CASE STUDY

"SUSTAINABLE UPLANDS:
NORTH PENNINES MULTI-STAKEHOLDER PARTNERSHIP"
(UNITED KINGDOM)

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1 Introduction: What is the case study about?

The aim of this report is to:

- Sketch out the social-ecological system (SES) associated with the Allen Valleys Landscape Partnership Scheme (AVLPS) and the broader North Pennines Area of Outstanding Natural Beauty (NPAONB).
- Analyse the conditions for successful provision of Environmental and Socially Beneficial Outcomes (ESBOs) from farming and forestry in this SES.

To achieve both of these aims it was important to engage with key actors and stakeholders associated with the case study area. A close working relationship was developed between the CCRI research team and the NPAONB Staff Unit at the beginning of the case study. Through the NPAONB Staff Unit, with its extensive local knowledge and network of stakeholders, 8 participatory workshops were arranged and conducted during 2 visits to the case study area in May and June 2016 (see Annex).

The NPAONB is the second largest of 38 AONBs in England and Wales covering an area just under 2,000 km^2. The primary purpose of the AONB designation (an IUCN protected area category V – land actively managed by people, mostly in private ownership) is to conserve and enhance natural and cultural heritage. Designated in 1988, the NPAONB is a wild and remote area of England comprising high open moorland and broad enclosed valleys, known as dales (Figure 1.1).

The NPAONB Partnership is the body responsible for co-ordinating efforts to conserve and enhance the natural and cultural heritage of the North Pennines and its work is carried out through the NPAONB Staff Unit which is part-funded by the government[1]. A key area of interest for the NPAONB Partnership is the social capital delivered by, and required from, farmers and other landowners in the area and its links to natural and cultural capital as typified by the presence of High Nature Value (HNV) farmland.

> *HNV farming* refers to low-intensity farming systems which deliver biodiversity conservation as well as a multitude of other services for society. Semi-natural pastures and meadows are a critical part of HNV farmland and farmland biodiversity in Europe, and the North Pennines AONB contains outstanding examples of both habitats, on the in-bye and on the open fell. (Jones et al., 2013)

[1] Responsibility for the AONBs lies with the relevant local government authorities, who are also responsible for spatial planning (development control) in each AONB. AONB partnerships receive 75% of their core funding from Defra and 25% from local authorities and other sources. To help with managing AONBs, 32 local advisory committees have been established, which involve all the local authorities within the AONB area. Several AONBs have secured additional funding for their work from the UK National Lottery's various initiatives for environmental and heritage work: Landscape partnerships are one example.

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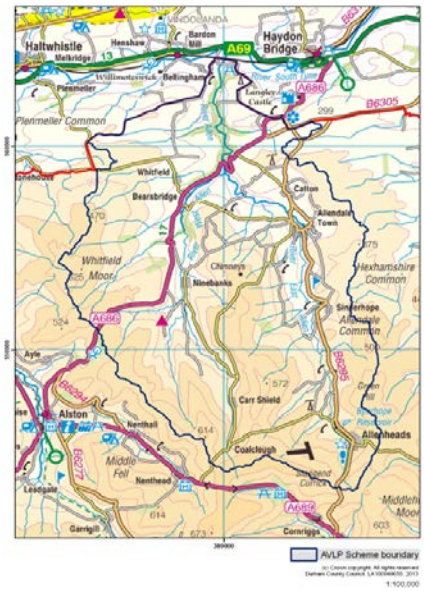
Located in the north of the NPAONB, Allendale Town and the Allen Valleys are the focus of a Heritage Lottery Fund (HLF) grant from 2014-18 for a 'Landscape Partnership'[2]. The AVLPS, delivered by the NPAONB, aims to conserve and restore some of the most important natural and cultural heritage assets, to make them more accessible to residents and visitors for learning, training and recreation, and to ensure that there is capacity within the local community to conserve and exploit these heritage assets for a more sustainable future (AVLP, 2014). The AVLPS covers approximately 20,000 ha of the catchments of the rivers East and West Allen (see Figure 1.2). Although this case study will focus upon the AVLPS project area many of the issues discussed also apply to the broader NPAONB area.

Figure 1.1: Open moorland and enclosed valley landscape in the North Pennines

Figure 1.2: The Allen Valleys Landscape Partnership Scheme



[2] The Landscape Partnerships programme funds schemes led by partnerships of local, regional and national interests which aim to conserve areas of distinctive landscape character throughout the UK. Funding varies from £100,000 to £3 million. (HLF, 2013)

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A document analysis was undertaken to identify the key environmental assets in the case study area. The three main documents analysed were the Allen Valleys Landscape Conservation Action Plan (AVLCAP), the NPAONB management plan and the North Pennines National Character Area Profile written by Natural England, the government's adviser for the natural environment in England.

Biodiversity assets

The main biodiversity assets comprise:

- **Special grasslands**: The NPAONB has more grassland of wildlife importance than most other areas in England, and the Allen Valleys has a significant proportion of this habitat (Upland hay meadows, roadside verges and riverbanks, allotments and calaminarian grasslands).
- **Moorlands**: The expanses of blanket bog and heather moorland which surround the Allen Valleys are home to some of the country's rarest wildlife (e.g. black grouse, short eared owl, curlew, golden plover, merlin, oystercatcher, meadow pipit, adders, common lizard, water voles and amphibians).
- **Trees and woodlands**: The Allen Valleys has 30% of the NPAONB's ancient woodland and 20% of the area's ancient semi-natural woodland. Woodlands are important for their contribution to the landscape and for the biodiversity which they support (e.g. red squirrels, pied flycatcher and redstart).

Landscape and cultural heritage assets

This is a largely undeveloped landscape, with outdoor sheep and cattle rearing the predominant farming practice. There are few villages, and dispersed hamlets and farmsteads, mostly built with local stone. There is widespread evidence of a long history of mining. The Allen Valleys contain numerous relics of former lead mining, most dating from the 18th and 19th centuries. The landscape has important historic agricultural features including the small fields and irregular patterns of walls which surround the settlements and date from the 16th century. More regular field boundary patterns are found on the dale sides and date from 18th and 19th centuries. The conservation and interpretation of historic landscapes and geological features provide key opportunities for future environmental management. (English Nature, 2013).

Geological assets

The North Pennines is world-famous for its remarkable mineral veins and deposits, known collectively as the Northern Pennine Orefield (NPAONBP, 2014). The Allen Valleys are part of the Northern Pennine Orefield and are criss-crossed by mineral veins containing galena (lead) and many other minerals that have been commercially mined. Its UNESCO Global Geopark status indicates that the North Pennines is also at the forefront of places where geology is being used to support sustainable development through nature tourism, education and conservation. (NPAONBP, 2014; Natural England, 2013)

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Protected area designations

The Allen Valleys have outstanding **nature conservation** interest, almost 50% of the area is under statutory conservation designations. 49.3% of the area (10,256 ha) is designated as a Special Protection Area under the EU Birds Directive. The SPA is also designated as Sites of Special Scientific Interest, (SSSIs – a UK designation for nature conservation) with 16 individual SSSIs split into 27 units.

The importance of the Allen Valleys' **cultural** heritage is recognised by the designation of 12 Scheduled Ancient Monuments (SAMs) of national importance and numerous Listed Buildings of special architectural and historic importance (also protected by law). Allendale Town is designated as a Conservation Area because of its special architectural and historic interest.

Pegasus became involved with the AVLPS to investigate and understand how the scheme engages with local actors and stakeholders to maintain and enhance the appreciation and delivery of key ESBOs within the SES. Participatory workshops were held with key stakeholders (see Annex) to identify which ESBOs were perceived to be most important in the case study area (Table 1.1). These ESBOs became the focus for more detailed discussions on rural vitality, landscape character and cultural heritage, species and habitats, water quality, carbon sequestration and storage and food security.

Table 1.1: Workshop participants ranking of 5 most important ESBOs

ESBO	Votes	ESBO	Votes
1	1 2 2 2 4 5 [6 votes]	11	1 1 1 1 1 2 2 2 2 2 (2) 3 3 3 4 4 5 [17 votes]
2	2 4 4 4 5 5 5 (5)* [8 votes]	12	2 3
3	5	13	2(2)3 4 5
4	4	14	1 1 2 2 2 3 3 3 3 3 (3) 4 4 4 4 5 5 [17 votes]
5	1 5	15	5 5
6	2 3 4 4 4 5 [6 votes]	16	2 3 4 5
7		17	(1) 3
8	4	18	4
9	1 (4) 5	19	1 1 1 1 1 1 1 1 1 (1) 2 3 3 3 3 3 5 5 5 [19 votes]
10	(4)		

Total participants = 19. Rank: 1=highest, 5=lowest

*One participant selected a total of 8 ESBOs

The farming community, mainly based around full-time farmers but also an increasingly significant number of smallholders, is the main actor involved in managing the enclosed farmland of meadows and pastures in the Allen Valleys. However, over 50% of this is rented from a small number of large estates. These estates often have grouse shooting interests on the open moorland (Figure 1.3) above the enclosed land and can place restrictions on the land management practices of their tenant farmers. The gamekeeping community, working for the grouse shooting estates, is the main actor managing the open moorland. Environmental and community interests and organisations are also important actors in the case study including the NPAONB Partnership, Natural England, Environment Agency, Coal Authority, Water Authority, Royal Society for the Protection of Birds (RSPB), HLF and the Landfill Tax.

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Figure 1.3: Heather moorland managed for grouse shooting

To characterise the SES a review of relevant papers, policy documents, reports and on-line sources was made. Workshops were jointly facilitated by CCRI and the NPAONB Staff Unit and were important in clarifying the perceived importance of different ESBOs, ESBO provision, the level of resilience and sustainability in the SES and the key interrelationships, influences, drivers, limiting and enabling ESBO provision.

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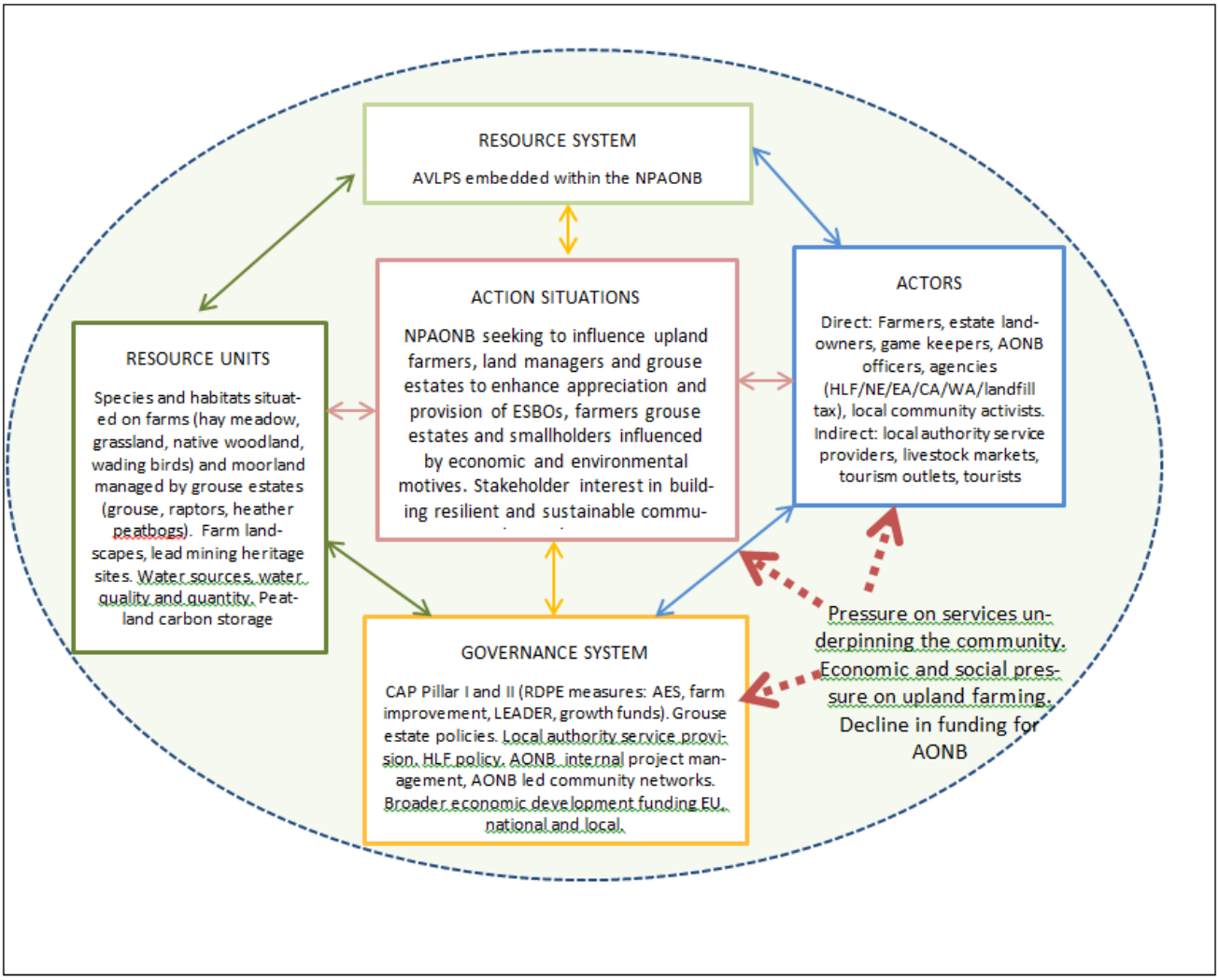
2 Definition of the social-ecological system (SES) studied

2.1 Figure of the SES using the SES framework for Sustainable Uplands: North Pennines Multi-stakeholder partnership



2.2 Short characterisation of key drivers/motivations

Agriculture in the SES

The economy and social structure of the North Pennines has undergone major changes in the past 150 years. Lead mining and processing were major activities during the 19th Century but the collapse of the industry at the end of the century resulted in a rapid fall in population and an increasing reliance on agriculture as a major economic driver. However, in the latter part of the 20th Century there has been a significant decline in agricultural employment with the number of people employed in farming falling by almost 60% between 1990 and 2002 (SQW, 2004) and workshop participants confirmed that the number of commercial farms was continuing to decline.

The NPAONB and Allen Valleys are dominated by upland livestock farming –mainly outdoor sheep and cattle rearing. The vast majority of the agricultural land in the NPAONB is designated Severely Disadvantaged under the Less Favoured Area (LFA) Directive of the Common

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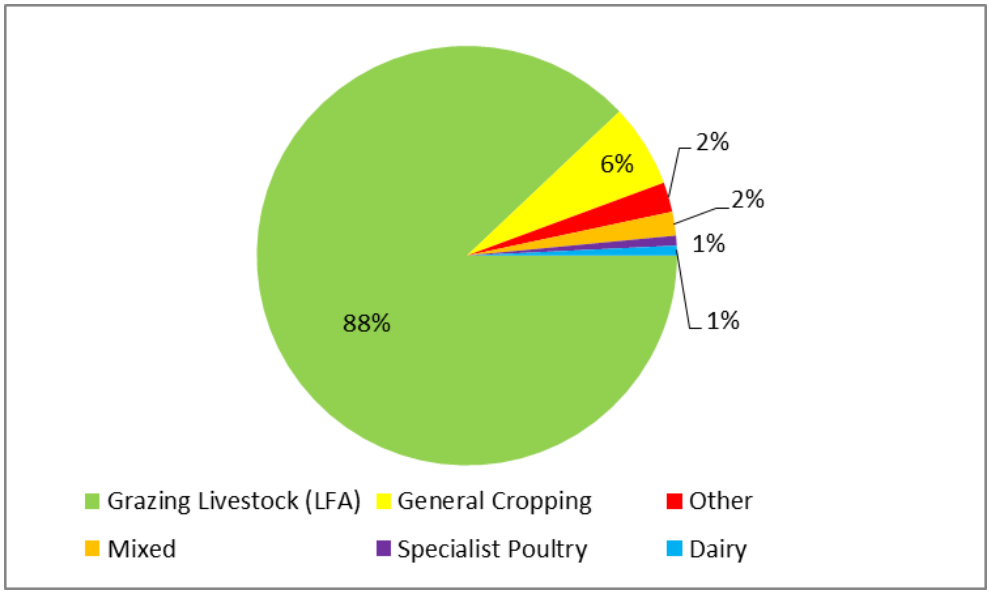
Agricultural Policy (CAP). The 2013 Defra Agricultural Survey[3] recorded 667 commercial holdings in the NPAONB and the majority (88%) were Grazing Livestock (LFA) farms (Figure 2.2). Land use is dominated by permanent grassland (53%) and rough grazing (41%). There is very little temporary grass or crops (Figure 2.3).

Figure 2.2: Type of commercial farms in the NPAONB (2013)



Source: Defra June Agricultural Survey 2013

[3] The most recent year statistics are available.

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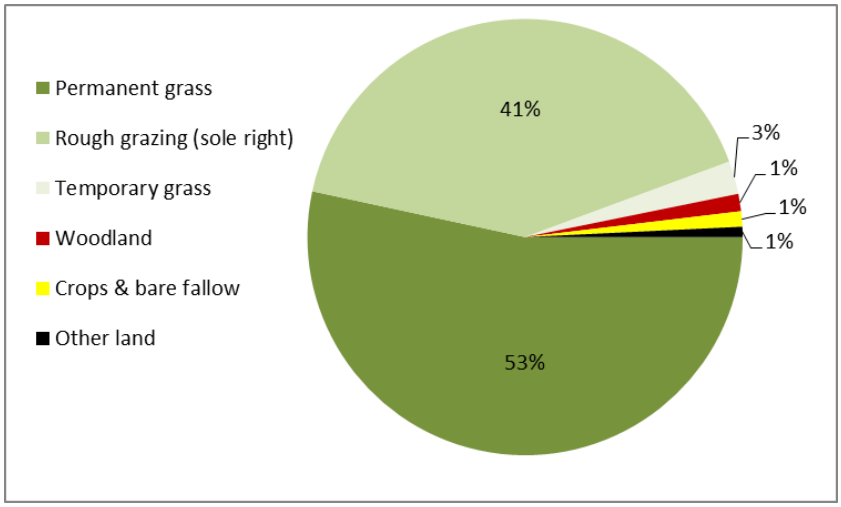
Figure 2.3: Land use on commercial farms in the NPAONB (2013**)**



Source: Defra June Agricultural Survey 2013

The farms tend to be large in area with 41% being over 100ha and a further 19% are between 50 and 100 ha in size. These farms control over 90% of the farmed area. Most of the farm labour is provided by farmers and their families and there is relatively little employed labour (Table 2.1).

Table 2.1: Labour on commercial farms in the NPAONB (2013)

Type	Full-time	Part-time	Total
Farmers	714	486	1,200
Employees	94	110	204
Total	808	596	1,404

Source: Defra June Agricultural Survey 2013

The nature and extent of HNV farming systems in the NPAONB have been studied by Jones et al. (2013). They concluded that many ESBOs are dependent on the land management practices associated with low-intensity farming and that there is potential to maintain and enhance the provision of ESBOs by guiding and supporting appropriate land management practices as part of HNV farming systems. However, a major threat to HNV farming is the economically marginal nature of upland farming.

The factors that contribute to the economic fragility of upland farming have been described by Gaskell et al. (2010): Farming in the uplands is traditionally centred on the farm family and associated with limited use of employed labour in comparison to lowland farms. Upland farming faces socio-economic pressures which threaten the future of many farm businesses including low returns from core agricultural enterprises, very high dependence on public support, limited opportunities for diversification that will make a significant contribution to household income, an aging farm population and few successors.

The choice of enterprises is constrained by the harsh physical conditions and is based around livestock production. Purebred hill sheep enterprises traditionally occupy the areas of moorland associated with the harshest conditions. The productivity of hill sheep flocks compares unfavourably with lowland flocks. Whilst their main value has been as breeding stock, fattened hill lambs tend to be lighter and have poorer conformation than lowland breeds re-

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sulting in reduced market value. Suckler cow systems, producing calves for fattening in the lowlands, has traditionally been the companion enterprise to purebred hill sheep across much of the uplands. However, in recent years suckler cow systems and outdoor beef rearing has become increasingly uneconomic and workshop participants reported that beef rearing is declining in the Allen Valleys.

On the fringes of the uplands and in the valley bottoms dairying has traditionally been a favoured enterprise, particularly in areas such as the North Pennines where there was also a significant rural industrial population. However, in the last quarter-century there has been a rapid decline in dairy enterprises in the uplands as production has been concentrated in fewer but larger herds located in areas with less demanding physical and climatic conditions.

The Farm Business Survey (FBS) monitors the economic performance of commercial farm businesses in England and provides a valuable insight into the economic health of upland farms from year to year. The FBS data show that it is very difficult for livestock farmers in the LFA to generate a profit from their farm businesses on a consistent basis irrespective of their size, enterprise mix and diversity of farm incomes and that without public support payments these farms would incur substantial financial losses (see Harvey and Scott, 2016).

The main reason for this poor economic performance is that input costs for the core agricultural enterprises (sheep and beef) consistently exceed output prices and the majority of agricultural enterprises covered in the survey make a financial loss. This leads the FBS to conclude that sheep and beef farming on their own in the LFA is simply economically unsustainable and highlights the critical role non-agricultural income streams play on LFA farms.

> "The price we get for our livestock is absolutely abysmal, we were selling lambs last year for probably less money per head than we were 15 years ago. You cannot run a business like that you know. Unfortunately your rent goes up, your fertiliser goes up, predominantly everything is rising and the product we are producing is under serious pressure." (Workshop 4)

On the open moorland the grouse shooting economy is a major driver of land management practice. Grouse depend on heather moorland and viable populations for shooting are created by a combination of habitat management (through rotational burning, regulated grazing and vegetation control), and predator control (Thompson et al., 2016).

Other drivers in the SES

The key UK policy driver for uplands support is the delivery of environmental benefits, although this is within the wider framework of the CAP (both pillars). A range of policies acknowledge that upland farming is an important provider of biodiversity, landscape and cultural heritage and contributes to a range of ecosystem services such as climate regulation through carbon storage, clean water supplies, flood regulation and recreation opportunities (Reed et al., 2009).

Farmers in the NPAONB have a long history of engagement with CAP funded Agri-Environment Schemes (AES) stretching back to the establishment of the Pennine Dales Environmentally Sensitive Area (ESA) scheme in the 1980s. AES are delivered by Natural England and in 2013 over 172,000ha of land in the NPAONB was part of an AES. The Environmental

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Stewardship (ES) scheme accounted for 88% of the Utilisable Agricultural Area (UAA) with Classic Schemes, including the Countryside Stewardship (CSS) and ESA schemes, accounting for 3% of UAA (Jones et al., 2013). It was reported in some of the workshops that the new Countryside Stewardship (CS) scheme, introduced in 2015, was not as attractive to farmers in the Allen Valleys as previous schemes.

Climate regulation through carbon storage, improving water quality, flood control and biodiversity has been the focus of the NPAONB Partnership's Peatlands Programme for over 10 years. In that time the Peatlands Programme has blocked over 1,000km of moorland drains or grips and this is restoring over 9,000ha of blanket bog habitat (NPAONBP, 2016a). The RSPB has been actively involved in the NPAONB and Allen Valleys through its North Pennines Focus Area project which takes a partnership approach, with other agencies, to work with farmers and land managers to protect and enhance farm wildlife. The Coal Authority and Environment Agency have been involved in schemes to improve water quality associated with heavy metal pollution. This has been a long-standing issue due to the mining that occurred in the area. It was reported in the workshops that the Water Framework Directive and the policies of the privately owned water companies were also major drivers influencing land management practices associated with water quality. Water companies are paying farmers to change their management practices to prevent pollution at source as it is cheaper than treating the water downstream.

There are a number of social and economic drivers that threaten the sustainability of the upland communities on which HNV farming depends. A report by the Commission for Rural Communities (CRC, 2010) highlighted the main socio-economic threats to upland communities. The North Pennine Dales LEADER Local Development Strategy (NPDL, 2014) provides evidence for the North Pennine Dales (NPD):

- An aging population and loss of young people from the area. The NPD area has a higher percentage of population over 64 and a lower percentage of population under 16. The AVLPCAP (AVLP, 2014) notes that young people who move away for their tertiary education, then have difficulty returning, both because job opportunities are few and house prices are relatively high.
- Lack of affordable local housing, although there is some provision by the large estates.
- Lack of employment opportunities, seasonal jobs and low wages in some sectors. Gross weekly earnings for the NPD are lower than the national average £480 compared with a national figure of £510. Unemployment is above the national average.
- Pressure on local services, especially schools and health facilities.
- High reliance on private cars for transport and a lack of public transport. Communities in the NPD area have substantially reduced access to services.
- Sections of the community can be isolated, both physically and socially. The Allendale Ward falls within Northumberland's 20% most deprived wards, and ranks 401st out of 32,482 UK wards, making it one of the country's most acutely disadvantaged wards for geographical access to services (AVLP, 2014).

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The importance of government policies for education, health, employment and training, transport and housing in influencing the sustainability of rural communities was frequently raised in the Workshops:

> "…one of the things that concern us is that the services that support rural communities… the schools, the health centres, are not organisations that fit in with government thinking about what those should look like. …We recognise that, if we carry on as we are, we could very easily become a very large old people's home and that's not what we want. We want a much more vibrant younger community, but I see that much of the government's policies don't understand our sort of rural community." (Workshop 2).

> "Because it is such a dispersed and thinly populated area the provision of things like schools, medical facilities, transport facilities, are all constantly under threat from somewhere or other and you have never won, you are always up against somebody wanting to close something because it's uneconomic." (Workshop 5)

2.3 Discussion of the SES

The ESBOs generated from HNV farming in the NPAONB and Allen Valleys are strongly influenced by the management practices of the farming and game-keeping communities and the management policies of the large landed estates. HNV farming and the upland communities upon which HNV farming also depends are under increasing social and economic threat. It was reported in the workshops that funding opportunities and the environmental advisory network had declined in recent years due to the introduction of austerity measures by the government in response to the economic downturn of 2007-8. It is against this background that the NPAONB Partnership co-ordinates efforts to conserve and enhance the natural and cultural heritage of the North Pennines. Action situations aimed at maintaining and enhancing the provision of ESBOs from HNV farming should encompass both the land managers and the broader communities on which they depend. An important feature of schemes such as the AVLPS undertaken by the NPAONB Partnership is the inclusion of elements to enhance the social and economic resilience of local communities as well as working with farmers and land managers to maintain and enhance the provision of ESBOs. This multi-objective approach can be clearly seen in the AVLCAP which seeks to:

- Conserve and restore the heritage features in this landscape, provide better access and promote understanding.
- Combat human-influenced climate change through peat restoration, small scale renewable energy schemes, promotion of electric transport network, managing river erosion and riparian trees, planting schemes.
- Develop an economy which is predicated upon keeping this place special and environmentally and socially sustainable.
- Encourage and support the local community to undertake initiatives which conserve natural beauty and provide access to employment, services and facilities and attract visitors to the area and boost the local economy.

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- Capitalise on the opportunity to produce interpretation and educational activities based on the special features being conserved. Education is an integral part of this scheme.
- Celebrate the area's cultural heritage via the establishment of an annual folk festival.

The NPAONB Partnership has built considerable expertise in delivering positive environmental outcomes from its partnership approach and facilitation skills. A lack of regulatory power has encouraged it to think in creative ways to achieve its aims.

2.4 Common aims, conflicting interests and goals

There was general agreement across all the workshops that the maintenance and enhancement of HNV farming was socially, economically and environmentally important. The NPAONB Partnership fulfils an important catalyst role in transforming land management practices, helping to broker collaboration and shared goals between farmers and other land managers and environmental actors and experts (e.g. the AVLP, Haytime Project, Peatlands Project, Nectarworks Project). These initiatives add value to the existing range of agri-environmental options under England's Rural Development Programme. However, this role is vulnerable due to agri-environment funding changes (making it more difficult to finance advisory support) and difficulties in retaining experienced staff due to fixed term contracts linked to the short-term nature of most of these individually-funded projects.

The co-operation between the NPAONB Partnership and government and Non-government environmental agencies was frequently mentioned in the workshops and also the co-operation between farmers, land managers and the environmental agencies. However, it was also reported that there were a number of conflicting interests and goals which resulted in some tension within the SES.

It was suggested that the economic pressure on HNV farming combined with less attractive AES and a reduction in the environmental advisory network could prompt some farmers to adopt environmentally detrimental land management practices as they restructure their businesses.

It was reported that there was a tension between farming and grouse shooting interests over which land management practices should be followed. There were concerns about changes to the landscape character which would be brought about by changes in management practices. For example, it was suggested that reducing sheep numbers on the moorland to encourage heather growth could have knock-on effects which threatened the viability of the whole farm business.

There are also tensions between different ESBOs. For example, one workshop participant suggested that a well-drained landscape of dry heather moorland is beneficial for grouse shooting and associated habitats and species; but it may be detrimental to other ESBOs such as, flood control, peatland protection, and carbon sequestration which require wet moorland.

There was disagreement among workshop participants as to the extent to which HNV farming and tourism could coexist. For some participants there was a tension between them, but for others they were mutually beneficial.

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3 Status of the SES and potentials

3.1 Relationships between HNV farming and the quantity and quality of ESBOs

The document analysis and stakeholder workshops found that there was a large degree of consensus on the main ESBOs provided by HNV farming in the Allen Valleys: rural vitality, landscape character and cultural heritage, species and habitats, water quality, food security and carbon sequestration and storage.

Jones et al. (2013) have described the key ESBOs produced by HNV farming in the North Pennines. They note that HNV farming is characterised by low intensity grassland management which is particularly important for **species and habitats**. Much of the North Pennines is covered by s**emi-natural pasture** including large areas of upland acid grasslands, dry heathland, wet heaths and rush pastures and blanket bogs. Over 40% of **upland hay meadows** are located within the NPAONB and this rare habitat exhibits very limited effects of agricultural improvement and includes a range of rare and local species. Although only 1% of land on commercial farms is recorded as **woodland** by the June Agricultural Survey (Defra, 2013), the Allen Valleys has 30% of the NPAONB's ancient woodland and 20% of the area's ancient semi-natural woodland. It was reported in the workshops that a significant area of woodland on tenanted farms is managed by the landlords. The North Pennines is also important for its **bird fauna** and has a particularly high density of breeding waders and over 80% of England's black grouse population (RSPB, 2016).

The development of farming and lead mining over the centuries has played a large part in shaping the **landscape character and cultural heritage** of the North Pennines. The agricultural landscape of the North Pennines is the physical expression of agricultural production processes. Low intensity sheep and cattle farming has created an agricultural landscape of meadows and pastures enclosed by stone walls and hedges, interspersed with traditional stone built farmsteads, on the valley bottoms and lower slopes. Further up the valley sides the enclosed fields give way to large areas of unenclosed rough pasture and grouse moor. The landscape character of the grouse moors is largely determined by the management policies followed by the grouse shooting estates.

Water quality is affected by the continuing impact of heavy metal pollution from historic mining activity. There is some localised discolouration of water from eroded peat with poor vegetation cover. It was reported in the workshops that low density livestock production was compatible with high water quality but there could be instances of localised pollution in adverse weather condition. The large areas of peat contained below blanket bogs, wet heaths and mires play and important role in **carbon storage**. It was reported in the workshops that low density livestock production was compatible with carbon storage.

The farming and game keeping communities were seen in the workshops to be important contributors to **rural vitality** through their use of and support for a range of community services and particularly family related services. Some farmers and gamekeepers were also described as being dynamic and willing to embrace new challenges and ideas which was important in fostering rural vitality. However, it was also clear from the workshops that rural vitality is often seen as a feature underpinning HNV farming rather than an ESBO produced by it.

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The HNV farming systems in the Allen Valleys and broader NPAONB are fragile and subject to a range of different pressures. Low market prices for sheep and cattle combined with high input costs and limited opportunities for diversification means that the profitability of agricultural enterprises is low and many farms rely on CAP pillar I and II payments. Attempts to improve economic performance on many farms can have negative environmental consequences, detrimental to the provision of ESBOs. Enterprise restructuring and the decline in traditional enterprises and enterprise combinations is often accompanied by changes to land management practices which can result in the loss of or damage to habitats, species, landscape character and cultural heritage.

> Changes in agriculture over the last 50 years or so have led to the decline of traditional landscape features such as dry stone walls, field barns and hedges and the agricultural improvement of hay meadows and pastures. As farm incomes continue to decline in the uplands pressures for both intensification and extensification continue (AVLP, 2014)

Intensification, through ploughing and reseeding, increased use of chemical fertilisers and the widespread conversion from hay to silage production, has reduced the floristic diversity and environmental value of many upland meadows and pastures. Similarly the environmental value of the unenclosed rough grazing has been damaged by intensification through drainage and increased stocking density. This can have a negative impact on species and habitats, water quality and carbon storage as well as influencing landscape character (Jones et al., 2013; AVLP, 2014). On the grouse moors Thompson et al. (2016) note that intensive vegetation management and predator control can have negative environmental impacts for species and habitats, water quality, carbon storage and landscape character.

To achieve economies of scale and spread the costs of production many upland farmers have sought to increase the size of their farms and without an increase in farm labour this often means there is less time to maintain or enhance environmental assets such as the stone wall boundaries and traditional farm buildings that characterise the enclosed valleys (Figure 3.1).

Figure 3.1: Derelict walls and buildings in the enclosed valley landscape

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3.2 Key motivational, institutional and social-economic factors

Through the AVLP the NPAONB Partnership is seeking to influence upland farmers, land managers and grouse shooting estates to enhance the appreciation and provision of ESBOs. The AVLP also seeks to enhance the social and economic resilience of local communities and increase the appreciation of ESBOs both locally and among tourists who visit the Allen Valleys. Engagement with farmers, land managers and the local community is achieved through individual projects based on five programme themes (see Table 3.1).

Table 3.1: AVLCAP programme of work

Programme theme	Description
Conserving and restoring natural heritage	Projects will conserve and restore some of the most important features of natural heritage and local landscape, which are also key visitor attractions.
Conserving and restoring built heritage	Projects will restore some of the key heritage structures in the Allen Valleys. Structures chosen represent many different aspects of mining heritage and the stories of the local people who lived and worked here, and many are located in key focus points for visitors.
Harnessing our natural resources	Projects will support renewable energy generation and provide an income which can be used to look after our heritage assets beyond the life of this Scheme.
Our heritage	Projects will involve local residents in discovering, researching, conserving, celebrating and sharing the culture and history of the Allen Valleys
Explore Allen Valleys	Projects will increase both physical and intellectual access to the heritage features of the Allen Valleys, and in ways which are environmentally sustainable. They will help build on the visitor infrastructure for the Allen Valleys and help tourism businesses to make the most of our heritage assets.
Training and skills	Projects aim to ensure that the skills necessary to look after heritage assets are available locally now and in the future.

Source: AVLP (2014)

The AVLP recognises the limitations of the scheme to transform practice across the whole of the SES:

> The ambition of the Scheme as a whole is limited, to some extent, by the funding available, and so not all threats can be dealt with, nor all opportunities taken. However the Landscape Partnership considers that the following projects best represent the requirements of the HLF, the aims of local communities and organisations and of our unique landscape. (AVLP, 2014)

The capacity of project-based schemes to transform practice was discussed in some of the workshops. NPAONB staff consider projects to be a very useful tool to enhance ESBO appreciation and delivery. It was noted that Landscape Partnership Scheme rules require active community engagement and this has been very beneficial in giving the Allen Valleys project

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momentum and an environmental and community legacy beyond the end of the project. The HLF Landscape Partnership Scheme allows for some risk-taking in the pursuit of substantial outcomes and workshop participants thought that this was a helpful feature of the program. It was also noted that successful community engagement is resource intensive and policy-makers needed to recognise this. Resources include both time and labour outside the boundaries of particular projects. A lot of ground work, including many months and even years of effort, is often required to build trust within a community which will result in positive outcomes. These costs are often hidden from policymakers and have to be absorbed by organisations such as the NPAONB Partnership. Place-based and time constrained projects are a useful mechanism for getting action on the ground and delivering some types of beneficial outcome. They are easily auditable and can be measured in terms of value for money.

However, project-based delivery also has a number of weaknesses. Some types of objective require long-term engagement, often lasting beyond the three or four years which are typical of time-limited projects. Short-term projects are often narrowly focused and lack the integration of a broad range of issues required for effective ESBO delivery. A delivery model based on short-term projects has an inherent problem of retaining experienced staff who have often built up a depth of local knowledge. The effectiveness of short-term projects can be reduced as staff seek other employment as the project comes to an end. Experienced and knowledgeable staff are an extremely valuable resource for the NPAONB but this is often not accounted for.

3.3 Levels of provision, trends and determinants

The current SES produces some high quality ESBOs, but the general consensus from the workshops was that the system could perform better. Some workshop participants thought that contemporary ESBO provision was under threat and would decline unless there were major structural changes to the system. The HNV farming systems on which many ESBOs depend was considered to be under severe social and economic pressure and the current policy framework (social, economic and environmental) was not robust enough to maintain and enhance HNV farming.

The workshops covered a variety of views on what the major processes of change would be in the future. Two areas of activity were discussed, the enclosed farmland and the open moorland.

- **Enclosed farmland**: For some there would be large-scale abandonment of traditional farming practices leading to rewilding and a less intensively managed landscape. For others, change would come through selective intensification of some parts of the farming system, particularly easily accessible grassland, and the extensification or abandonment of agricultural management on the least accessible land.
- **Open moorland**: The major factor affecting change was whether the moorland was managed for grouse shooting or not. On land which was not used for grouse shooting it was suggested that there were opportunities for introducing more trees into the landscape. Where land was managed for grouse shooting it was suggested that some estates would continue intensive heather management regimes which were environmentally suboptimal. On other estates there was potential to develop more envi-

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ronmentally friendly management regimes which combined balanced heather and peatland management.

Issues of rural vitality to some extent fall outside these two categories and there is a wider range of largely external stakeholders who have looser ties to the area. The viability of rural services in remote locations has long been a topic of concern across Europe and the experiences in the Allen Valleys reflect this.

The issue of landscape character and cultural heritage is reflected in the land ownership as outlined above but also in the designations that dominate the case study area. However, to some extent they remain passive players without significant influence on the ground in terms of the ESBO enhancement, with the exception of the NPAONB. There is a far greater focus on the issues of biodiversity and to some extent water quality.

4 Conclusions derived from analysis in Steps 1 and 2

4.1 Key findings on the particular SES and its potentials

HNV farming systems in the Allen Valleys and broader NPAONB are fragile and subject to a range of different socio-economic processes. Low market prices and high input costs means that the profitability of agricultural enterprises tends to be low and many farms rely on CAP pillar I and II payments. Attempts to improve economic performance on many farms have resulted in negative environmental consequences and detrimental to the provision of ESBOs.

AES have been particularly important in enhancing ESBO provision in the area. The payments also make a significant contribution to farm incomes. However, the latest suite of AES, for the period 2014-2020, do not appear to be as attractive to farmers and landowners as their predecessors. It was reported during the workshops that this may have a detrimental impact on ESBO provision going forward. It was also reported that there had been a reduction in the environmental advisory network which supports farmers and land managers, linked to financial constraints due to austerity measures.

A strong recurring theme in many of the workshops was the perception that that a strong and sustainable rural community was required to underpin the provision of ESBOs. Rural vitality was seen as the most important ESBO and it was suggested that many of the other ESBOs were dependent upon it.

The workshops suggest that there are significant variations in the appreciation of ESBOs from farming and forestry. These variations are manifesting in different ways:

- It was reported that in the farming community ESBO provision was strongly influenced by market forces and enhanced ESBO provision was often not compatible with making a living. The current suite of agri-environment schemes was unlikely to change this view.
- It was suggested that the list of 19 ESBOs was not fully understood by society as a whole. This included all sections of society, whether it is farmers, smallholders, landowners, gamekeepers, local people, visitors, politicians or civil servants. Within each sector there would be people who were highly aware and people who had little un-

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derstanding. The overall feeling was that ESBOs from farming and forestry were underappreciated.

Regional level delivery bodies play an important role in raising the awareness, appreciation, and delivery of ESBOs. The NPAONB Partnership has built up considerable expertise in delivering positive environmental outcomes from its partnership approach and facilitation skills. Its lack of regulatory power has encouraged it to think in creative ways to achieve its aims, these include:

- bringing actors together through a partnership approach,
- mediating between different actors to bring about positive outcomes (e.g. between statutory agencies, and farmers and landowners),
- providing additional and independent advice and support (e.g. to achieve the highest quality possible AES schemes),
- targeting a range of different funding streams to develop environmental and socio-economic projects.

An important function of the NPAONB Partnership is the promotion of environmentally friendly land management practices. It adds value to the existing range of RDPE AES. This role is under threat because of contraction in RDPE AES funding and coverage, and difficulties in retaining experienced staff due to fixed term contracts linked to short-term projects. It has been very successful in developing HLF funded projects.

> "People with the same interest don't necessarily meet each other and know about each other. So you have to bring them together to start with to see if they have got a shared interest in doing something." (Workshop 7)
>
> "… it's been difficult to keep people. Because if people know that they haven't got a guaranteed job, they'll go looking for a new job." (Workshop 7)
>
> "You asked us what the factors were that made some of these projects successful; surely the biggest factor for us and the partnership itself is the Heritage Lottery Fund. Nearly everything that we do, apart from the peatland work, is funded by the Heritage Lottery Fund." (Workshop 7)

It was suggested that the regional level was the most appropriate scale for ESBO provision. This was because regional level bodies have an understanding of place and this is to effective delivery of policies. Placed-based policies are important because they understand the peculiarities and needs of local communities in a way the national level policies do not. Furthermore, Regional level bodies are at an appropriate scale for integrated cross-sectorial policy development and delivery using staff from different agencies based in one location. The synergies achieved and the potential for effective delivery should outweigh any increase in costs.

> "At a regional scale you can make a more direct impact. Certainly in terms of delivery. The delivery scale, delivering things of the catchment scale, for arguments

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sake, can drive an awful lot more benefit, will benefit on the ground, than trying to something really broad-brush at a national scale without any kind of local focus." (Workshop 6)

"I think you could deliver, especially in a protected area, agri-environment schemes through protected area bodies who are placed based. I think the placiness is important... Devolving something like agri-environment to teams like ours and resourcing us to do it, would allow us to have a better cross fertilisation of disciplines. So it allows us to look at the historic environment at the same time as looking at biodiversity or the water environment or whatever. And it would allow us to build relationships between ourselves and the community" (Workshop 6)

4.2 Other enabling or limiting factors

It was reported in the workshops that the current political framework in the UK was not conducive to the enhancement of ESBO provision from farming and forestry. This was expressed in a number of ways:

- Economic policy based on austerity measures was not going to prioritise ESBO provision from upland farming communities.
- Rural communities, in general, were not a political priority. Services would continue to decline thereby placing pressure on the SES.
- Without a change in macroeconomic policy HNV farming systems will continue to decline.

Enhanced ESBO provision associated with HNV farming in the North Pennines requires a strengthening of the regulatory framework. This is unlikely, when the political debate is dominated by neoliberal economic ideology. There was concern that state intervention would decline further. Current market mechanisms would not enhanced ESBO provision and it was felt that government was reluctant to intervene and address market failures.

4.3 Reflections on the case study methodology used and potential improvements

The aims and objectives of Pegasus were understood and supported by stakeholders in the case study area. The list of 19 ESBOs provided a focus for discussion in the workshops. The ESBO concept was well understood by stakeholders. However the SES framework was unwieldy and not fully understood by the case study researchers.

5 Research and action mandate for Steps 3 and 4

5.1 Agreed objectives of activities to be undertaken with initiative/stakeholders

The NPAONB Partnership Staff Unit is interested in the Pegasus project and is keen to help facilitate steps 3 and 4. Key questions would potentially include:

- Measuring the role and effectiveness of partnership working and voluntarism in enhancing the appreciation of ESBOs within different sections of the local community (farmers, smallholders, landowners, gamekeepers, tourism businesses, community organisations).

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- Working with the NPAONB Partnership to identify and develop the most effective means of enhancing ESBO provision working with farmers, smallholders, landowners and gamekeepers.
- Valuing and measuring the impact of NPAONB Partnership on the appreciation and delivery of ESBOs in the case study area. Working with the NPAONB Partnership to enhance the impact of their activities.

5.2 Innovations, impact, transferability, potential risks and research bias

Permission has been obtained from the chief executive officer of the NPAONB Partnership to proceed with steps 3 and 4.

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7 ANNEX

7.1 Documentation of research and action progress

The aim of the report is to:

- Sketch out the social-ecological system (SES) associated with the Allen Valleys Landscape Partnership Scheme (AVLPS) and the broader North Pennines Area of Outstanding Natural Beauty (NPAONB).
- Analyse the conditions for successful provision of Environmental and Socially Beneficial Outcomes (ESBOs) from farming and forestry.

To achieve both of these aims it was important to engage with key actors and stakeholders associated with the case study area. A close working relationship was developed between the Countryside and Community Research Institute (CCRI) and the NPAONB staff unit at the beginning of the case study. It was through the NPAONB Staff Unit, with its extensive local knowledge and network of stakeholders, that 8 participatory workshops were arranged and conducted during 2 visits to the case study area in May and June 2016 (Table 7.1). These workshops were jointly facilitated by CCRI and the NPAONB Staff Unit and were important in clarifying the perceived importance of different ESB0s, ESBO provision, the level of resilience and sustainability in the SES and the key interrelationships, influences, drivers, limiting and enabling ESBO provision.

Table 7.1. Workshops conducted in the case study area

Workshop	Date	Length	Stakeholders	Participants*	Location
1	10/05/16	2.10hr	NPAONB Staff Unit	9	NPAONB office, Stan-hope, Weardale
2	10/05/16	1.05hr	AVLP board members	12	Allendale Village Hall, Allendale Town, Allendales
3	10/05/16	1.01hr	Smallholders	5	Smallholding in the Allen Valleys
4	11/05/16	2.15hr	Farmers, land managers, conservation agencies	9	Farm in the Allen Valleys
5	11/05/16	1.50hr	AVLP project staff and participants	7	High Forest Community Centre, Sinderhope
6	07/06/16	1.15hr	NPAONB policy	3	NPAONB office, Stanhope, Weardale
7	08/06/16	2.16hr	NPAONB projects	6	West Allen Youth Hostel, Allendales
8	08/06/16	1.51hr	AVLP participants	5	Kings Head ,Allendale Town, Allendales

*Excluding CCRI staff.

7.2 Workshop 1: NPAONB Staff Unit

Introduction to the workshop

CCRI introduced the Pegasus project and explained the purpose and format of the workshop. The workshop was in 4 parts:

1. Identify the most important ESBOs in the area (focus on the Allen Valleys).
2. Based upon the results from the ranking activity, discussions will take place around what people would ideally like to see happen in the future.

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3. How can the Future be achieved – In order to attain the future vision that was discussed previously, what would need to occur/change?
4. What will happen next? Output from the various workshops, and next steps.

Summary of outcomes

- General agreement that all ESBOs were to some extent relevant in the Allen Valleys and the broader NPAONB.

#11 Species and Habitats

Current situation

- The AVLP and NPONB contain a number of national and internationally important habitats and species. These include heather moorland, peat bog, herb rich hay meadows, black grouse, hen harriers, and wading birds.
- The species and habitats depend on estate and HHV farming practices. They are under threat from both intensification and extensification which are driven by broader social and economic processes. These include:
  - intensive management of grouse moors,
  - a chronic lack of profitability in upland farming,
  - an ageing farming population with the lack of successors,
  - increasing farm size and the lack of labour to do environmental management,
  - declining attractiveness of AES to farmers and land managers resulting in the intensification or extensification of management practices on land which was previously in AES,
  - a reduction in the environmental advisory network which supports farmers and land managers, linked to financial constraints due to austerity measures.
- The NPAONB Partnership has built up considerable expertise in delivering positive environmental outcomes from its partnership approach and facilitation skills. Its lack of regulatory power has encouraged it to think in creative ways to achieve its aims, these include:
  - bringing actors together through a partnership approach,
  - mediating between different actors to bring about positive outcomes (e.g. between statutory agencies, and farmers and landowners),
  - providing additional and independent advice and support (e.g. to achieve the highest quality possible AES schemes).
- An important function of the NPAONB Partnership is to promote environmentally friendly land management practices. It adds value to the existing range of RDPE AES. This role is under threat because of a contraction in RDPE AES funding and coverage and difficulties in retaining experienced staff due to fixed term contracts linked to short-term projects.
- Land tenure is a major factor influencing land management practices. The majority of moorland habitats are owned and managed by grouse shooting estates. Management of moorland habitats for grouse shooting can have both positive and negative environmental impacts; intensive burning and monoculture heather habitats can lessen diversity. Es-

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tates also own much of the farmland in the area and thereby influence the management practices of their tenant farmers.

- There are large areas over which the NPAONB Partnership finds it difficult to influence habitat and species management practices.
- Agri-environment schemes (AES) have been important in incentivising farmers to undertake environmentally friendly land management practices. There was a feeling that the new Countryside Stewardship scheme would be less effective than the previous Environmental Stewardship and Environmentally Sensitive Area schemes, because of a decline in financial support and advice.

Vision for the future and changes required

- There was a range of views on what the species and habitats ESBO for the area should be; some parts of the vision was contested:
  - Less intensive management of grouse moors and rewilding, but it was also stated that rewilding could damage existing high value moorland habitats;
  - A move to a more wooded landscape with additional planting of native broadleaved woodlands;
  - Improved management of grassland and moorland habitats for wading bird populations.
- Current AES provide insufficient financial reward for farmers. There is potential to move toward a payment for ecosystem services approach with a payment for results based scheme. Farmers needed to be trained and trusted to deliver high quality environmental outcomes. It should be accepted that this type of approach would be resource heavy and require a support network of environmental advisors.
- It is unlikely that the provision of ESBOs from species and habitats will improve under the current policy and regulatory framework. Current incentivised AES and the voluntary approach are insufficient to effect significant positive environmental change.
- Land management practices on heather moorland should be brought under similar regulatory framework that operates for farmland.
- A dual-based economy could provide benefits for the area, one that is focused upon farm-based tourism and landscape management – utilising and underpinned by the wealth of 'countryside capital'. Beneficial habitat and species management underpins a lot of nature based tourism in the area.
- Raising awareness of the importance of ESBOs from farming and forestry is an important, but underfunded, part of NPAONB Partnership activity. This takes place at a number of levels; local community, surrounding urban areas.

#19 Rural Vitality

Current situation

- A strong and sustainable rural community is required to underpin the provision of ESBOs from farming and forestry in the AVLPS and the broader NPAONB.

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- There are major concerns over the state of current services in the area. Schools, medical services and transport are all subject to funding pressures and this has a negative impact on rural vitality.
- Tourism linked to natural and cultural heritage is a major driver in the local economy and relies on local services.
- NPAONB Partnership is very active in promoting community engagement through the development of a range of community groups. The formation of community groups is often based around NPAONB Partnership projects, frequently linked to ESBOs from farming and forestry, and fulfil a variety of purposes:
  - stimulate partnership working with the NPAONB;
  - provide a catalyst to bring people together who have similar interests but may not know each other;
  - increase community awareness, interest and engagement with the project;
  - increased capacity within the local community, organisational and management skills;
  - a means of providing a legacy beyond the life of time-limited projects.

Vision for the future and changes required

- There is a need for greater employment opportunities.
- There is a need to diversify the economic base of the area.

#14 Landscape Character and Cultural Heritage

Current situation

- The area has outstanding landscape character and cultural heritage recognised through the many environmental designations.
- The quality of landscape character and cultural heritage is currently quite high but is under significant threat from both active and passive change driven by market forces.
- Agri-environment schemes and HLF funding have been important in maintaining and enhancing different aspects of landscape character and cultural heritage, but from the perspective of the NPAONB there is much more that could be done.
- There are tensions between different aspects of landscape character and cultural heritage. Not everyone agrees what is important in terms of landscape character and cultural heritage. The NPAONB Partnership has a role in understanding and mediating between the views to achieve workable solutions.
- The NPAONB uses its expertise in facilitation and partnership building to get things done on the ground.
- There are also tensions between different ESBOs. For example, a well-drained landscape of dry heather moorland is beneficial for grouse shooting and associated habitats and species; but it may be detrimental to other ESBOs such as, flood control and mitigation, peatland protection, and carbon sequestration which requires a wet moorland.

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Vision for the future and changes required

- There is a need to accommodate change but without damaging landscape character and cultural heritage. There is a need to understand what is important in terms of landscape character and cultural heritage and develop strategies to maintain and enhance it.
- Landscape and cultural heritage management practices are strongly influenced by property rights and land ownership.
- Future policy changes need to involve greater regulation of land management practices and improved AES.

#2 Water Quality

Current situation

- Water quality is important to the area and is also linked to other ESBOs.
- WFD and the policies of the privately owned water companies are the major drivers influencing land management practices associated with water quality.
- Water companies have been actively involved, because it makes economic sense. Preventing pollution at source by paying farmers to change their management practices in the water catchments is cheaper than treating the water downstream.

Vision for the future and changes required

- By working with landowners and farmers in this area, it was believed that relationships could be further enhanced and developed.
- The regulatory framework for water quality requires improvement.

#6 Carbon sequestration/storage

Current situation

- Carbon sequestration and storage is not appreciated by society.
- Within the AVLP there probably isn't a great deal of awareness of Carbon Sequestration. It is perhaps less 'visible' than other issues that might affect the community.
- The NPAONB has been actively involved for 15 years.

Vision for the future and changes required

- More work to be done raising the awareness of landowners and land managers about the importance of peatland for carbon sequestration and storage.
- Stronger regulatory framework required.

7.3 Workshop 2: Allen Valleys Landscape Partnership: Board Members

7.3.1 *Introduction to the workshop*

CCRI introduced the Pegasus project and explained the purpose and format of the workshop. The workshop was in 4 parts:

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1. Explore the linkages between a sustainable rural community (social, economic and environmental) and the AVLP scheme.
2. Discussion about what people would ideally like to see happen in the future.
3. How can the future be achieved – In order to attain the future vision that was discussed previously, what would need to occur/change?
4. What will happen next? Output from the various workshops, and next steps.

7.3.2 *Summary of outcomes*

The characteristics of rural vitality

- Rural vitality is maintained by having passionate and committed individuals within in local communities.
- NPAONB Partnership promotes community engagement by setting up special interest groups linked to its projects and initiatives.
- Setting up special interest groups linked to projects and initiatives is a good way of bringing people together and developing connections and networks. The challenge is to make them sustainable beyond the life of the project. The NPAONB Partnership approach is to encourage the groups to take ownership of their activities at an early stage so that they do not remain dependent on the NPAONB Partnership. The aim is that by the end of the project there is a transition from a leading role to a supporting role for the NPAONB Partnership. Some groups need more support than others; it depends on the type of group and its activities.
- Legacy is an important concept. Any projects and initiatives now have a legacy component built into them. The AVLP scheme has a number of different legacy elements, for example:
  - community interest groups which continue beyond the life of the project;
  - developing a micro-hydro scheme that will provide funding for activities and support staff;
  - improvements in the skills base through environmental training.
- The Visit Allen Valleys Group is an example of a group set up as part of the AVLP project which has multiple socio-economic objectives, including raising the appreciation of ESBOs:
  - Providing a forum for tourism businesses in the Allen Valleys.
  - Exploring the benefits of working together (tourism businesses often work in isolation).
  - Connecting with regional tourism support services.
  - Raising awareness of the natural and cultural heritage of the Allen Valleys. E.g. training has been provided for tourist accommodation owners on the area's natural and cultural heritage assets. The owners can then provide information to visitors who stay in their accommodation. This simple activity raises ESBO awareness in the local and visitor communities.

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- Continuation of the group beyond the life of the project. The aim is to achieve a dynamic and sustainable tourism group well into the future.

Rural vitality and local services

- The local services that support rural communities were seen to be under pressure. Service provision for schools and education, medical services and health care, shops and businesses, community facilities, housing and transport were all mentioned by participants.

Rural vitality and employment

- Low wages and seasonal employment were mentioned as being an economic weakness in the area. The NPAONB Partnership was engage with initiatives which promote year-round tourism to help reduce the seasonality of employment and income generation.

The interconnection between rural vitality and ESBO delivery

- The relationship between ESBO delivery and rural vitality was described as being complex. Rural vitality underpinned the provision of ESBOs from farming and forestry in the area, but it was also argued that ESBOs such as landscape and cultural heritage and species and habitats helped to create rural vitality because they underpinned the tourism industry.

HNV farming, habitats, biodiversity, landscape and cultural heritage

- The natural and cultural heritage assets of the Allen Valleys are of a very high quality. The importance of HNV farming in delivering ESBOs was recognised but there was disagreement as to the extent to which HNV farming and tourism could coexist. For some participants there was a tension between them, but for others they were mutually beneficial.
- HNV farming systems were considered to be quite fragile and subject to a range of different pressures, for example:
  - the economics of upland farming;
  - the environmental policy framework;
  - the land management decisions of farmers themselves;
  - the decline of rural services and support rural communities (underpinning HNV farming).
- The threat to tranquillity from excessive tourism.
- Smallholders, who are an important sector of the farming community in the area, may be under less economic pressure than larger scale commercial farmers and thereby more easily retain HNV farming practices.
- It was suggested that there was a lack of appreciation and understanding of the ESBOs resulting from farming and forestry and that more could be done locally to enhance that appreciation/understanding.
- It was suggested that raising awareness of the ESBO from farming and forestry had varying degrees of success across different sectors of society. It was thought that it was rela-

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tively easy to get the message across to mobile, educated, middle-class families, but there were also a number of hard to reach groups both within and outside the area. Resource constraints made it difficult to reach these groups.

7.4 Workshop 3: Smallholders

7.4.1 *Introduction to the workshop*

CCRI introduced the Pegasus project and explained the purpose and format of the workshop. The workshop was in 4 parts:

1. Explore what makes sustainable rural community (social, economic and environmental) in the Allen Valleys.
2. Discussion about what people would ideally like to see happen in the future.
3. How can the future be achieved – In order to attain the future vision that was discussed previously, what would need to occur/change?
4. What will happen next? Output from the various workshops, and next steps.

7.4.2 *Summary of outcomes*

Sustainable communities

- Workshop participants broaden the discussion to address a number of underlying relationships and processes which were perceived to set the conditions for sustainable development within the Allen Valleys. These processes worked at different scales from global to local, from societal to the individual, for example:
  - The relationship between people and place, including both communities and the environment;
  - The social, economic and environmental impact of growing globalisation on the Allen Valleys.

The relationship between people and place

- It was suggested that in the past there was a strong connection between people and place in the Allen Valleys.
- That people were strongly connected with their communities and the environment. It was felt that this connection, particularly for young people, had been weakened and that it needed to be strengthened in the future as a means of building more sustainable communities.
- Within the farming community the connection between people and place have been weakened. This manifested itself in a reduction in the number of children who were prepared to take over family farms. The aspirations of the younger generation was seen to be different from the older generation. In some cases, the desire from children to take over the family farm was being thwarted by economic processes, but in other cases children wanted something different out of life.

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- It was suggested that the concept of sustainability did not register with some commercial farmers. This may be that locally the concept was being articulated by people from outside of the area or who had recently joined the community.

The social, economic and environmental impact of growing globalisation on the Allen Valleys

- Upland farming has been under economic pressure for a generation. Farmers have responded by:
  - Cutting costs;
  - Intensifying production on the most productive land through increased stocking rates, meadow and pasture improvements (higher yielding species and fertilizers);
  - Farm enlargement, leading to a reduction in the number of farms and workforce;
  - Mechanisation, replacing labour with machinery;
  - Diversification, mainly through off-farm employment.
- Farm enlargement and mechanisation has weakened the farming community as community networks have been stretched and broken.
- The long-term sustainability of livestock farming in the uplands was questioned. It was suggested that there needed to be a transition to low input output farming systems rather than further intensification.
- Globalised commercial food interests work against local food systems, which makes it very difficult for marginal areas like the Allen Valleys.

Smallholdings in the Allen Valleys

- Smallholdings are considered to be a long-standing feature of the Allen Valleys linked to the lead mining industry of the 17th 18th and 19th centuries. Large-scale commercial farming was seen to be a relatively new form of agricultural production. It was felt that smallholdings were as legitimate as large-scale holdings in the Allen Valleys community.
- Smallholdings are a very heterogeneous group. There are many different types of smallholding and the motivations behind the land management practices are equally diverse. It is not easy to pigeonhole smallholdings into different categories because of their heterogeneity, but some recognisable stereotypes were mentioned. For example:
  - Where agricultural production and agricultural income generation is important. These are small-scale commercial holdings which often combine off farm agricultural employment such as agricultural contracting.
  - Where agricultural production and agricultural income generation is not important. Sometimes characterised as “hobby” or “lifestyle” farms.
  - Where environmental motivations were very strong and determined the type of management practice that took place. Income generation was less important and advice on environmental management practices was actively sought from local farmers and agencies such as the NPAONB partnership and RSPB.
- Agri-environment schemes have helped some smallholders manage their farms in an environmentally friendly way.

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Changes required to achieve more sustainable communities

- Children should be reconnected with the environment and their communities through education.
- The smallholder community is playing an increasingly important role in delivering high nature value farming in the Allen Valleys. The NPAONB partnership has created a smallholders group to help build a network of cooperation and sharing of knowledge. This will have social, economic and environmental benefits for the area.
- The NPAONB partnership was seen as an important catalyst in promoting community engagement across a range of issues. Going forward such activity is important in building stronger and more sustainable rural communities. For example:
  - the smallholders network;
  - working with children to help them experience and understand their local environment;
  - providing environmental advice to farmers and land managers.
- There are opportunities to make the local food system more sustainable.
- Changing the behaviour of some commercial farmers was seen to be a major challenge. It was felt that it would be difficult, given the economic pressures and their culture, to change their land management practices. Significant incentives would be required.

7.5 Workshop 4: Farmers, land managers and conservation agencies

7.5.1 *Introduction to the workshop*

CCRI introduced the Pegasus project and explained the purpose and format of the workshop. The workshop was in 4 parts:

1. Identify the most important ESBOs in the area (focus on the Allen Valleys).
2. Based upon the results from the ranking activity, discussions will take place around what people would ideally like to see happen in the future.
3. How can the future be achieved – In order to attain the future vision that was discussed previously, what would need to occur/change?
4. What will happen next? Output from the various workshops, and next steps.

7.5.2 *ESBOs Selected for Discussion*

I. #19 Rural Vitality
II. #14 Landscape Character and Cultural Heritage
III. #11 Species and Habitats
IV. #01 Food security
V. #02 Water Quality

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7.5.3 *Summary of outcomes*

#19 Rural Vitality

Current situation

- Although the ESBOs from farming were mainly delivered by farmers and estate managers, it was argued that the land managers, especially farmers, were part of a rural community whose sustainability was threatened by a range of wider social and economic processes.
- Agriculture was seen to be in long-term decline. High natural value farming systems were under economic threat and their future was uncertain.
- The foot and mouth epidemic of 2003 caused a severe economic and emotional shock to the area. However, the epidemic also allowed farmers time to take a step back and consider the future of their farm businesses and engage in some strategic planning. Unfortunately, many of the farmers that remain have not been able to escape the economic pressures on their businesses.
- Perceived threats to a sustainable rural community included:
  - A declining government funding or withdrawal of public services such as; doctors surgeries, chemists, schools, services for the elderly.
  - A lack of employment opportunities inside agriculture due to the amalgamation of farms created by the need to achieve economies of scale and the policies of some estate owners. Also the low economic returns from agriculture were sometimes a disincentive for children to take over the family farm.
  - A lack of employment opportunities outside agriculture, due to the absence of employers.
  - Lack of opportunities for young people in the area and an aging population.
  - Lack of affordable local housing.
- It was mentioned that the large estates could have a positive impact on the community. Estate houses provided local accommodation and some estates also provided low-cost workspaces. Gamekeepers who manage the grouse estates, and their families, were an important part of the community.
- Low market prices for sheep and beef and high input costs placed many farm businesses in the area under financial pressure.
- The harsh physical conditions experienced in the uplands placed limits on the changes that could be made to traditional farming systems. The most common responses to the cost-price squeeze were:
  - Farm enlargement, it was noted that there were fewer farms in the area and farm amalgamation was a common practice on both owner occupied and tenanted farms.
  - Restructuring of farm enterprises, in the past dairy enterprises were important in the area but very few are left. Many farmers have dropped or restructured their beef enterprises. Sheep enterprises have been restructured.
  - While there were some opportunities for innovative production and marketing strategies the room for manoeuvre was constrained by the physical conditions in which

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farming took place and the reliance on livestock auctions as the dominant way of selling sheep and cattle.
  - The polarisation of land management practices according to the productive quality of the land. Intensification had taken place on the best quality land leading to the improvement of meadows and pastures. Extensification had taken place in the least productive land, for the example an increase of scrub on rough pasture.
  - CAP pillar 1 and 2 payments were an important source of income for many commercial farms in the area. It was reported that many farms would not be economically viable without them.
  - Off farm income and on-farm diversification was important to many farms in the area. This included off farm employment, agricultural contracting, tourism enterprises. It was reported that there was a long history of farmers with multiple sources of income stretching back to the lead mining era. It was suggested that multiple sources of income was part of the culture of the area.

Vision for the future and changes required

- There were a number of opportunities for enhancing rural vitality. Such as:
  - Building upon the existing goodwill and dynamism of the local community. It was mentioned that there was already an active community spirit in the Allen Valleys which was manifest in the numerous social groups and activities that took place.
  - Building upon the entrepreneurial spirit already existed within the Allen Valleys. The independent Co-op in Allendale town was given as an example of the positive impact that a local business could have.
  - The adaptive reuse of redundant farm complexes to create dwellings and live-work spaces for new small-scale businesses. The area's new neighbourhood plan made provision for the reuse of redundant farm steadings.
- There was a complex pattern of social change. It was suggested that in the latter half of the last century the Allen Valleys had been in decline but this trend had been reversed more recently with the migration of people into the area. Benefits included attracting people and income into the area to support the local economy while disbenefits included placing pressure on housing supply and increasing house prices.
- The policy framework for remote rural areas needed a fundamental rethink. A number of comments were made about the suitability and impact of government and government agency policies. These included:
  - A perceived failure to adequately fund rural services. Especially health care and public transport.
  - The cost effectiveness of public policy was sometimes measured too narrowly in monetary terms.
  - That there should be recognition that the creation of strong, resilient and sustainable rural communities required a long-term perspective. Short-term initiatives and projects, lasting 2 to 5 years, although having the advantage of being cost-effective and easily auditable could also lead to fragmented delivery and a lack of joined up thinking. A broader range of delivery mechanisms should be considered, including long-term projects.

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#14 Landscape Character and Cultural Heritage

Current situation

- The land management practices of farmers and gamekeepers to a large extent determined the appearance of the Allen Valleys. High nature value farming systems are very important in the area.
- In the past agri-environment schemes had helped to maintain and enhance landscape character and cultural heritage. Agri-environment schemes had been widely adopted in the area and they provided an important supplement to agricultural incomes. Previous agri-environment schemes, helped to maintain landscape character through the availability of grants to repair and maintain walls and buildings.
- The NPAONB has been able to add value to agri-environment schemes by deploying additional resources in the form of advice and guidance to farmers and land managers. For example, the restoration of hay meadows. The RSPB had also been working with farmers and land managers in the area.
- There was a perception that the new Countryside Stewardship scheme would not be as attractive to farmers and the future management practices may be driven more by market forces which may have a negative impact on landscape character.
- It was suggested that the economic pressures on farming in the area would lead to considerable landscape change in the future. Changes to the scale and intensity of sheep and beef enterprises, and changes in the mix of agricultural enterprises have the potential to significantly alter the landscape character.
- A reduction in beef enterprises was predicted leading to a decline in grassland and an increase in scrub woodland.
- It was reported that there was a tension between farming and grouse shooting interests over which land management practices should be followed. There were concerns about changes to the landscape character which would be brought about by changes in management practices. It was suggested that reducing sheep numbers on the moorland to encourage heather growth could have knock-on effects which threaten the viability of the whole farm business and land management practices on the other land types in the farm system, for example, meadow and pasture management, enterprise mix, and the maintenance of field boundaries.
- The area's landscape character and cultural heritage were seen as important factors in attracting tourists to the area, which in turn helped the local economy. However, it was thought that more could be done to promote the qualities of the area and increase tourism.

Vision for the future and changes required

- Landscape character was not static and landscape change would occur in the future. Potential changes in land management practices had to be considered carefully from an environmental and economic perspective.

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- Changes in land management practices may lead to trade-offs between ESBOs. For example, rewilding could have a negative impact on landscape character and cultural heritage while at the same time could lead to benefits for some habitats and species, carbon sequestration and flood control.
- A range of views were expressed concerning the impact of different land management practices on ESBOs. The relationship between farming and ESBOs was complex. For example, the relationship between livestock grazing density, vegetation cover, water retention and flood control or the relationship between livestock management and bird numbers. Policymakers should be wary that there were simple solutions to complex issues.
- It was suggested that agri-environment policy should be developed by consulting the full range of stakeholders. Local, placed-based policies which drew upon the knowledge and expertise of farmers could enhance ESBO delivery.
- In the absence of well-designed and financially attractive agri-environment schemes it was reported that there would be a continuation of the polarisation of land management practices according to the productive quality of the land. There would be further intensification on the best quality land and extensification on the least productive land.
- The tensions between farming and grouse shooting interests need to be addressed. The economic and environmental impact of reducing sheep numbers and stocking density on the moorland should be considered in terms of the whole farm business.
- It was suggested that hill farming suffers from chronic market failure, where the prices received at market for cattle and sheep did not cover costs of production. It was unlikely that high nature value farming systems would be supported by the market in the future and therefore government intervention to address market failures would still be required.

#11 Species and Habitats

Current situation

- Current agri-environment schemes have weaknesses in terms of design and funding which mean that the outcomes for species and habitats are not as effective as they could be.
- Different views were expressed about the environmental impacts of moorland restoration projects. These included:
  - the extent to which moorland restoration reduced flooding in the lowlands;
  - the impact on greenhouse gas emissions;
  - the impact on nutrient flows in streams and rivers.

Vision for the future and changes required

- In future agri-environment schemes needed to be place-based and responsive to local conditions. Farmers should be consulted about the land management practices that will maintain and enhance local habitats and species.

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- Funding for agri-environment schemes should be adjusted to reflect the ESBOs delivered for species and habitats through farming. It was reported that current agri-environment schemes were financially unattractive to many farmers in the area.
- It was suggested that more effective ESBO delivery might be achieved by adopting more of a partnership approach between farmers and agri-environment scheme delivery bodies. It was reported that farmers were afraid of being penalised if they made a mistake in following agri-environment scheme prescriptions.

#1 Food security

Current situation

- Many hill farms in the area are economically unviable without the CAP support payments. The prices paid for finished and breeding livestock are simply not high enough for farmers to make a living. It was reported that the consumer was not prepared to pay a fair price for agricultural products originating from the uplands.
- It was suggested that upland livestock producers were at a commercial disadvantage to foreign imports where farmers did not have to produce to the same standards as in the UK. It was also suggested that foreign importers also manipulated the food labelling regulations to give the impression that the UK was a country of origin.

Vision for the future and changes required

- While there were opportunities for farmers to increase revenues through innovative production and marketing techniques, the physical conditions meant that there was not much room for manoeuvre.
- Consumers should be encouraged to pay a fair price for sheep and beef products, although participants were doubtful if much change would take place.
- Imported sheep and beef products should be subject to the same high standards as indigenous production.
- It was suggested that the CAP area based payment system should be reformed with greater emphasis given to supporting the smaller farm businesses.

#2 Water Quality

Current situation

- Water quality is a very important issue in the area as the water supply for many isolated farms and dwellings is from untreated spring water. Local farmers are acutely aware of keeping drinking water supplies uncontaminated. The main towns and villages have treated water supplies which comply with EU regulations.
- It was suggested that EU regulations could mean that spring water supplies would not be suitable for human consumption. This may cause problems for the house rental sector and tourist accommodation businesses as landlords and accommodation providers could be prosecuted if people fell ill from drinking spring water.

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- The mining industry has polluted groundwater supplies with heavy metals. This is a chronic problem in the area. The Coal Authority is responsible for improving water quality and is becoming more active in the area.
- Currently there is a lack of joined up thinking between the different agencies involved in improving water quality: the Coal Authority, Natural England, Historic England.

Vision for the future and changes required

- It was suggested that there should be more joined up thinking between the different agencies involved in the improvement of water quality: the Coal Authority, Natural England and Historic England.

7.6 Workshop 5: AVLP project staff and participants

7.6.1 *Introduction to the workshop*

CCRI introduced the Pegasus project and explained the purpose and format of the workshop. The workshop was in 4 parts:

1. Identify the most important ESBOs in the area (focus on the Allen Valleys).
2. Based upon the results from the ranking activity, discussions will take place around what people would ideally like to see happen in the future.
3. How can the future be achieved – In order to attain the future vision that was discussed previously, what would need to occur/change?
4. What will happen next? Output from the various workshops, and next steps.

7.6.2 *ESBOs Selected for Discussion*

I. #19 Rural Vitality
II. #14 Landscape Character and Cultural Heritage
III. #11 Species and Habitats
IV. #16 Educational activities
V. #13 Biological pest and disease control through biodiversity (Not discussed)

7.6.3 *Summary of outcomes*

#19 Rural Vitality

Current situation

- A range of views were expressed about what constituted sustainability. It was suggested that there was a distinction between technological and community sustainability.
- It was suggested that the social history of the Allen Valleys, with its links to lead mining, created a naturally strong community. It was reported that a strong identity of place helped with community cohesion and resilience.
- There is a strong community spirit in the Allen Valleys.
- It was suggested that land ownership played an important role in shaping rural vitality and community sustainability. Much of the land in the Allen Valleys was under the own-

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ership of two large estates. The policies of these estates had a large impact on community life; including employment opportunities, accommodation provision and a strong influence over land management practices on tenanted farms. It was reported that the estate policies could have both beneficial and detrimental impacts on rural vitality.

- It was reported that a range of rural services in the area were under threat.
- It was reported that the community was active and engaged, and could be mobilised to fight against proposed cuts to rural services. The community was also heavily engaged in local planning issues. This illustrated the area's rural vitality.
- Significant numbers of people commute outside the area for work.

Engagement with the Allen Valleys Landscape Partnership scheme

- Different views were expressed on the desirability of some of the AVLP scheme activities. For example, one participant thought that there was too much tourism in the area and the area was in danger of losing its character. Other participants said that tourism was important for the local economy and that the AVLP scheme was providing valuable support.
- A number of participants indicated that the scheme had been effective in bringing people from the community together. For example, the newly formed history society had been successful in attracting people who have moved into the area.
- The AVLP scheme and NPAONB Partnership initiatives were raising awareness and appreciation of a range of ESBOs (especially landscape and cultural heritage and species and habitats). Scheme projects targeted both the local community and visitors to the area. This tied in closely with the education themes of both the HLF and NPAONB Partnership. Participants mentioned a number of education and engagement activities including:
  - the local history group;
  - heritage skills and knowledge;
  - natural and cultural heritage training for tourism businesses;
  - natural and cultural heritage information dissemination;
  - youth in school engagement;
  - local nature groups;
  - the Nectarworks project: to restore and increase flower rich habitats;
  - the Hay Time project: to enhance and restore upland hay meadows.
- Participants felt that the AVLP scheme was a success and part of that success was attributable to the strong community spirit already in the Allen Valleys.

Vision for the future and changes required

- Participants indicated that the maintenance and enhancement of rural vitality through the auspices of a strong and resilient community could only go so far. Many things were out of the community's control, for example, education, transport, and healthcare policy. Some threats to rural vitality could only be addressed by regional, national and international policy.

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- It was suggested that there were opportunities to build upon the strong community spirit that already exists within the Allen Valleys. The AVLP scheme, through the creation of community groups and projects, provides a valuable catalyst in bringing different sections of the community together.
- It was noted that there could be both synergies and trade-offs between ESBOs. For example, between tourism as a component of rural vitality and landscape character and cultural heritage; species and habitats and education.
- It was suggested that there may need to be a trade-off between different ESBOs. For example between enhancing rural vitality through increased tourism and maintaining and protecting landscape character and cultural heritage and species and habitats. In the future it will be important to carefully monitor interactions between the different ESBOs and policymakers should be wary of potentially detrimental changes.

#14 Landscape Character and Cultural Heritage

Current situation

- The Allen Valleys had a strong landscape identity and character. Although the area was said to be less well-known than the National Parks, it had its own unique character which was attractive to tourists.
- Different views were expressed on the role of agriculture in delivering landscape character and cultural heritage ESBOs.
- It was suggested by some participants that the Allen Valleys was largely unchanging and resilient. To some extent it was seen to be largely self-sustaining.
- For some participants the landscape character of the area was very sensitive to changes in agricultural land management practices.
- The participants provided a number of different descriptions of the relationship between agriculture and landscape character and cultural heritage. For some the relationship was one of custodianship and stability, while for others the ESBOs were very sensitive to changes in agricultural practice.

#11 Species and Habitats

Current situation

- Participants were very aware of the species and habitat value of the area.
- Landownership strongly influences land management practices in the area. The larger estates control the management of large areas of land.

#16 Educational Activities

Current situation

- Education was seen as a key area of activity for both the AVLP scheme and NPAONB Partnership. Some participants felt that there was a lack of awareness, appreciation and understanding of the range of ESBOs is produced by agriculture. This applied to the local

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community and visitors alike. Education was required to help people see the linkages between farming and the ESBOs.

- It was mentioned that there were resource constraints on education provision. Provision tended to be small-scale and project-based. There were many opportunities to raise awareness and appreciation of ESBOs but to have a significant impact required core funding from government.

7.7 Workshop 6: NPAONB policy

7.7.1 *Introduction to the workshop*

CCRI explained that this session would build upon the issues raised and areas of discussion from the first round of meetings held on May 10th and 11th:

1. Discuss the Socio-ecological System (SES) for the NPAONB and AVLP: actors.
2. SES: Governance.
3. SES: Action situations.

7.7.2 *Summary of outcomes*

Discuss the Socio-ecological System (SES) for the NPAONB and AVLP: Actors.

- Landownership and property rights have a very strong influence on land management practices in the area. Large estates control land management of much of the area through the ownership of moorland and farmland. Farmland can be managed in hand by the estates, let out on short grazing tenancies, or let to in situ farmers on various types of agricultural tenancy. Owner occupier farmers and small holders are also very important in delivering ESBOs.
- The NPAONB Partnership has little control over land management practices. Its influence comes through persuasion and consent. The NPAONB Partnership has developed a wide range of skills to achieve positive environmental change through persuasion and consent. Not having regulatory power was sometimes an advantage.
- The NPAONB Partnership has no regulatory power but plays a very important role in building trust and cooperation amongst a wide range of actors: farmers and land managers, estate agents, statutory and voluntary environmental agencies, the local community.
- Government cuts, in terms of staff and funding to environmental agencies, such as Natural England, Forestry Commission, Environment Agency, and Historic England, is making it increasingly difficult to maintain and enhance the provision of ESBOs is from farming and forestry. There has been a contraction in the range of financial incentives available to promote positive environmental management in the area.
- It was suggested that the regional scale was probably most appropriate for maintaining and enhancing the provision of ESBOs from farming and forestry. Delivery at a national scale lack the sensitivity of regional place-based policies.

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- It was reported that achieving positive environmental change through the use of voluntary and incentivised approaches was resource intensive, especially in terms of time and effort required to build trust and persuade land managers to change their behaviour.
- If voluntary and incentivised approaches, rather than regulation, are the preferred delivery mechanisms the government should ensure that they are properly funded. Voluntary approaches are not a cheap option.
- There is potential to reform and improve policies designed to enhance the provision of ESBO is through farming and forestry. This could include:
    - the creation of regional, place-based delivery bodies that integrate cross-sector interests concerning the natural and historic environment. There is also potential for public right-of-way management to be included within the remit of a regional delivery body;
    - policy development that is sensitive to local needs. Policy development would include stakeholder participation involving local communities, environmental agencies and farmers and land managers;
    - compared to the existing prescription-based agri-environment schemes, results-based agri-environment schemes may be more cost-effective in the long run.
    - recognition that the success of voluntary and incentivised agri-environment schemes requires facilitation and is resource intensive and should be funded accordingly.
    - Incorporate best practice from other areas of policy making. Policy frameworks should allow a degree of risk taking where there is a potential to achieve major gains. Risk assessments should recognise that over the long term the "safe option" may not always deliver the maximum benefits. HLF funding for the AVLP scheme was good in this respect.
- Time-limited, project-based schemes have the advantage of being auditable and easily monitored, but they may not be the best approach to deliver long-term goals. There is a need for complimentary methods which provide for long-term community engagement and facilitation. One area that has the potential for development's Legacy funding where income is generated to facilitate long-term community engagement, usually through payment for a community worker/facilitator. HLF recognises the value of Legacy funding and this is being attempted in the AVLP scheme.

SES: Governance

- Large estates dominate much of the agriculture in the area. They control management practice on most of the moorland and own a large area of farmland, which is rented out on various types of tenancy and grazing lets.
- Local Authorities also have a significant amount of power and control over community activities, particularly town and country planning legislation.
- Improving the delivery of ESBOs on farming and forestry requires place-based policy-making. Sectorial policies, such as agri-environmental, agricultural, historic environment; should be integrated and be place focused.
- Improving the delivery of ESBOs can be improved by devolving power to local communities.

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- In remote upland areas the delivery of ESBOs from farming and forestry is underpinned by the broader rural community. A breakdown in the sustainability of that broader rural community threatens the delivery of ESBO is from farming and forestry.

SES: Action situations

- A number of activities are taking place in the NPAONB and the Allen valleys to increase the appreciation and provision of ESBOs.
    - The NPAONB contributes to policy development from a local to national scale.
    - The NPAONB acts as a catalyst bringing actors together to effect change. It adds value to existing processes.
    - Resources are scarce and the NPAONB has to focus on maximising the provision of a number of key ESBOs. The NPAONB has undertaken research to identify and prioritise ESBOs.
    - The most common form of intervention to improve the delivery of ESBOs is through time-limited and spatially specific projects. These have proved an effective and are easily auditable, but there may be other forms of intervention which could deliver more.
    - The economic situation in the uplands for farming and forestry often works against the effective provision of ESBOs.
    - Current conceptualisations of what economic viability and market forces actually are need to be critically appraised and redefined. Economic processes are not neutral and are not governed by physical laws. The economic definition of value is often too narrowly defined. More work needs to be done to understand the intrinsic value of nature and the environment.
- Place is an important factor that influences the provision and delivery of ESBOs. Therefore it is very important to understand what type of ESBOs can be provided by a particular place and what a desirable balance between ESBO should be. As part of another LPS bid to the HLF the NPAONB has undertaken research to identify the current provision of ESBOs in the area and consider what the future provision could be. The analytical model uses functional analysis and the concept of Theory of Change.
- At present the identification and analysis of ESBOs is an expert led process, but the intention is to undertake participatory work with the local community to help identify priorities and opportunities for action and delivery.
- HNV farming systems in the uplands are under severe economic pressure. This provides both opportunities and threats to the provision of ESBOs.
    - ESBO provision can be enhanced as farmers and land managers look to the environment, through agri-environment schemes, to support their incomes. The financial benefits of agri-environment schemes can provide a powerful insensitive. The NPAONB is very skilled at adding value to agri-environment schemes and working with farmers and land managers.
    - ESBO provision can be threatened as farmers and land managers turn away from optimal environmental land management through intensification or extensification.
    - Local social, economic, and environmental conditions have an important influence on how farmers and land managers will respond to changes in agricultural and agri-

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environmental policies. For example, the new countryside stewardship scheme does not appear to be very attractive to farmers and land managers.

- The maintenance and enhancement of the physical fabric of the historic environment, such as field boundaries, vernacular buildings, aboveground archaeology etc. is not facilitated by current agri-economic processes. Functional redundancy and dereliction are significant processes at work in the NPAONB. Agri-environment schemes are very important in the area for the maintenance and enhancement of the historic environment.

7.8 Workshop 7: NPAONB projects

7.8.1 *Introduction to the workshop*

CCRI explained that this session would build upon the issues raised and areas of discussion from the first round of meetings held on May 10th and 11th:

1. Where policies initiatives and projects have been successful what have been the factors that have enabled this?
2. What needs to change to improve the provision of ESBOs in the future in this area?

7.8.2 *Summary of outcomes*

- AONB staff wanted to use the workshop to identify areas where they could improve the delivery of ESBOs. They hoped that the workshop could be used to identify areas where delivery could be done better and identify gaps that could be built upon.

Where policies initiatives and projects have been successful what have been the factors that have enabled this?

Successful policies, initiatives and projects

- HLF funding via the landscape partnership scheme was seen as the most important factor which enabled the NPAONB to improve ESBO delivery.
- Landscape Partnership Scheme rules require active community engagement. This has been very beneficial in giving the Allen Valleys project momentum and a continuing environmental and community legacy beyond the end of the project.
- The HLF Landscape Partnership Scheme allows for some risk-taking in the pursuit of substantial outcomes. Workshop participants thought that this was very helpful and a good feature of the program.
- HLF projects recognise the value of Legacy funding to help achieve continued outputs after the project is finished. The Allen Valleys project hopes to provide a legacy of funding from the sale of electricity from micro-hydro projects.
- A limitation of landscape partnership schemes is that you can't repeat them in the same place.
- Successful community engagement that achieves positive outcomes is resource intensive. Policymakers need to recognise this. These resources include both time and labour outside the boundaries of particular projects. A lot of ground work, including many

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months and even years of effort, is often required to build trust within a community which will result in positive outcomes. These costs are often hidden from policymakers and have to be absorbed by organisations such as NPAONB.

- The expertise and continuity that the NPAONB brings is threatened by under resourcing. It would be useful if research could be undertaken that measures the contribution of the NPAONB as a facilitator and catalyst for the provision and appreciation of ESBOs from farming and forestry.
- The NPAONB plays an important role as a catalyst bringing people and organisations together and facilitating action.
- Place-based and time constrained projects are a useful mechanism for getting action on the ground and delivering some types of successful outcomes. They are easily auditable and can be measured in terms of value for money. However, project-based delivery also has a number of weaknesses:
  - Some types of objective require long-term engagement, often lasting beyond the three or four years which are typical of time-limited projects.
  - Short-term projects are often narrowly focused and lack the integration of a broad range of issues required for effective ESBO delivery.
  - A delivery model based on short-term projects has an inherent problem of retaining experienced staff who have often built up a depth of local knowledge. The effectiveness of short-term projects can be reduced as staff seek other employment as the project comes to an end. Experienced and knowledgeable staff are an extremely valuable resource for the NPAONB but this is often not accounted for.
  - A lack of core funding can lead to a fragmentation of delivery which is less effective enhancing the provision of ESBOs. Financial climate for short-term project funding is often volatile and insecure.
- One of the key assets of the NPAONB is the knowledge and experience of the staff. Although short-term project-based employment has inbuilt insecurities, being under the umbrella of the county council is beneficial in securing long-term employment for staff.
- It was suggested that the best projects often have a certain amount of flexibility and leeway to try different things. A small amount of risk-taking often pays big dividends in terms of achieving positive outcomes. The Allen Valleys project and the peatland's project were given as examples where a flexible approach had paid dividends.
- It has been possible to take time-limited projects and develop them into long-term programmes which achieve far more environmental benefit than originally envisaged. Peatland's programme was given as an example of such a project. The original project was for three years, but the NPAONB has been very successful in securing additional sources of funding (e.g. Biffa, Natural England, Water Companies) so that the work can continue.
- The NPAONB achieves changes in land management practices through persuasion rather than regulation. Over the last decade the peatland's team has built up a large amount of experience and expertise in talking to and persuading gamekeepers and farmers to change their management practices on peatland. Building respect and trust over many years has been crucial to this process.

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- Building mutual respect and trust amongst the gamekeeper and farming communities is vital to the work of the NPAONB. Building such relationships is often resource intensive but can produce very good results as the peatland's project has shown.
- It was noted that not all land managers were persuaded as to the benefits of the peatland's project. Intensive production is still a powerful narrative among some land managers.
- Increasing the appreciation of ESBOs has been achieved by the formation of a number of wildlife groups. The NPAONB played an important role in setting up these groups but is now standing back and handing over responsibility for their operation to the groups themselves. It is anticipated that these groups will be self-sustaining requiring only a light touch from the NPAONB in terms of support.
- The formation of independent and self-sustaining interest groups was seen as an effective model for raising the appreciation of ESBOs within the local community.

What needs to change to improve the provision of ESBOs in the future in this area?

- Securing reliable and long-term funding streams would help improve the provision of ESBOs. A lot of time was spent on applying for short-term funding.
- Recognition of the importance of building relationships, trust and respect with land managers to improve ESBO appreciation and provision.
- The role of the NPAONB is important, but it needs to be recognised that it is resource intensive in terms of the time and flexibility needed to build lasting relationships with people who control and manage the land that produce these ESBOs.
- There is unfilled potential to engage with communities and set up groups to protect local heritage assets.
- There is potential to raise the appreciation of ESBOs among hard to reach socially excluded groups.
- There is potential to develop existing projects, such as the peatlands project, to improve and add value to agri-environmental schemes aimed at delivering ESBOs.
- There are opportunities to develop output-based agri-environment schemes which are delivered locally.
- Not having a regulatory role is seen as a strength of the NPAONB partnership.
- Action is required because 'the market' does not provide sufficient ESBOs and the public sector is in decline.
- It was suggested that major societal changes were also required to improve the appreciation and provision of ESBOs. There needed to be some fundamental changes to societal values if significant progress was to be achieved. These changes went far beyond minor adjustments to agricultural and agri-environmental policy. People needed to question how they wanted to lead their lives.

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Making a difference in terms of the provision and delivery of these ESBOs

- The NPAONB has shown that it can make a difference in improving the delivery of ESBOs. It adds value through its facilitation activities.
- It was reported that many of the NPAONB projects have resulted in beneficial outcomes. The peatlands and Haytime projects had been very successful. The Allen Valleys project is also beginning to have a very positive impact.
- It was reported that the NPAONB has been successful in raising the appreciation of ESBOs.

7.9 Supporting data and statistics

Farming statistics

As an upland Less Favoured Area (LFA), the NPAONB is almost wholly classified as 'Severely Disadvantaged', with some pockets of 'Disadvantaged' area on its periphery. Consequently the NPAONB is an area dominated with upland grazing farms, primarily sheep. A small number of general cropping farms also operate within the numerous dales, as do a handful of dairy farms. Numbers of holdings in the NPAONB have witnessed a gradual decline over recent years – a characteristic that is also true within the North East and in England as a whole. As one would anticipate the proportion of Grazing Livestock farms within the NPAONB (86%) is considerably higher than that of both the North East region and England. (See table 7.9.1). Figures contained within this section are taken from 2010 and 2013 as geographical breakdowns are only available in the years that correspond to the EU farm structure survey, although an update is scheduled to be available in 2016. Some data are available for periods prior to 2010, however in 2009 Defra focussed solely on 'main holdings' and omitted a significant number of small holdings.

Table 7.9.1: Proportion of LFA Grazing Livestock Farms within England, NE & NPAONB (Defra, 2013)

	Total Holdings			Grazing Livestock (LFA)		
Area	**2010**	**2013**	**% Change**	**2010**	**2013**	**% Change**
England	105499	102836	-2.5	12625	12528	-0.8
				12.0%	*12.2%*	*% of all holdings*
North East	4182	4174	-0.2	1459	1490	2.1
				34.9%	*35.7%*	*% of all holdings*
NPAONB	671	667	-0.6	579	576	-0.5
				86.3%	*86.4%*	*% of all holdings*

Farms in the NPAONB and within the NE region are typically larger than those of England. Within the NPAONB over 40% of farms are in excess of 100 hectares, with a similar proportion of this size operating in the NE, whereas these account for just 26% in England. Conversely, in the NPAONB and NE the proportions of farms within the three smallest categories are notably lower than the English figures (table 7.9.2). According to the Farm Business Survey 2014/2015, the average LFA farm area is 140 hectares plus common grazing (FBS, 2016)

Table 7.9.2: Farm size ranges within England, NE & NPAONB (Defra, 2013)

	Farm Size in Hectares (percentage of total)					
	<5	**>=5 & <20**	**>=20 & <50**	**>=50 & <100**	**>=100**	**TOTAL**
NPAONB	42	119	109	125	276	671

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2010	*6.3%*	*17.7%*	*16.2%*	*18.6%*	*41.1%*	
NPAONB 2013	49	122	98	124	274	667
	7.3%	*18.3%*	*14.7%*	*18.6%*	*41.1%*	
NE 2010	283	861	665	753	1 620	4182
	6.8%	*20.6%*	*15.9%*	*18.0%*	*38.7%*	
NE 2013	305	858	642	732	1 637	4174
	7.3%	*20.6%*	*15.4%*	*17.5%*	*39.2%*	
England 2010	9 181	26 693	22 244	19 072	26 259	105 449
	8.7%	*27.2%*	*21.1%*	*18.1%*	*24.9%*	
England 2013	9 797	26 918	20 815	18 295	27 011	102 836
	9.5%	*26.2%*	*20.2%*	*17.8%*	*26.3%*	

Land tenure within the NE and NPAONB is markedly different from that of the rest of England. Figures from 2013 show that within England 34.6% of farmland is rented, with nearly 64% under ownership. In comparison, within the NE rented land accounts for 48% with 51% under ownership; within the NPAONB rented farmland accounts for 56% with 42% under ownership. Within the Allen Valleys and NPAONB significant areas are owned by various estates, and this is the reason for such a high level of tenanted farm land. Some land within the NPAONB is also owned by the Ministry of Defence.

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Table 7.9.3: Land Tenure within England, NE & NPAONB (Defra, 2013)

	Land Tenure (Ha and percentage)		
	Rented Land – Ha	**Owned Land - Ha**	**TOTAL AREA - Ha**
NPAONB 2010	66 836	45 960	116 089
	57.6%	39.6%	
NPAONB 2013	63 814	48 768	114 782
	55.6%	42.5%	
NE 2010	280 753	284 955	570 420
	49.2%	50.0%	
NE 2013	284 447	301 210	588 369
	48.3%	51.2%	
England 2010	3 124 464	5 644 994	8 887 269
	35.2%	63.5%	
England 2013	3 145 891	5 795 654	9 086 480
	34.6%	*63.8%*	

As might be expected in an area of LFA, the proportion of certain land use types within the NE and NPAONB in particular are markedly different to those of England (see table 7.9.4). In 2013 permanent grassland accounted for over 53% of agricultural land within the NPAONB, compared to 36% for England. Sole right rough grazing within the NPAONB accounted for 41% of farm land in 2013, whereas in the NE the figure was 18.3% and 5.2% for England. Areas covered by crops and bare fallow, temporary grass and woodland in the NPAONB range from 1.1-2.4%.

Table 7.9.4: Land type within England, NE & NPAONB (Defra, 2013)

	Land Type (Ha and percentage)				
	Crops and bare fallow	Temporary grass	Permanent grass	Rough grazing (sole right)	Woodland
NPAONB 2010	1 163	2 324	57 763	52 674	1 256
	1.0%	*2.0%*	*49.8%*	*45.4%*	*1.1%*
NPAONB 2013	1 301	2 804	61 632	47 059	1 478
	1.1%	*2.4%*	*53.4%*	*41.0%*	*1.3%*
NE 2010	158 660	28 441	258 560	106 918	15 032
	27.8%	*5.0%*	*45.3%*	*18.7%*	*2.6%*
NE 2013	162 248	32 691	258 987	107 458	19 002
	27.6%	*5.6%*	*44.0%*	*18.3%*	*3.2%*
England 2010	3 974 120	586 690	3 288 366	493 048	295 295
	44.7%	*6.6%*	*37.0%*	*5.5%*	*3.3%*
England 2013	4 057 706	667 714	3 273 178	471 804	324 942
	44.7%	*7.3%*	*36.0%*	*5.2%*	*10.0%*

Cattle numbers within the NPAONB are in decline and have been for a number of years. This is similarly the case across the NE region and England as a whole. England has seen cattle numbers fall by around 3% between 2010 and 2013, whereas the North East numbers fell by 4.4%. However, within the NPAONB, numbers have fallen by 9.4%.

Sheep numbers in the NPAONB have witnessed a slight resurgence over recent years, after a fall in numbers from 2008-10. Between 2010 and 2013, numbers of breeding ewes and lambs increased by 3.8% and 0.3% respectively. Within the North East, variable increases in

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ewes, lambs and rams resulted in an increase of total sheep of 2.7% between 2010 and 2013. England observed a 4.8% increase over the same time period.

Table 7.9.5: Livestock numbers within England, NE & NPAONB (Defra, 2013)

	Livestock Type (Number and 2010-13 % change)	
	Total cattle	Total sheep and lambs
NPAONB 2010	36 987	469 117
NPAONB 2013	33 503	472 306
	-9.4%	+0.7%
NE 2010	277 471	1 825 591
NE 2013	265 293	1 875 740
	-4.4%	+2.7%
England 2010	5 521 386	14 239 840
England 2013	5 344 652	14 921 639
	-3.2%	+4.8%

Farm labour composition within the NPAONB and to a lesser extent within the NE is notably different to that of England as a whole – see table 7.9.6. In the NPAONB, 47.5% of all farm labour is associated with full-time farmers – contrasting to a figure of just under 30% for England. Figures for full-time employees in the NPAONB are just 6% compared to 16% for England – with a figure of 12% for the NE. Figures for part-time farmers and employees are somewhat similar across the NPAONB, region and England, although the proportion of casual workers is notably higher in England (13%) compared to the NE (5.6%) and the NPAONB (5.5%). The total labour force[4] in all areas has increased slightly between 2010 and 2013.

Table 7.9.6: Labour composition on Farms within England, NE & NPAONB (Defra, 2013)

	Labour Type (Number and percentage)					
	Farmers full-time	Farmers part-time	Employees full-time	Employees part-time	Casual workers	Total labour
NPAONB 2010	701	493	82	78	75	*1 454*
	48.3%	*33.9%*	*5.7%*	*5.4%*	*5.5%*	
NPAONB 2013	714	486	94	110	82	*1 505*
	47.5%	*32.3%*	*6.3%*	*7.3%*	*5.5%*	
NE 2010	3 920	3 024	1 355	795	539	*9 870*
	39.7%	*30.6%*	*13.7%*	*8.1%*	*5.5%*	
NE 2013	4 160	3 190	1 282	864	576	*10 313*
	40.3%	*30.9%*	*12.4%*	*8.4%*	*5.6%*	
England 2010	85 509	84 969	47 176	27 853	37 224	*293 170*
	29.2%	*29.0%*	*16.1%*	*9.4%*	*12.7%*	
England 2013	88 188	83 435	46 612	27 540	39 203	*295 563*
	29.8%	*28.2%*	*15.8%*	*9.3%*	*13.3%*	

[4] Not all labour types are represented in table XXX and therefore total labour figure will not reflect sum of individual categories.

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Over recent years, schemes such as the ESA, CSS and E/HLS have closed and been replaced by a new Countryside Stewardship scheme which covers a range of activities such as woodland, habitat conservation and educational access.

In 2012, 78% of all Northumberland and North Pennines farms were involved in some form of scheme – slightly higher than that across all English upland farms (73%) although the highest occurrence of scheme engagement was 84% in the Welsh Borders. When only considering farms who operate in SDA areas, the proportion of farms in a scheme in 2012 increased to 83% for Northumberland and North Pennines and 80% for other farms in England.

For many farms, income from such schemes can be very important in ensuring that the farm business remains economically viable. Table 7.9.7 highlights the importance this income has to the business. Within Northumberland and North Pennines over 90% of farms stated that in 2012 such income was either a moderate or significant contribution to the farm business, a similar figure to that across England. The 2012 report states that "the contribution increases as the grassland quality decreases and the farm size and commercial status increases" which was the situation in 2009. For the majority of farmers, the importance of payments has remained the same – although for around one-third, the importance has increased.

Table 7.9.7: Wider opportunities for diversification within the uplands (Defra, 2012)

Agri-environment schemes			
Within the farm business, environmental schemes:			
	Not financially important	Contribute moderately	Contribute significantly
Northumberland & N Pennines	9%	48%	43%
England	10%	51%	39%
In the last three years, for my farm business environmental payments have:			
	Decreased	Stayed the same	Increased
Northumberland & N Pennines	4%	62%	34%
England	6%	63%	31%

In Northumberland and North Pennines 65% of those farming in 2012 anticipated remaining in farming for 10 years or more – compared to 60% England as a whole. Those who anticipated they would no longer be farming within 5 years are similar at around 17% and 19% respectively. Compared to 2009, the England figures are 'slightly more optimistic'. There was perhaps more certainty to farms in Northumberland and North Pennines, with 71% of respondents stating that succession was known (43% secured; 28% no succession). The equivalent figure across England was 66% (41% secured; 25% no succession). There were fewer farms in Northumberland and North Pennines for whom succession was uncertain (29%) than that of England (34%).

Concerning future challenges for upland farmers, the most significant challenges were considered to be market prices and changes to SPS payments. Input costs, new regulations and

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levels of environmental payments were also considered as being key challenges. These results were similar to those obtained in 2009.

Table 7.9.8: Opinions of the future of upland farming (Defra, 2012)

The future					
I expect my farm business to continue for:					
	< 1 year	**1-5 years**	**5-10 years**	**10-20 years**	**>20 years**
Northumberland & N Pennines	1%	16%	18%	21%	44%
England	2%	17%	21%	23%	37%
Succession is:					
	Secured		**Uncertain**		**No succession**
Northumberland & N Pennines	43%		29%		28%
England	41%		34%		25%
Maintaining the traditional upland way of life is:					
	Unimportant	**Important**		**Very important**	**Change would be a good thing**
Northumberland & N Pennines	4%	30%		64%	3%
England	3%	35%		58%	3%
Maintaining the environment is:					
	Vital to future of upland farming	**Part of process of upland farming**	**Making upland farming less profitable**		**Making upland farm management more difficult**
Northumberland & N Pennines	38%	65%	4%		15%
England	43%	59%	8%		15%

Summary demographics

The current census statistics (2011) indicate that the population of the North East region is generally older than that of England. Whilst the proportion of people aged 16-64 is in line with that of England, those aged under 16 is slightly lower compared to England with those aged 65 and over is higher. When considering the Northumberland area, the trend towards an elderly population becomes more evident. 20% of those living in the area are 65 or over, compared to 16.3% for England. Those aged under 16 account for 17% of the population, whereas in England figure is 18.9%. As with other rural areas on England, the population is typically more aged.

Table 7.9.9: Population and age profiles – 2011 (ONS, 2011)

	All people	**Under 16**		**People aged 16-64**		**65 and over**	
	No.	No.	%	No.	%	No.	%
Northumberland	316,028	53,866	17.0%	198,858	62.9%	63,304	20.0%
North East	2,596,886	462,437	17.8%	1,684,964	64.9%	449,485	17.3%
England	53,012,456	10,022,836	18.9%	34,329,091	64.8%	8,660,529	16.3%

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Two Lower-Layer Super Output Areas (LSOA) areas encompass the Allen Valleys area (fig 7.9). The Index of Multiple Deprivation for these areas highlight that the Allendale Town is in the 50% least deprived neighbourhoods in the country. The LSOA surrounding Allendale Town, which broadly covers the Allen Valleys is ranked as being more deprived. In general however, the ranking and associated deciles of these two LSOA highlight that the Allen Valleys is a favourable place to live, with low crime levels, high ranks of employment, education and health. Rankings for 'Barriers to Housing and Services' and 'Living Environment' however are less favourable, with the surrounding area (040A) being amongst the 10% most deprived in England.

Figure 7.9.1: LSAO Map of Allen Valleys - Adapted from DCLG (2016) ©2010 NAVTEQ, ©2010 Intermap, ©2016 Microsoft Corporation

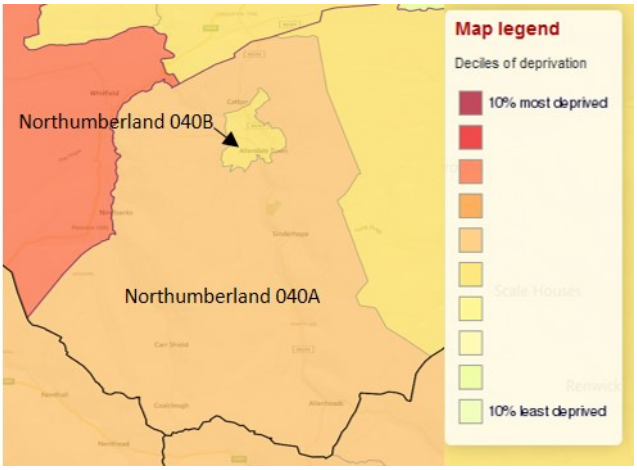

Table 7.9.10 below highlights the ranking and deciles associated with the two LSOA for the areas[5]. A full explanation regarding the method and factors considered in calculating the IMD can be found in the guidance document 2015. The remote and isolated nature of the Allen Valleys would explain the low rank in the two indices mentioned above. What remains less clear are the reasons for the low scores associated with living environment. The quality of housing stock is one consideration within the method, as some is poor, although the natural environment is of very high quality.

Table 7.9.10: IMD Ranking & Decile Information – 2015 (DCLG, 2015)

January 2015		**Northumberland 040B**	**Northumberland 040A**
Index of Multiple Deprivation (IMD) Rank	Rank	18840	13605
Index of Multiple Deprivation (IMD) Decile	Decile	6	5
Income Rank	Rank	18787	20621
Income Decile	Decile	6	7
Employment Rank	Rank	17512	25667
Employment Decile	Decile	6	8
Education Skills and Training Rank	Rank	18491	27459

[5] **Ranking**: 1 is the most deprived and 32,844 is the least deprived; **Decile**: 1 is most deprived and 10 is least deprived.

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Education Skills and Training Decile	Decile	6	9
Health Deprivation and Disability Rank	Rank	15601	20856
Health Deprivation and Disability Decile	Decile	5	7
Crime Rank	Rank	32657	32830
Crime Decile	Decile	10	10
Barriers to Housing and Services Rank	Rank	7965	151
Barriers to Housing and Services Decile	Decile	3	1
Living Environment Rank	Rank	14003	1091
Living Environment Decile	Decile	5	1

Other Activities in the NPAONB

The Peatland Programme has been operative since 2006 and initially began as a partnership between the NPAONB, Natural England and Environment Agency. Since then the project has received support from numerous sources, such as two grants from the Biffa awards, and won awards due to the benefits that it is bringing related to Climate Change. Most recently a 'Crowdfunding' campaign raised over £25,000 with the purpose of restoring a section of the 'Coast to Coast' path. This attracted significant media attention and substantial donations from organisations and individuals who recognised the value of the work being undertaken.

One of the key partners throughout the programme has been Northumbrian Water. For over ten years they have been involved in restoring badly eroded peatland as the erosion has implications for water treatment downstream. Sediment has to be removed during treatment, a costly and chemically intensive process. Therefore by reducing levels of sediment it has cost savings for the Water Company, and environmental benefits due to reduced resource use and improvements to the quality of the blanket bog – which is the largest in England. The peatland in the NPAONB is also an important resource due to its role in flood mitigation, carbon sequestration, as a habitat for internationally important wildlife and an integral part of the area's character.

The work undertaken in the area requires negotiation with the landowners (primarily estates) and also key stakeholders (graziers) in order to obtain the necessary permissions to conduct the work. However, NPAONB staff state that an estimated 60% of grips that require blocking have been, and evidence has been collated and provided to Natural England detailing progress[6].

NPAONB Partnership has also been working with the Tyne Rivers Trust and Coal Authority in order to improve water quality associated with heavy metal pollution. This has been a long-standing issue due to the mining that occurred in the area. Water quality (both heavy metal and sediment from peat erosion) was cited as being a concern by those attending the workshops. Activities such as installation of log revetments and leaky dams at particular locations capture sediment, help prevent heavy metal pollution entering watercourses and 'slow the flow' of floodwater.

[6] Vegetation monitoring of peatland restoration sites in the North Pennines AONB – Draft Report to Natural England (2011)

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