and therefore do not have enough stock to increase their stocking numbers on the common. It can take a long time to rebuild stock numbers and commoners may be apprehensive to do so given the current state of farming in the UK.

Examples of two management methods that commoners are looking to trial on the Forest are provided below;

1. Dunnabridge Common

The use of experimental strips to investigate the impacts of different management methods on heather regeneration. Management on individual strips will include, scarify/spray and scarify/scarify and seed/seed, scarify and spray and a control strip. The areas will be fenced to keep livestock out and potential soil tests will be undertaken to establish growing conditions. The work is being undertaken following the individual commoners concerns over increased *Molinia* and decreasing Golden Plover and Curlew numbers.

Picture 2 Dunnabridge heather regeneration trial area



Table 2 Trial area management methods





2. Riddon Ridge

Encourage stock grazing around hut circles that are losing their visibility through lime application. By applying lime to the area, the palatability of the grass should increase and will therefore encourage stock to graze around the hut circles.

The two individual commoners looking to trial new management methods stated that one of the main drivers to trialling a new approach was the desire to prove their credibility as land managers and show that they can appropriately manage the land. They also feel that because they have been given the increased flexibility, they should go out and trial new management methods to prove the success of the scheme.

Picture 3 Archaeology exposed by burning at Riddon Ridge



4.2.5 Wider application

The majority of the commoners when asked said that they would recommend DFF as an approach to agri-environment scheme design, with some expressing a desire to see it rolled out onto home commons or inbye land. Commoners also stated that they think a DFF style approach would increase engagement with agri-environment schemes.

Commoners, however, stated that DFF would not work as an approach on commons where there is a long history of dispute given the high level of joint working required within DFF from the very beginning.

“Yes as long as you can all get on, if you don’t get on...I can see problems.”
Haytor, participant

“...it’s not going to be a quick fix for all commons if they’ve got difficulties, if they can’t get into a normal scheme then farming futures isn’t going to fix their problems, if anything it’s more difficult because you’ve got to understand each other and what you’re doing, you’ve got to work together...”
Forest, participant

“...it all depends on how the commoners actually get on...” Haytor/Bagtor, participant

Within the pilot areas however, commoners felt that DFF is successfully creating closer working relationships among commoners and between commoners and NE. emphasise the findings. Detail has been omitted in places to maintain confidentiality.

5. Stakeholder’s Views

This section provides a summary of the responses from key stakeholders following the interviews.

5.1 Key objectives

Stakeholders were asked what they felt the key objectives of DFF were. Key objectives identified by stakeholders included; to investigate how an outcome focused approach would work on Dartmoor and if such an approach would lead to better understanding and delivery of agri-environment schemes and environmental outcomes and in particular if it would deliver favourable condition on the Forest of Dartmoor SSSI. It was also highlighted that for commoners to deliver favourable condition of the SSSI, a further key objective of DFF was to provide clarity to

commoners on the meaning of favourable condition for them to manage the land appropriately. Two stakeholders thought that the role of DFF in creating understanding and ownership was not an original objective of the trial, but as the trial progressed, evolved into an important element and a key objective. In contrast, other stakeholders stated that they felt the main objective of DFF is the development of understanding and ownership, as stated in the original proposal². For future pilots this suggests that it is essential to ensure that all stakeholders have a clear understanding of the objectives and that the objectives have been interpreted in the same way.

“From my perspective the key objectives were to consider whether an outcome focused agreement would be a success in terms of delivering outcomes and also whether an outcome focused agreement would be easier to verify.”

“Organisationally to deliver favourable SSSI condition. To establish what favourable condition means and communicate this to commoners to allow them to be able to manage the common without interference from NE.”

“Key objectives I suppose are more of a local approach for delivery, more engagement and entrustment and trust the word of the farmers and the ability to adapt that management to specific sub compartments of the pilot areas.”

“...the main thing it is achieving which isn't one of the objectives is changing the understanding and buy in from the commoners, you know it's an unsaid objective and I think it's been greatly successful in doing that...”

When asked if they thought DFF is achieving its key objectives stakeholders felt that DFF has been successful in improving commoners understanding of their agri-environment schemes and the selected outcomes and in creating empowerment among commoners. The majority of stakeholders felt that the self-monitoring undertaken by the commoners plays an important role in increasing their understanding.

“Yes, although it's difficult to say because the sites change slowly so you might not see the results for a long time, but the creation of understandings and appreciation has been successful.”

“I would say yes it is, I would say that the fact that the commoners and the Forest of Dartmoor have invested so much of their own time in designing the scheme and then doing the SSSI monitoring training has got to be very demonstrable of greater understanding and ownership”.

“In short yes, I think the self-monitoring has been a success, I also think the level of agreement holder understanding and involvement in actively managing the agreement is a real positive.”

Picture 4 Farmers engaged in training for biodiversity monitoring



Whilst the majority of stakeholders considered the self-monitoring undertaken by the farmers to be a success, two stakeholders said that they have had or continue to have concerns over the monitoring. One stakeholder had concerns that early on in the DFF trial the monitoring was not rigorous enough and was not formalised in any way, however, these concerns are no longer felt to be an issue by the respondent. Another stakeholder felt that the levels of monitoring are too low and that there is not enough record keeping or evidence of delivery from the commoners and suggested that the monitoring of DFF needs to be more prescriptive in terms of what is being measured and how.

“...it’s all very well when it’s going right but if there’s any issues or any damage caused you need to actually provide the evidence base and it’s good to see the farmers getting involved with the vegetation monitoring.”

“So if it was going to be rolled out elsewhere...I would be a lot more prescriptive in what I want measured and how it would be monitored and how they plan...”

5.2 Lessons learnt

Key learning points considered by stakeholders following their involvement with DFF include;

- The importance of engagement and collaboration with and among stakeholders and commoners from the very beginning of a scheme
- Trust and engagement is important to transfer responsibility
- The importance of inclusiveness and the need to engage with all rights holders and stakeholders, not just the dominant few
- The benefits of a collective approach
- Effecting change is possible through a practical, bottom up solution
- Effecting change takes time and not everyone will engage
- The importance of social issues within scheme design
- The importance of partnership working
- Support for commoners at the start of a trial is important to guide change

5.3 Operation and delivery

5.3.1 Pilot area engagement

A number of stakeholders felt that there are differences in the operation and delivery of DFF between the two pilot areas, in particular with their understanding and engagement.

Two stakeholders felt that commoners from the Forest have actively engaged with DFF and have taken the scheme forward, adding their own elements. It was considered that this may largely be a result of the management approach that has been undertaken by commoners from the Forest. They also felt that commoners from Haytor/Bagtor are not showing the same levels of engagement and perhaps have less of an understanding of what DFF is looking to achieve.

“Haytor don’t get it, but the Forest do and have taken it on board and taken it forward adding their own elements and values....The Forest have actively engaged, wanted to know about SSSI condition, have taken it on as a joint initiative and actively wanted to get involved.”

“The Forest has been exemplary due to their management, due to their leadership and audit trail, it has been an open process and a farmer led example of working together.”

However, these comments need to be balanced against the fact that the two pilot areas were chosen for the trial because of their differences and as a result of their differences might be expected to engage with DFF in different ways, leading to differences in their engagement and management. In the words of one stakeholder:

“...so they’re very different, but we selected them to be different and the history of both is different.....you would have to say they’re both working towards those outcomes, they’re working towards those in different ways aren’t they.”

5.3.2 Scale and communication

Stakeholders also highlighted how the scale of the individual commons is likely to impact the DFF trial, in particular the impact on communication and management. Two stakeholders commented on the smaller size of Haytor/Bagtor and suggested that communication within a smaller common may be more straight forward compared to that of a larger common, making it easier to discuss the progress of the trial and management decisions with all participating graziers.

“I think it’s a problem, it’s too big an area, there’s too many people involved, as a pilot it would have been better to use a smaller common that we could actually sit down in a room with them all and drive things forward.”

“The impact the scale has on communication systems, so you know on Haytor and Bagtor within an hour you could probably ring everybody but on the Forest we’d have to wait until we have an area management meeting or a specific letter to graziers, but I still think the actual administration has been quite straight forward.”

In contrast, other stakeholders felt that the collective management, developed by the Forest as a result of its scale is a good model for management that shows open leadership with a fully agreed engagement and change process. Concerns were expressed over the less formal and potentially less organised management approach undertaken by Haytor/Bagtor, one stakeholder felt that this can lead to a dominant voice taking control of the agreement and therefore reducing discussion and involvement of other participating commoners.

“....and I think key the Forest has been the role of Association Secretary, that person has been really important, plus the Chairman of the Trustees because they’ve driven the process through and then you’ve got other commoners supporting and that just shows if you hadn’t had that infrastructure, if you hadn’t had those key people in place, would we ever have achieved so much, I doubt it.”

“Bigger groups are easier than small groups because while it may be hard to reach a consensus, it is less easy for one person to dominate.”

5.4 Changes to DFF in the future

The following suggestions were made by key stakeholders when asked if they would make any improvements or changes to DFF;

- Wider involvement of all stakeholder groups, local communities, visitors, etc. to include everyone's vision for the commons and the processes needed to achieve these visions
- Work to build commoners confidence in the early stages of DFF to encourage innovation
- Use of DFF to trial different payment methods for schemes

5.5 Future application and scheme design

Stakeholders were asked to consider how DFF could be carried forward in the future and how the results of the trial could be used. All stakeholders stated that they would want to see outcome focused approaches to agri-environment incorporated into future scheme design. The majority of stakeholders also expressed that they would like to see more trials taking place that use the principles of DFF and that look into trialling new approaches to payment methods for agri-environment schemes. It was felt that the results of the DFF evaluation should be shared to all interested parties to help guide and influence future scheme design.

“To continue with the two pilots, to look at how we can extend Farming Futures to other commons, some of the learning points.....I would also like to extend it to looking at some of the payments...”

“...I think a couple of commons where we we've got confidence that they would do the right thing or at least have the capacity to do the right thing, I think we should be offering them the capacity for a couple of trials and I'd really like to trial some of the other money bits on another common...”

Whilst all stakeholders felt that more trials should be carried out, limitations to carrying out further trials were raised. For NE these included the costs of running a trial such as DFF, given how resource intensive the pilot has been, it was however, acknowledged that the running of any pilot scheme would be expensive. Further limitations included the potential difficulties of running a similar trial in an area that does not have the same number of key partners and commoners that are willing to work together and on commons that do not have strong leadership.

When looking at future scheme design, particularly future payment methods, it was highlighted by one stakeholder that for landowners the current payment method works well in order for them to receive their part of the payment and a move to outcome focused or results based methods would mean that landowner payments would also need to be looked at within scheme design and how best to deliver them.

“...but the challenge with the Farming Futures I think is the extent in which it can be applied elsewhere in the country where you haven’t got these key partners...”

“...there are other commons on Dartmoor where that leadership perhaps isn’t in place where it would be harder to immediately replicate Farming Futures and so there’s an issue where if that leadership isn’t in place, can you impose it, can you develop it from grass roots up and if the role of association secretary is key or if the role of administration is key, how do you support that going forward.”

6. Conclusions

This report sought to evaluate the impact of DFF on farmers’ behaviours, perceptions and farm businesses. Evidence from the interviews has pointed towards three key conclusions;

1. DFF is resulting in greater understanding and ownership of agri-environment agreements.

The evaluation has provided evidence that DFF, as a bottom up, farmer led approach is resulting in commoners having a greater understanding of what agri-environment schemes are looking to achieve and the outcomes that they are delivering. Commoners are showing an increased awareness and knowledge of the key species, habitats and archaeological features that can be found on their common. Participation with training and monitoring plays an important role in increasing their understanding and the subsequent empowerment to take control of the management. Commoners are increasingly recognising their role as land managers, not only for livestock production but for the production of ecosystem services and have a better understanding of the impacts that their management decisions have for the production of these services. There are differences, however, between the two pilot areas and the impacts that DFF has had on the individual commons, these differences can be attributed to the differences in characteristics of the individual pilot areas.

The DFF trial provides a learning opportunity to understand how farmer behaviours can be influenced through an outcome focused approach for the production of ecosystem services, whilst offering farmers more responsibility for the design and delivery of agri-environment schemes.

2. Caution among commoners is reducing innovation

At the moment, despite the increased flexibility offered under DFF, the majority of commoners are choosing not to trial new management methods to achieve the desired outcomes, with the exception of changes to grazing management and burns. Barriers to innovation were highlighted among commoners, in particular the wider impact of the changing of management methods on other commoners and their chosen management. Given that DFF is underpinned by existing agreements, payments are not related to management decisions; this has the potential to reduce the incentive among commoners to trial new management methods. However, if the trial had not been underpinned by an existing agreement, engagement with DFF may have been reduced. Commoners' willingness to trial new management methods and show that they know how to manage the land has not necessarily been highlighted in their management decisions under DFF.

It is important to note that the evaluation was undertaken at a time of uncertainty within the UK agricultural sector, with particular reference to the delayed Basic Payment Scheme payments and the EU referendum. Therefore, understandable caution among commoners is likely to be reducing innovation

3. Increased evidence and delivery of the outcomes

The DFF approach provides increased monitoring of the desired outcomes in comparison to standard HLS schemes given the self-monitoring that is undertaken by the commoners. Standard HLS schemes do not involve land manager monitoring and reporting of outcomes and are judged purely against their prescriptions and IoS; as a result, DFF provides better evidence of delivery of the outcomes. Commoner involvement in monitoring is also likely to lead to better delivery of the desired outcomes as a result of the increased knowledge, understanding and ownership gained by the commoners through the self-monitoring.

7. Key Learning Areas

7.1 Scheme design

The evaluation has provided further evidence for the future design of agri-environment schemes. A bottom up approach, with farmer input from the initial design stage can increase understanding among the farming community and the wide range of stakeholders of what agri-environment schemes are looking to deliver. Outcomes should be clear, understandable and achievable. Farmer input into the design of the scheme and its outcomes creates schemes that are area specific and make use of the local knowledge of the farmers. The increased flexibility allows farmers to respond to conditions that are outside of their control, allowing for

increased freedom of management and therefore improving their ability to reach the desired outcomes. It is likely that an outcome focused approach to agri-environment will result in increased uptake of schemes among farming communities. An independent facilitator is also important to provide for the development and carrying forward of a scheme and to provide farmers with a voice.

7.1.1 Monitoring

The differences between the monitoring approaches have resulted in differences upon the commoners and their experiences and understandings of agri-environment scheme outcomes and their engagement with delivering the outcomes under DFF. SSSI notification was a key driver for DFF, in particular the process of determining favourable condition, this however, only related to the Forest. The process, through training and involvement with the monitoring of SSSI condition provided commoners from the Forest with an educational experience, resulting in an increased understanding of biodiversity and the impact of their management decisions. Monitoring on Haytor/Bagtor, however, as a result of not having a biological SSSI designation, simply provides commoners with information on the management required as recommended by the third party undertaking the monitoring. Commoners on Haytor/Bagtor are therefore not always engaged with key learning experiences that can provide them with the knowledge to take further control of the management. Third party monitoring, however, is still likely to lead to a greater understanding if the results are shared with all active graziers. Participation in scheme monitoring acts as an important engagement tool, providing commoners with a learning experience and increased knowledge of the impact of their management decisions and has the potential to increase the likelihood of the delivery of the scheme outcomes, benefitting all stakeholders and users of the common land.

7.1.2 Size of commons

The difference in scale between the two pilot areas has resulted in different management approaches of the individual agreements. On the Forest, where there are a large number of signatories, the agreement requires controlled management and has resulted in the creation of an elected group of trustees that work together as a collective management group. In contrast, the need for such management is reduced on Haytor/Bagtor given its smaller size; this has the possibility, however, to result in distorted management, with management decisions not always being made collectively. The number of commoners on individual commons therefore has an impact on the management structure and communication systems within those commons and is likely to impact the overall operation and management of the scheme and should be considered within scheme design.

The number of commoners on a common should also be considered further within scheme design for the number of potential participants and the impact on scheme engagement. A common that has a large number of commoners holds a higher

number of potential participants and therefore engagement with the pilot is likely to be higher, the need to engage with all potential participants is therefore reduced. On a smaller common, however, where there are fewer potential participants the need for wider engagement is increased as reduced engagement is more likely to have an impact on the success of the scheme. The size of a trial area and the different levels of engagement required should be an important consideration for scheme design.

7.2 Scheme engagement

7.2.1 Commoner engagement

Engagement of commoners is vital to the success of the scheme. Throughout the duration of the scheme it is important to maintain high levels of engagement across the pilot areas to ensure the longevity of the scheme and to maintain any behavioural and social changes that may have occurred as a result of the pilot. Given that the DFF trial is now in its fifth year, there is concern that the trial has been forgotten and commoner engagement has reduced. It is therefore important to continue to recognise the achievements of the participating commoners and to celebrate their successes to continue their engagement and empowerment of the scheme.

7.2.2 Public engagement

Commoners are recognising the importance of producing environment and public benefits through their farming given that agri-environment schemes are funded through public money. It is therefore important to engage with and communicate to the public how commoners are contributing towards the delivery of ecosystem services and land management, to increase wider public understanding of the role of commoners and farmers and to justify and continue support to farmers in the future.

This project has focused on the behavioural change impacts of DFF and has not investigated the financial and positive benefits to the wider society and other communities/groups that use the moor. In order to fully understand these outcomes it is also recommended that a further specific project is undertaken to quantify any additional outputs.

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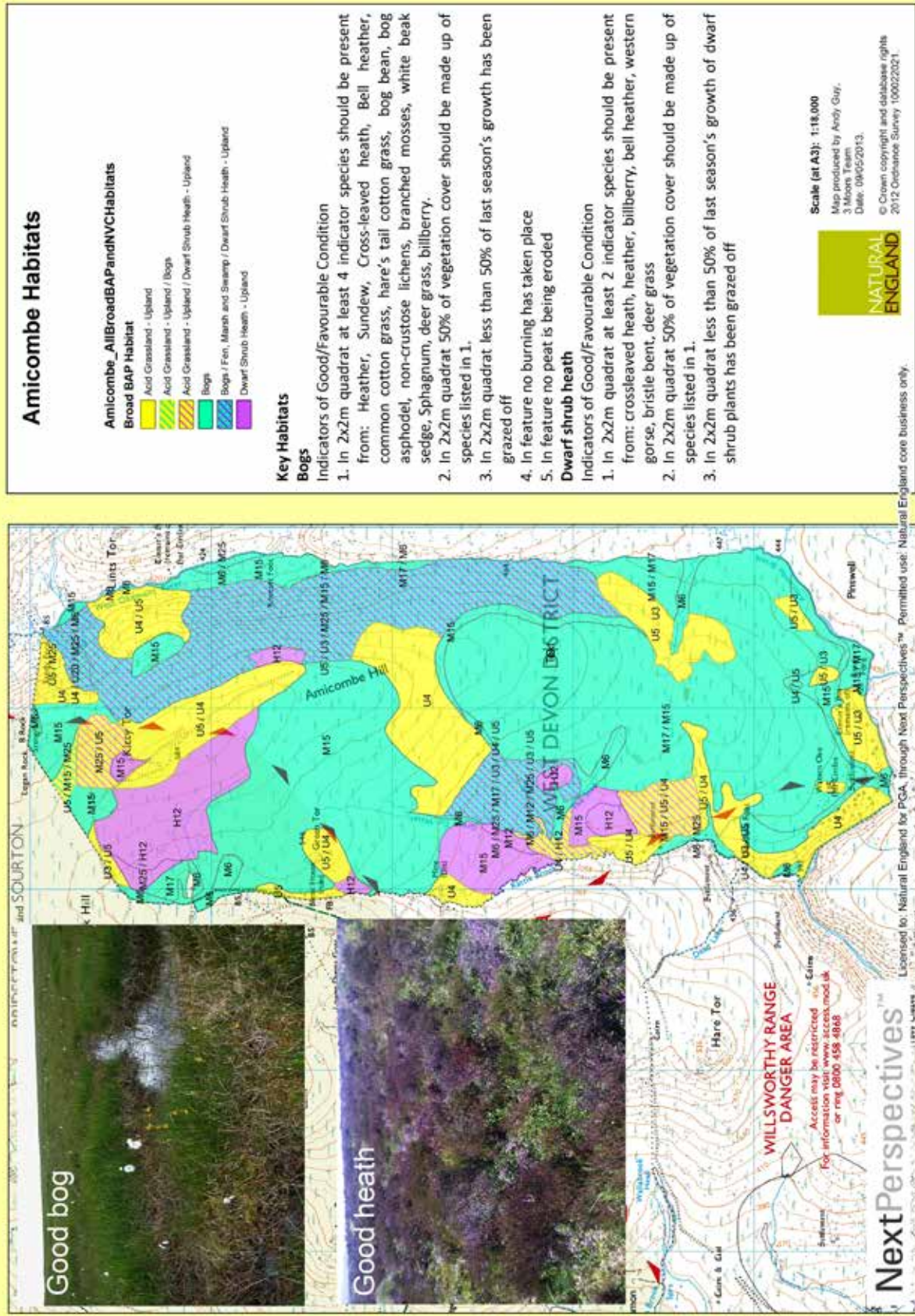
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8. Appendices

Appendix 1

| Haytor and Bagtor: Monitoring Plan | | | |
|--------------------------------------|---|---|--|
| Natural resource | Outcomes | Monitoring process | |
| Public access | <p>The main access routes between the principal features (tors, quarries and tramway), adjoining commons and the car parks are kept free of appropriate vegetation</p> <p>Selected paths, identified by DNPA are widened by the removal of vegetation</p> | <p>A base line set of photographs will be taken and repeated annually. (September and 6 sites)</p> | |
| Archaeology and historic environment | <p>Selected archaeological sites, including the tramway and boundary stones are kept free of encroaching vegetation.</p> | <p>A note and photos on the work carried out on each archaeological site will be prepared each year.</p> | |
| Nature or biodiversity | <p>The areas of Western Heath, including gorse are retained and managed to provide a variety of age and structure and therefore create suitable habitat for priority species including Dartford Warbler.</p> <p>The mires remain dominated by short vegetation with some taller grasses and areas of water to provide habitat for Snipe, various dragonflies, bog hoverfly, Marsh and Small Pearl-bordered Fritillary butterflies.</p> <p>The areas of bracken are managed to prevent an increase in area and to create a mosaic of grassy areas and bracken to provide habitats suitable for High brown, Pearl-bordered, Dark green and Small Pearl-bordered Fritillary butterflies.</p> | <p>A base line set of photographs will be taken and repeated annually. A map showing where swaling and cutting will be compiled each year. Annual survey of Pearl-bordered Fritillaries undertaken to establish presence and records available.</p> | |
| Landscape | <p>Grazing cattle, sheep and ponies remain in the landscape</p> <p>The tors remain visible and connecting paths are not visually intrusive.</p> | <p>A base line set of photographs will be taken and repeated annually</p> | |
| Water – quality and quantity | <p>No actions by the commoners will result in reducing the water quality in the River Lemon</p> | - | |
| Food production | <p>There is no decline in the number of grazing livestock days (numbers of cattle and sheep x days grazing).</p> | <p>A stocking calendar will be prepared each year and a record of actual stock grazing numbers will be compiled</p> | |
| | | | Who completes it |
| | | | Commoners |
| | | | Commoners with DNPA |
| | | | Commoners/Butterfly Conservation/Other parties |
| | | | Commoners |
| | | | EA |
| | | | Commoners |

| Forest: Monitoring Plan | | | Who completes it |
|--------------------------------------|--|--|-----------------------------|
| Natural resource | Outcomes | Monitoring process | |
| Public access | Ensure selected access routes and areas used for public access and amenity are maintained in a suitable condition as defined in the management area plans | The main access routes within each Management Area will be checked annually. An annual map showing areas where vegetation was hindering access will be provided if needed | Commoners with DNPA |
| Archaeology and historic environment | The areas of land that fall within the three PALs will be managed by grazing stock and where appropriate burning and cutting aiming to achieve the conditions sought by the PAL | Work undertaken in accordance with individual PAL statement will be recorded with photographs | Commoners with DNPA |
| Nature or biodiversity | Of the 56 SMs found on the common, 12 scheduled monuments appear on English Heritages 'at risk' register and these will be prioritised for appropriate management to enable them to be removed from the register. The required management will be decided upon on a site by site basis. | The sites and condition will be included within each management area monitoring programme. Work undertaken in accordance with site requirements to be recorded by photographs, including photographs of sites before work | Commoners with DNPA |
| Landscape | Manage sympathetically the entire common to maintain and where appropriate, enhance the quality of the biodiversity and within notified sites (SSSIs) to achieve 50% in favourable condition by 2020. Specific vegetation management will be undertaken to deliver the individual management area plans and agreed in advance with NE. | The composition and condition of vegetation within the key features (important habitats) will be recorded within quadrats. The frequency and numbers of quadrats will be defined in each management area monitoring programme. | Commoners with NE support |
| Water – quality and quantity | Provide a sufficient livestock and swaling programme to ensure an open landscape remains whilst protecting the mosaic of difference vegetation and sward heights. All swaling will be in accordance to a previously agreed plan and follow the heather and grass burning code. | Selected views to be recorded annually by photographs, in a way that enables yearly comparison. Take remedial action if hazards or adverse change recorded. | Commoners |
| Carbon | No actions by the commoners will result in reducing the water quality that reaches the various abstraction points. | SWW and EA annual monitoring of water quality | EA, SWW |
| Food production | To facilitate blanket bog restoration design and conduct trials on the previously agreed 110 ha. by 2015 and then after, only on sites agreed in advance by the commoners | Evidence of trials underway to include photographs and maps | Commoners |
| Fire | Maintain healthy heathland soils. Provide vegetation management and reduce the adverse impacts of wild fires | Record condition and changes to areas of exposed peat. Photographs will record remedial action. | Commoners |
| | Ensure that leared flocks and herds remain the principle means of stock management and that all stock are appropriate to the higher moor | Stock counts undertaken monthly from May to October and once in February, recording number, type and position of livestock. | Commoners |
| | Ensure that the Forest fire plan is kept up to date and sufficient commoners are trained to fight fires. Ideally there will be no wild fires during the term of agreement. Fire parties to be in attendance in the event of a wild fire. | Fire plan reviews annually. A record of all responses to callouts and a list of participants will be kept. | Commoners with Fire Service |



Appendix 3

Condition assessment crib sheet



Heather – *Calluna vulgaris*



Cross-leaved heath – *Erica tetralix*



Bilberry – *Vaccinium myrtillus*



Bell heather – *Erica cinerea*



Sundew – *Drasera*



Bog bean – *Menyanthes trifoliata*



Bog asphodel – *Narthecium ossifragum*



Deer grass – *Scirpus cespitosus*



Hare's tail cotton grass – *Eriophorum vaginatum*



White beak sedge – *Rhynchospora alba*



Sphagnum papillosum



Common cotton grass - *Eriophorum angustifolium*



Bristle bent *Agrostis curtisii*



Branched moss



Branched moss



Non-crustose lichen – *Cladonia portentosa*

National Vegetation Classification Communities

| Heath types | |
|--|--|
| H4 – Western gorse/Bristle bent heath | |
| H8 – Heather/Western gorse heath | |
| H10 – Heather/Bell heather heath | |
| H12 – Heather/Bilberry heath | |
| M15 – Deer grass/Cross-leaved heath wet heath | |
| Bog types | |
| M4 – Beaked sedge/Sphagnum recurvum mire | |
| M6 – Star sedge/Sphagnum recurvum mire | |
| M17 – Deer grass/Hare's tail cotton grass blanket mire | |
| M21 – Bog asphodel/Sphagnum papillosum mire | |
| M25 – Purple moor-grass/Tormetil mire | |
| Fen, Marsh and Swamp types | |
| M1 - Sphagnum auriculatum bog pool community | |
| M2 - Sphagnum cuspidatum/recurvum bog pool community | |
| M3 – Common cotton-grass bog pool community | |
| M29 – Bog St John's wort/Bog pondweed soakway | |
| Grassland types | |
| U3 – Bristle bent grassland | |
| U4 – Sheep's fescue/Common bent/Heath bedstraw grassland | |
| U4/20 - U4/20-related species rich bracken | |
| U5 – Mat grass/Heath bedstraw grassland | |
| Woodland type | |
| W17 – Sessile oak/Downy birch/Dicranum majus woodland | |