

The Ecosystem Approach

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Ecosystem Services Pinwheel

Ecosystem services are the benefits which we gain from the natural environment; these services are typically divided into four types with examples as illustrated below.



The ecosystem services which the partnership has identified as being of particular importance in the South West Peak are:

Supporting services:

Biodiversity
Geodiversity

Provisioning services:

Food provision
Water availability & flow

Regulating services:

Regulating water quality
Climate regulation

Cultural services:

Sense of place/inspiration
Sense of history
Health & wellbeing
Personal change/inspiration/
restorative experience
Tranquillity
Economic prosperity

The Landscape Partnership Scheme is being delivered using an 'ecosystem approach' which focuses on managing the environment for the benefit of people and nature. The approach is summed up by the following three principles (note that we have replaced the word 'nature' normally used in the definitions with 'landscape'):

Involving people - putting people at the centre of ecosystem management by involving them at the heart of decision-making.

Understanding how landscape works - working in harmony with ecosystem processes and functions, and the benefits (or 'services') they provide. Thinking about the whole 'system', not just its individual parts.

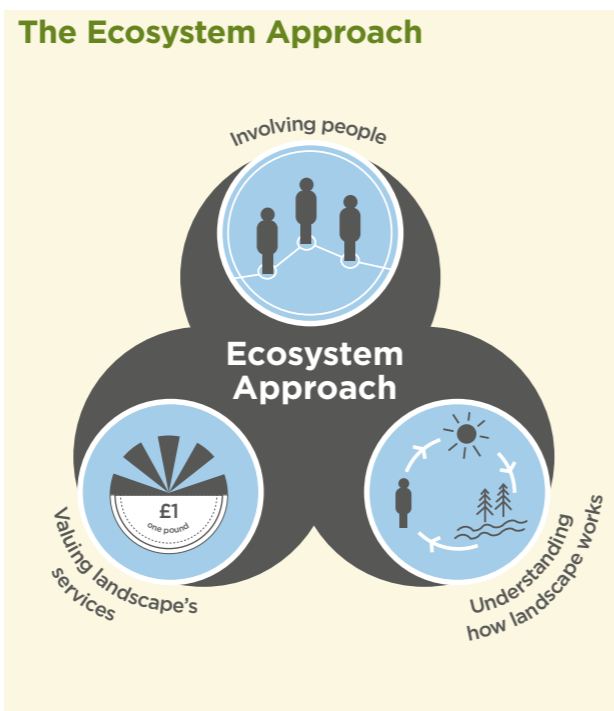
Valuing landscape's services - understanding how people value landscape, including monetary and non-monetary value, and the effect on their well being.

As described in The Ecosystem Approach Handbook, "the ecosystem approach recognises that nature [and the landscape] provides us with benefits including food, clean water and opportunities for recreation. Using the approach helps maintain and enhance these benefits, whilst enabling prosperous communities to develop.

The ecosystem approach provides a way of thinking about the value of nature [and the landscape], justifying its importance in planning and decision making at all levels. The approach contributes to actions aimed at improving people's health, boosting the local economy, regenerating communities and reducing risks from adverse events such as flooding. It helps partnerships to reach positive decisions and deliver them more effectively, making better use of available knowledge and resources.



Community map © Karen Shelley-Jones



The key benefits of the ecosystem approach are that it:

- Encourages different groups to work together and learn from each other, not just through engagement, but through meaningful involvement in planning, decision making and actions on the ground.
- Enables a joined-up way of managing the environment, improving the effectiveness of projects and adding value to their outcomes.
- Helps to communicate the importance of the environment to individual, social and economic well being; justifying the work that partnerships are doing and promoting the value of nature in ways that can be understood by people who do not think of themselves as part of the environment sector.
- Focuses on long-term sustainability and solutions to the major challenges of our time, such as climate change, food and energy production" (Porter, 2014).

Involving People

From the early stages of the Landscape Partnership we have been involving local residents and visitors in shaping this scheme through a variety of activities.

Give Five Words

The Give Five Words campaign asked people to give us just five words to describe what the area meant to them, this resulted in such examples as: "Frodo would love it here" "Possible paradise pining for progress" "Marginal mosaics make management melodies" "An authentic vibrant historical village" "Beautiful forgotten corner of the Peak" "Escapism, accessible, freedom, heritage, exercise" "Oasis, natural, diverse, brutal, wild" "Beautiful, majestic, bleak, tranquil, inspiring"

We have used all of the five words to create the word cloud below.

Have your say

During the Scheme's development phase we asked people to vote for a partnership logo to represent the area and the partnership. We also gathered people's views on their experience of living in the South West Peak - both positive and negative - via community roadshows and an e-survey.

Creative input

This landscape inspires creativity from the late 14th century poem Sir Gawain and the Green Knight right up to contemporary arts. Many of the quotes illustrating this LCAP have been provided by residents through creative writing exercises and storying workshops held as part



of the process to produce an interpretation plan for the Partnership (Telltale, 2016).

Interviews

Working more effectively with the farming community is the key to making this Landscape Partnership Scheme and the future of the South West Peak a success. During the development phase we held two different kinds of interviews with 42 farmers and farming families. Thirty of these used a social science approach to interviews, seeking thoughts on the relationship between land managers and the 'agencies', identifying barriers to effective working and considering opportunities for future relationships. The remaining 12 interviews used an oral history approach to gather the views of (mainly) the older generation of farmers about what has shaped farming and the landscape over the last 70 years. A further suite of 13 interviews will build on these during the delivery phase of the Scheme.

All of this information has helped in producing this LCAP and in shaping the partnership projects. A wider range of people will be further involved during the delivery phase through opportunities to volunteer and train; sitting on community grants panels to decide on small grant awards; taking part in community events, mentoring new volunteer champions and so forth.

Understanding How Landscape Works

During our development phase we conducted habitat opportunity mapping using a GIS approach to identify (i) opportunities to expand habitat for biodiversity in areas that are ecologically connected to existing habitat networks, and (ii) to promote habitat features that can attenuate surface water runoff and so reduce downstream flood risk. The mapping for biodiversity enhancement produced maps of landscape permeability, habitat networks, constraints to habitat creation, and habitat opportunity for five key habitats (heathland, mire, semi-natural grassland, wet grassland and woodland). The mapping for surface water attenuation focused on floodplain woodland opportunity and riparian attenuation features. The opportunities for biodiversity enhancement and runoff attenuation were then combined to highlight areas that could deliver multiple benefits.

Seven ecosystem services were mapped (carbon storage, water flow, water quality, agricultural production, tranquillity, accessible nature and green travel) using 'EcoServ' (a GIS toolkit developed by Durham Wildlife Trust) and bespoke models. These were thought to be services that were highly relevant to the natural capital assets of the region and for which data were available. The supply of all services was mapped, and the demand was only mapped where relevant, for water quality and flow, accessible nature and green travel.

Each of the ecosystem services were mapped on a scale from 0 (low provision) to 100 (high provision). Once each service was mapped individually, maps were generated of the supply of them altogether. The delivery of multiple ecosystem services was mapped as average scores and hotspots based on area. Data on the average ecosystem services provision for each Landscape Character Type in the South West Peak was also calculated (Rouquette & Holt, 2016).

Valuing Landscape's Services

Valuing landscape's services is about assigning a monetary value and/or a non-monetary value to the benefits which we receive from our natural environment (ecosystem services). Some of the suite of ecosystem services can be relatively simply assigned a monetary value (timber provision, food provision etc), whereas others, notably those among the cultural services, present more of a challenge and are best described via their non-monetary values.

In our community and visitor surveys people described the landscape using words such as 'tranquil', 'inspiring', 'beautiful', 'serene', 'peaceful', 'uplifting', 'accessible', 'enjoyable', 'precious', 'freedom', 'colourful', 'friendly', 'exhilarating' - all value-laden words.

We have not gone as far as assigning monetary values to this landscape and the services it provides, but we have an ambition to attempt to do so during our delivery phase. From assigning monetary values to some of the ecosystem services, we hope to then investigate methods of paying for those services, known as Payment for Ecosystem Services (or PES) schemes.



The Landscape

The South West Peak is an area of upland and associated foothills in the south-west part of the Peak District National Park. It is bounded by the distinctly different limestone landscapes of the White Peak to the east, the extensive lowlands of the Cheshire and Staffordshire Plain to the west and the Churnet Valley to the south. To the north are the more industrial landscapes of the Dark Peak Western Fringe.

This is a diverse landscape with a high, moorland core which is flanked by sloping landscapes, dissected by cloughs that broaden into more lowland pastoral landscapes. The strong contrast between the upland and lowland landscapes creates a distinctive sense of place. The high moorland landscapes are dominated by wild exposed blanket bog and dry heath which has, in places, been enclosed by gritstone walls, often into large parcels. There are distant views from the hills, both into the Peak District and over the adjoining lowlands to the west (PDNPA, 2008).

Rocks

The geology of the South West Peak comprises strongly folded Millstone Grit, the dipping beds of gritstone creating variation in the landform and defining rocky ridges and slopes such as the well-known ridge of the Roaches in Staffordshire. The great folds in the rocks have left exposed coal measures in some areas, notably in the Goyt Valley and basins such as Goldsitch Moss.

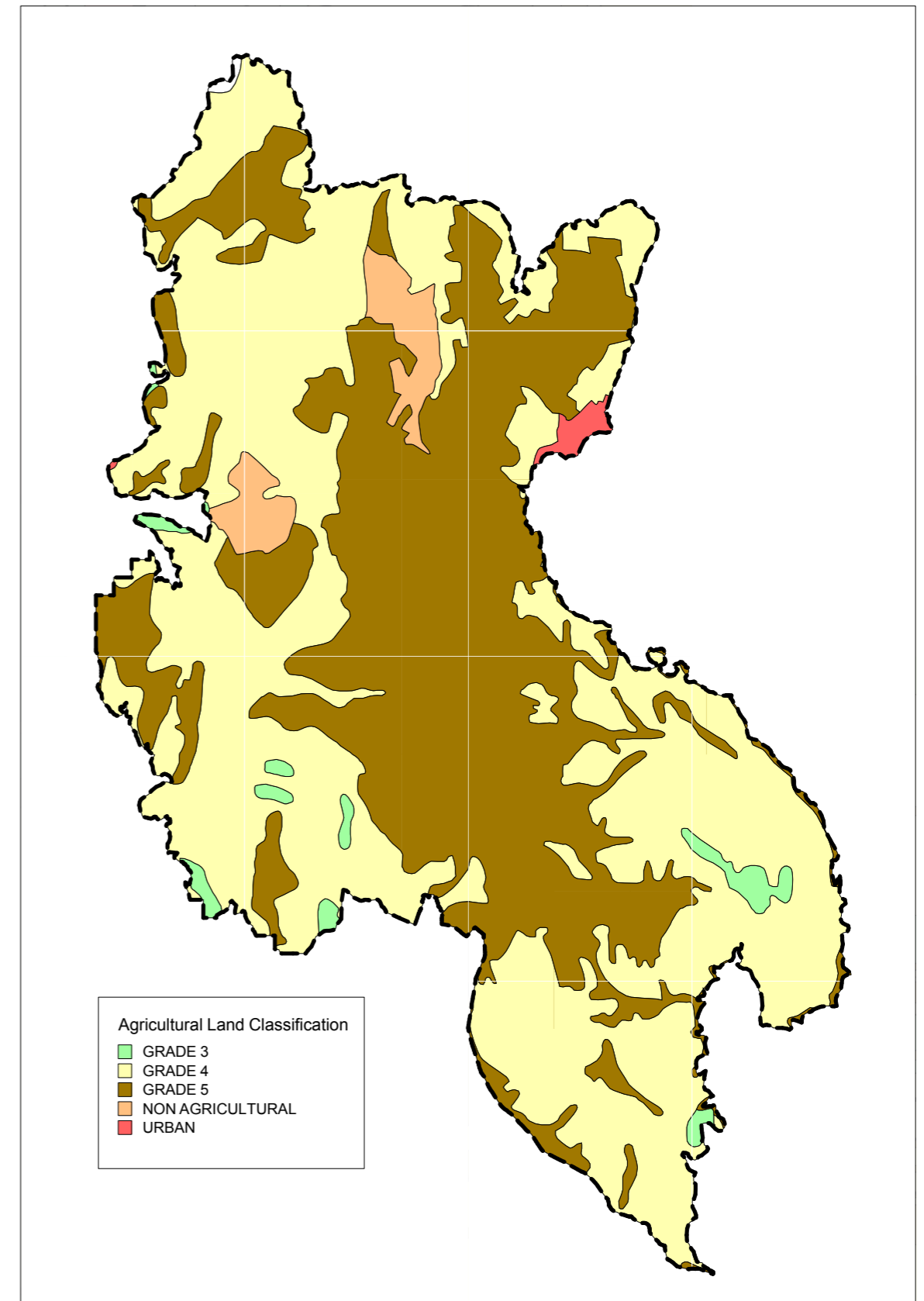
Soils

Much of the highest land in the upland area of the South West Peak is covered by deposits of blanket peat, which give a smooth rounded appearance to the landscape. Elsewhere the soils are generally acidic and wet, hence the predominant agricultural land classifications of grade 4 and 5 (poor and very poor).



Goyt's Moss Colliery © Margaret Black

Agricultural Land Classification



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Water

With rainfall of over 140cm a year, Axe Edge is one of the major watersheds of England. It is the source of five rivers – the Dove, Manifold, Goyt, Dane and Wye. The rivers and their fast flowing tributaries have cut steep sided rocky cloughs (valleys) through the upland landscape which broaden into alluvial valleys in the lowlands. Many of these streams and rivers supply reservoirs providing drinking water to Stockport, Leek, Stoke-on-Trent and Macclesfield.

Landscape Character Types

The Landscape Character Assessment (PDNPA, 2008) identified nine distinctive landscape character types within the South West Peak; in summary these are:

Open moors

An open, rolling moorland landscape associated with high gritstone hill summits and broad upland basins. This is a wild, unsettled landscape with extensive areas of blanket bog and patches of dry heath. There are wide views across these moorlands and to surrounding hills. The moorland is crossed by historic transport routes.

Moorland hills & ridges

This is a landscape of steep hill slopes and high ridges with heathland vegetation and prominent outcrops of steeply dipping gritstone. This wild, sparsely settled landscape has panoramic views to surrounding hills and over the lowlands to the west. Drystone walls define large enclosures.

Enclosed gritstone uplands

An open landscape associated with broad, rolling hill summits. This is a landscape of isolated stone farmsteads, straight roads, regular fields of variable sizes enclosed by drystone walls and patches of remnant dry heath.

Densely enclosed gritstone uplands

An undulating upland landscape with occasional rocky summits. There are a significant number of dispersed small gritstone farmsteads and cottages in this remote landscape, some associated with the former coal mining industry. This is a landscape of rough permanent pasture enclosed by gritstone walls. There are patches of heather moorland and areas of pasture reverting to moorland.

Slopes & valleys with woodland

This is a pastoral landscape with a varied

undulating topography of steep slopes, low ridges and incised valleys. Blocks of woodland are a characteristic feature of this landscape, together with patches of acid grassland and bracken on steeper slopes and higher ground. This is an area of traditional dispersed settlement with probable ancient origins. Views to lower ground are framed by woodlands and valley sides.

Upland pastures

This is an upland pastoral landscape with a traditional dispersed pattern of gritstone farmsteads of probable ancient origins. There are also localised village settlements. Permanent pasture is enclosed by drystone walls and some hedgerows. Trees are scattered along incised cloughs and around dispersed gritstone farmsteads. This is a very peaceful rural landscape with open views to surrounding higher ground.

Upper valley pastures

This is a settled pastoral valley landscape with scattered trees along hedgerows, around settlements and following streams. Fields of permanent pasture are divided by hedgerows and occasional drystone walls. This is a settled landscape with dispersed gritstone farmsteads with stone or clay tile roofs. Views along the valley and to surrounding hills are filtered through scattered trees.

Reservoir valleys with woodland

Steep sided valleys dominated by large reservoirs. Some of the steep valley slopes have been planted with interlocking blocks of coniferous and mixed plantation woodland while others support acid grassland and clough woodlands. Views along the valleys are framed by woodland and the slopes rising to moorland.

Riverside meadows

This is a pastoral landscape characterised by a meandering river channel in a flat alluvial floodplain. Views are often tightly framed by lines of riverside trees and adjacent wooded slopes. Patches of wetlands vegetation are a distinctive feature associated with the river channel.

Overall Strategy for the Landscape

The South West Peak contains a diverse range of landscapes from the unenclosed moorlands and settled uplands to the river corridors in the lower valleys. The contrast between these distinctive landscapes should be maintained and, where appropriate, enhanced to strengthen landscape character.

The South West Peak is an area with a long history of human influence evidenced by the historic settlement pattern, field boundaries and other cultural heritage features. This influence is reflected in a distinctive dispersed settlement pattern of farmsteads and villages built of the local stone, and should be maintained.

Although major vehicular routes have a local visual and noise impact on the area, there are extensive areas which have maintained a sense of tranquillity and remoteness. Tranquil areas are often associated with important ecological resources such as the Open Moors. This tranquillity needs to be protected and, where

it is no longer evident, created or enhanced. There is a need to enhance the diversity and robustness of character throughout all landscape types of the South West Peak.

The overall strategy for the South West Peak is therefore to: Protect and manage the distinctive historic character of the landscapes through sustainable landscape management, and seek opportunities to value the diverse landscapes of the South West Peak whilst managing recreation opportunities, woodlands, wildness and the diversity of remoter areas (PDNPA, 2008b).

Landscape Character Types

