

Healthy Ecosystems Cumbria

A Landscape Enterprise Networks opportunity analysis

Making Landscapes work for Business and Society

LENs: Making landscapes work for business and society

This document sets out a new way in which businesses can work together to influence the assets in their local landscape that matter to their bottom line. It's called the Landscape Enterprise Networks or 'LENs' Approach, and has been developed in partnership by BITC, Nestlé and 3Keel.

Underpinning the LENs approach is a systematic understanding of businesses' landscape dependencies. This is based on identifying:



Benefits of LENs

- 1 It provides a mechanism for businesses to start intervening to landscape-derived risk in their 'backyards';
- 2 It moves on from theoretical natural capital valuations, to identify real-world value propositions and transactions;
- 3 It pulls together coalitions of common interest, pooling resources to share the cost of land management interventions;
- 4 It provides a mechanism for 'next generation' diversification in the rural economy - especially relevant post-Brexit.

Funded by:



Department
for Environment
Food & Rural Affairs

Making landscapes work for business and society in Cumbria



Cumbria is renowned globally for its beautiful landscapes, and for the way they combine culture, the rural economy, and nature. This underpins important parts of the regional economy, in particular tourism. It also creates an attractive context for a wide range of other businesses to operate, invest, and attract talent. There are also challenges; the impacts of Storm Desmond in 2015 – with epic disruption to homes and businesses – demonstrated the inability of landscapes to absorb increasingly frequent episodes of extreme weather. Farm businesses, which shape the much-loved character of Cumbria, face enormous uncertainty as grant regimes and trade links are called into question by Brexit. Wildlife and visitor infrastructure of the county often creak under the multiple pressures that they are put under. The Landscape Enterprise Networks approach (LENs) provides a way for regional businesses to engage with landscapes, to influence the opportunities and challenges that they present. It uses commercial interest to drive investment in the landscape assets that help underpin the Cumbrian economy. LENs works with businesses to identify functions that local landscape assets provide for them; whether that's healthy soils that underpin milk supplies into their food factory, or paths to the fells that attract guests to their B&B's or workers to their new tech business. LENs uses a stakeholder network assessments, combined with geospatial analyses, to identify and convene businesses with shared interests in working

with the same assets, in the same place. Once we know the value that assets offer, and to whom, we can start to build value propositions that secure benefits for Cumbrian businesses. In this document we explore how different businesses share an interest in Cumbria's landscape assets and how one key function – flood mitigation – offers immediate opportunities for business collaboration. We know that the most resilient landscapes work for more than one purpose. LENs is about starting with small, mutually beneficial business clusters investing to protect a few simple assets. It is designed to grow incrementally, to create a network where multiple businesses are collaborating to invest in multiple assets, which deliver multiple functions across the landscape. LENs rewires the land economy, so that it can provide the sophisticated range of functions and services that are required by modern businesses, and modern society.

How LENs fits in with other landscape initiatives

LENs is about allowing businesses to invest in sustainable landscape outcomes, driven by their commercial needs. As such it is not intended as a substitute for comprehensive strategic landscape planning. Though it could certainly help drive strategic outcomes in, for example, a catchment-based initiative.



**Gudrun Cartwright,
Environment Director, BITC**

I am delighted that we have been able to develop such an innovative approach to incentivising collaborative action that can underpin a truly restorative food economy for the

UK. The opportunities to enable farmers to build their resilience and prosperity by making landscape stewardship a core business requirement, attractively incentivised, has great potential to transform the sector and the landscapes we depend on.

Thank you to Defra for investing in the project, and to Nestlé and 3Keel for pioneering the model with us.



**Andrew Griffiths, Head of
Sustainability, Nestlé UK**

Nestlé is delighted to be closely involved with the development of LENs in Cumbria. We see it as an inspiring way to work together with regional networks of

businesses, to protect our common interest in the health and performance of the landscapes in which we operate and source vital raw materials. The results we want to see are more resilient, multifunctional landscapes, bringing benefits to ourselves, to other businesses, and to the communities in which we work.

Key sectors in the Cumbria economy have roots in the local landscape...



Cumbria is renowned for its lakes, mountains and rural landscapes - including the iconic Lake District

National Park. Indeed, the county's agricultural, accommodation and transport sectors account for a greater share of the local economy than the UK average - although, to put it into perspective, they still contribute less than 20% of Gross Value Added¹ (see next page).

Recently Cumbria's economy has been one of the fastest growing in the country, mainly due to strong manufacturing performance in the west².

There are obvious and direct links between the landscape assets in Cumbria and food production and tourism. However, other sectors in the economy have different but equally valuable dependencies on the landscape. For them, investing in shared landscape assets such as natural habitats, rural livelihoods and water catchments can help ensure the region is an attractive and environmentally resilient place to invest. Because of this, "environmental sustainability" has been identified by the Local Enterprise Partnership as one of four economic drivers underpinning growth in their strategic priorities, such as advanced manufacturing and energy sectors³.



Tesco

Tesco sources livestock products from Cumbrian producers. It also serves customers in communities across the county. Tesco's retail operations were disrupted by flooding when their Carlisle store was closed for eight weeks as a result of Storm Desmond in 2015. The business sees cross-industry, landscape-scale collaboration as an important tool for delivering against its responsible sourcing commitments.



United Utilities

United Utilities provides water and wastewater services to 3 million homes and businesses in the North West. The company sees collaboration as critical for addressing water quality issues and is looking for more effective ways to work with others to enable the financing of catchment management - including 56,000 hectares of land they own around reservoirs.



Co-op Insurance

Many of Co-op's retail and insurance customers in Cumbria were severely impacted by flooding during Storm Desmond in 2015. Managing the impact of flooding is a major priority for Co-op Insurance and they recognise the importance of catchment management and supporting communities to mitigate the impacts of these events.



Nestlé UK

Nestlé's Dalston factory produces its cappuccino range of products, using milk processed by First Milk and sourced from forty Nestlé farmers in Cumbria. The Nestlé First Milk Partnership aims to secure the long term supply of this critical raw material by improving the economic and environmental sustainability of local dairy farming.



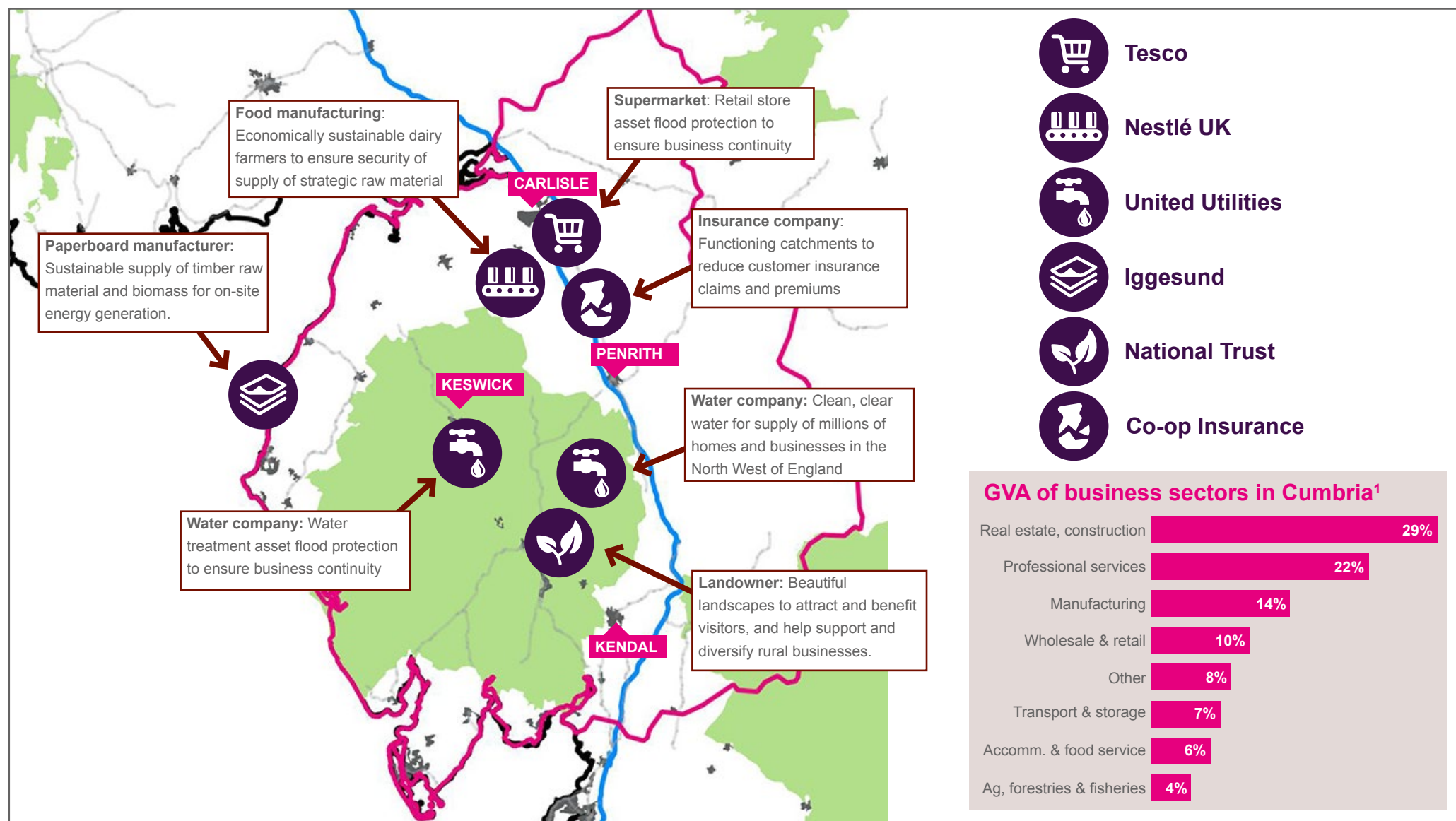
National Trust

The National Trust owns a quarter of the land in the Lake District, looking after it forever on behalf of the Nation. This long-view gives the Trust an especially deep interest in its landscape assets: habitats, soils, water catchments, visitor infrastructure, because they underpin everything the Trust does now, and everything they will achieve for future generations.



Iggesund Paperboard

Iggesund have a major box-board production plant in Workington, employing 400 people and producing 230,000 tonnes of board per year. In recent years they have worked with farmers in the region to source wood-chip from short rotation coppice, to fuel their £108 million CHP generator, producing heat for the plant and exporting non-fossil energy to the grid.



Cumbria's landscape assets

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Stresses on landscape assets translate into commercial risks for businesses



Cumbria is a large, rural county and contains the Lake District National Park, now a World Heritage Site, which covers 33% of the county and contains internationally renowned landscapes from Patterdale to Scafell to Windermere³. It's not surprising then that a vibrant rural and visitor economy has been identified as one of the four priorities for the Cumbria Local Enterprise Partnership. As well as their direct contribution to the Cumbria economy, rural enterprises - especially farms - have a big influence on other landscape assets, like soils, habitats, river catchments, which in turn influence functions that are important to the rest of the regional economy, like water supply, flood management, landscape quality. As things stand, many of Cumbria's landscape assets are under pressure (see map, right). Over time the stresses on these landscape assets will translate into limitations on the ability of businesses across the economy to thrive. At the same time many rural enterprises operate on the edge of profitability. But – given the right market signals – their potential to manage landscapes on behalf of other parts of the economy may provide opportunities to diversify beyond their core business.



Natural habitats

Cumbria's diverse climate, topography, and geology mean it has rich and distinctive biodiversity. In the National Park over a third of the land is designated for biodiversity conservation⁴, and it has nationally important species and habitats, like red squirrel, freshwater habitats, mires and arctic-alpine communities. About 10% of the land area is wooded - slightly less than the English average⁵.



Rural economy & livelihoods

Agriculture and hospitality are two key employers in Cumbria⁶ - both sectors are particularly important in rural areas. The farming sector employs more than 11,000 people in the county⁷, with one particularly important sector being dairy farming: Cumbria has the second largest dairy herd in the UK, producing approximately 800 million litres of milk annually⁸.



Water resources

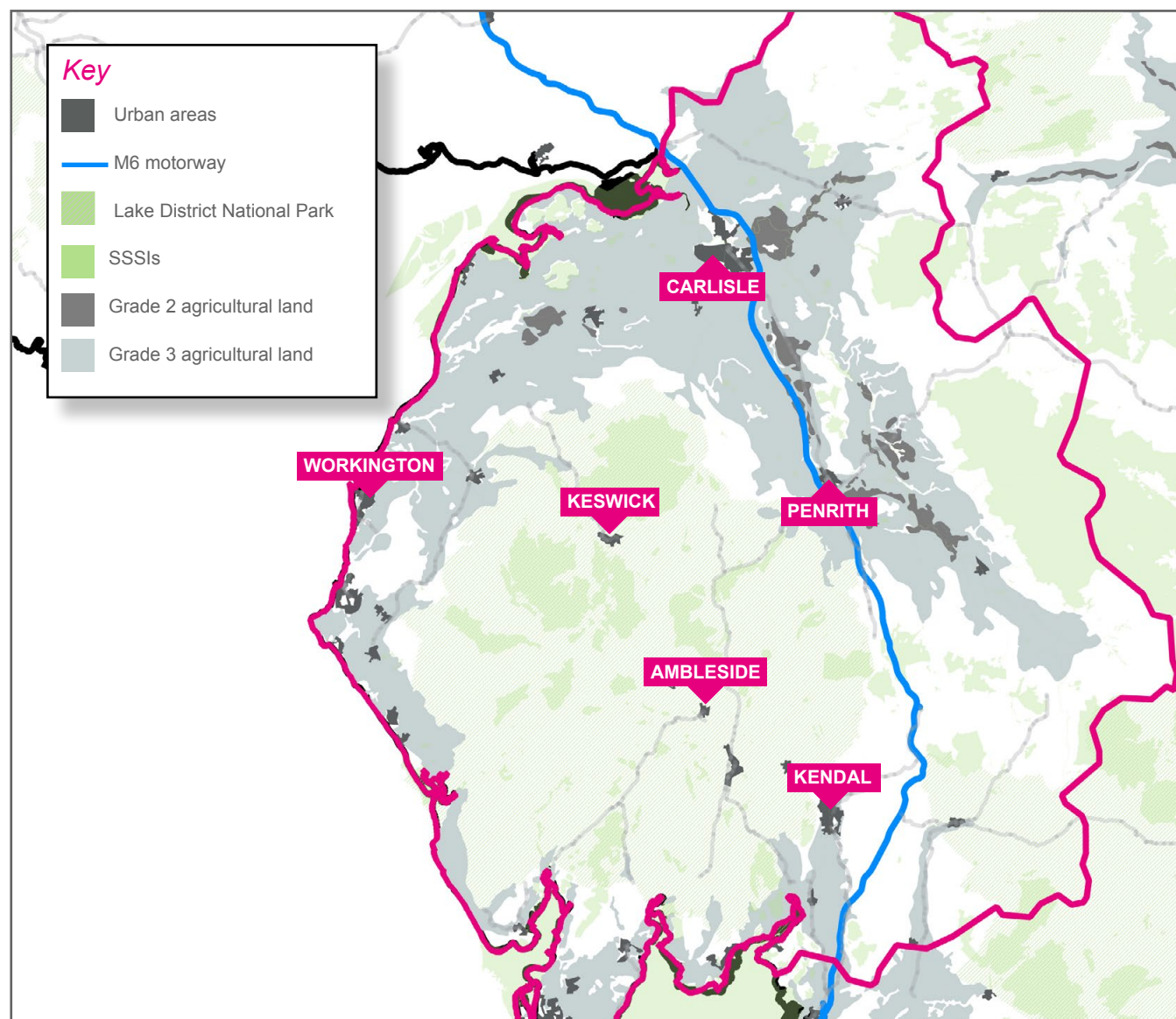
Cumbria has a high annual average rainfall and Seathwaite - south of Keswick - is the wettest place in England⁹. This abundant resource means the county's reservoirs supply a significant proportion of water for the whole North West of England. Despite this, there are some water supply issues in West Cumbria - resulting in the construction of a 30km new pipeline from Thirlmere¹⁰.



The status of Cumbria's landscape assets

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Stresses on landscape assets translate into commercial risks for businesses



Water quality

The Eden and Esk catchment ranges from high mountains, to moorland, and lowland valleys with some of Cumbria's most productive agricultural land. The proportion of surface waterbodies in the catchment that are in bad or poor ecological condition is 22%¹¹. The activities of agricultural, quarrying and water industries are frequently identified as reasons for waterbodies not reaching good status¹¹. The Eden catchment is also at high risk of soil loss from sloping arable fields or areas prone to flooding¹².

Flood plain

Due to modifications to the floodplain in the Eden catchment over the past 100 years, the total length of rivers has increased by more than 1,000 km¹³. This increases the speed with which floodwater moves downstream to towns and villages. It is estimated that 4,500 residential and 1,000 commercial properties have a one per cent annual risk of flooding from rivers¹⁴.

Natural habitats

Semi-natural woodland and rough grassland only occupy 6% of the Eden floodplain area¹³. Wetland communities such as fen, marsh and swamp have been reduced to less than 0.5% of the total floodplain area. Species rich upland hay meadows in Cumbria have also seen recent declines in quality and area¹⁵.

Rural economy & livelihoods

More than 65% of the county is classified as being a 'Less Favoured Area', meaning agricultural businesses face natural challenges in the form of high altitude, steep slopes, land quality, etc¹⁶. Partly because of this, the livestock sectors that predominate in the region have some of the worst levels of profitability in UK agriculture and are highly dependant on subsidies¹⁷. Producer numbers are also on the decline: according to the latest published data, the number of dairy farms in the county has reduced by at least 30%¹⁸. The rural economy faces a uncertain future with Brexit on the horizon.

The LENs approach

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A framework for focusing business investment and action on shared landscape assets

➔ LENs provides a framework for business collaboration, by identifying shared interests in landscape assets and developing enterprise-based solutions for improving the health of those assets (see figure, right).

The first step is to identify a small group of businesses with overlapping interests in a landscape. By understanding in detail the landscape functions that each of those businesses have a commercial interest in, as well as the landscape assets that underpin those functions, we can start to see how and where their interests overlap. Once we know what and where the shared assets are, we can work on identifying the sorts of investments, market opportunities, or agreements that could secure and enhance those assets. The process also identifies enterprise(s) in the landscape that could deliver the right outcomes.

LENs process

- 1 Identify shared interests and dependencies on local landscape assets.
- 2 Build coalition to focus investment and co-ordinate action on improved landscape asset health.
- 3 Identify, broker, and manage innovative enterprise-based solutions.

Business operating environment

Landscape Enterprise Network

LANDSCAPE ASSETS

Soils, natural green space, aquifers...

LANDSCAPE FUNCTIONS

Crops, clean water, healthy workforce...

LANDSCAPE BENEFICIARIES

Tech sector, utilities, manufacturing...

LENs outcomes

Enhance supply chain, community and natural asset resilience.

Meet sustainability commitments and ensure license-to-operate.

Create opportunities to engage with business customers and consumers.

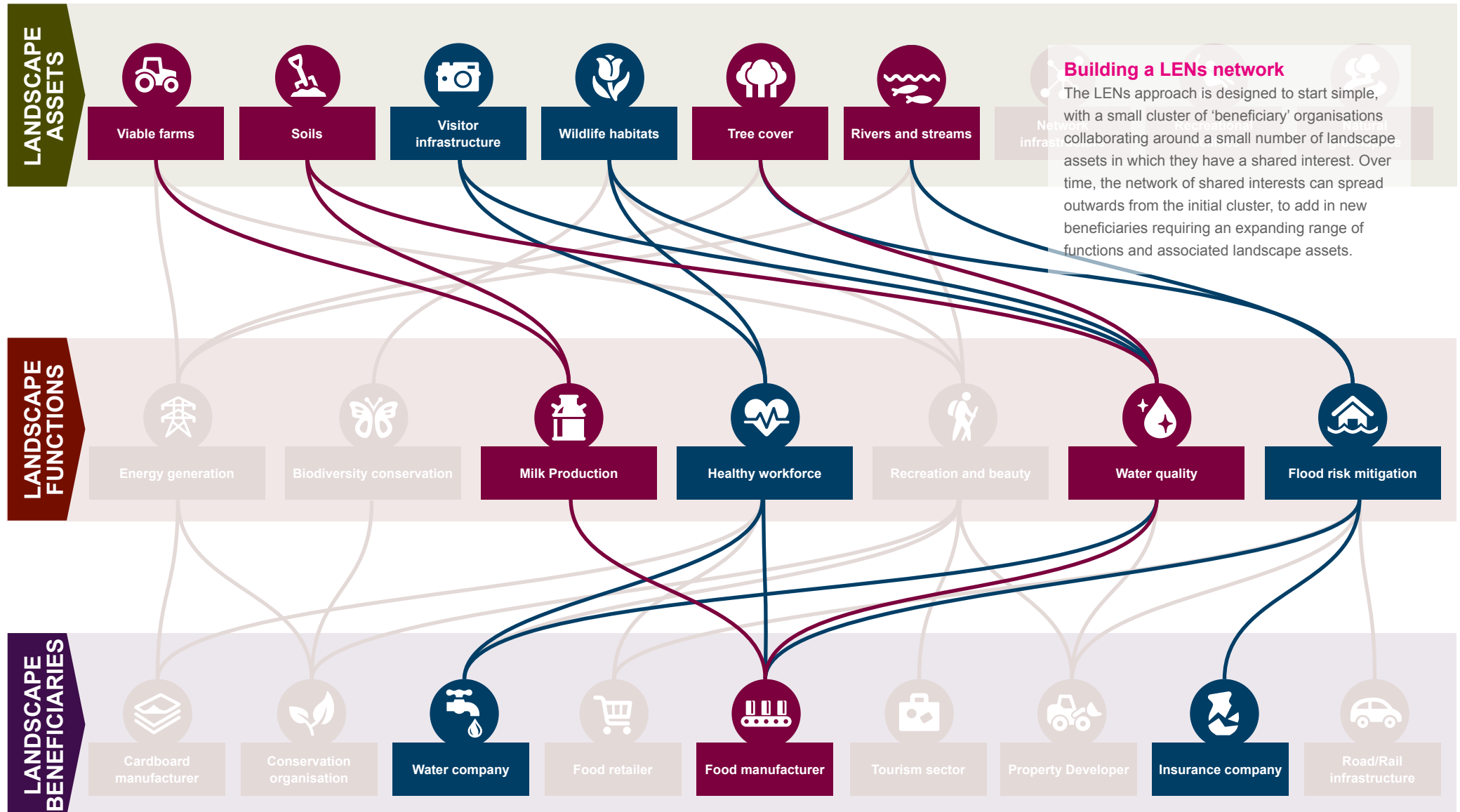
Climate change

Resource constraints

Business operating environment

Competition

Transparency



What LENs might look like in practice

Three examples of businesses having a shared interest in Cumbrian landscape assets



LENs collaborations start with a set of organisations with a shared interest in the protection of the same natural asset, in the same place. If there is a business case for an organisation to take steps to protect its natural asset base, then there is certainly a business case when more than one organisation shares an interest in the same natural asset.

In the following four pages we explore Cumbrian Landscape Enterprise Networks through three different perspectives:

1. A beneficiary: food manufacturer
2. A landscape function: flood risk mitigation
3. An asset class: natural habitats

What is presented is not an exhaustive list of the opportunities and organisations – these are just illustrations. There will be many more opportunities in Cumbrian landscapes, for different sorts of landscape assets and for different sorts of organisations.

Cross-over benefits and synergies

The examples over the next few pages focus on businesses' interests in individual landscape assets, dealing with each of them in isolation. Of course, in reality there will be cross-overs and interactions between different landscape assets. For instance, by protecting soils we'll often be protecting water quality, too, and in the process we might well be adding natural habitats into the landscape, providing a range of knock-on functions and benefits. LENs isn't about trying to plan for all of those interactions. But it is designed on the understanding that as more assets, functions and beneficiaries are added into the network, and the system gains complexity, then more of these cross-over benefits and synergies will occur.



Food Manufacturer: focus on Nestlé's Dalston operation

Context

Nestlé's Dalston factory produces its cappuccino range of products using milk delivered direct from 40 Nestle Farms in Cumbria, clustered around the Eden river catchment in the north east of the county.

Landscape assets

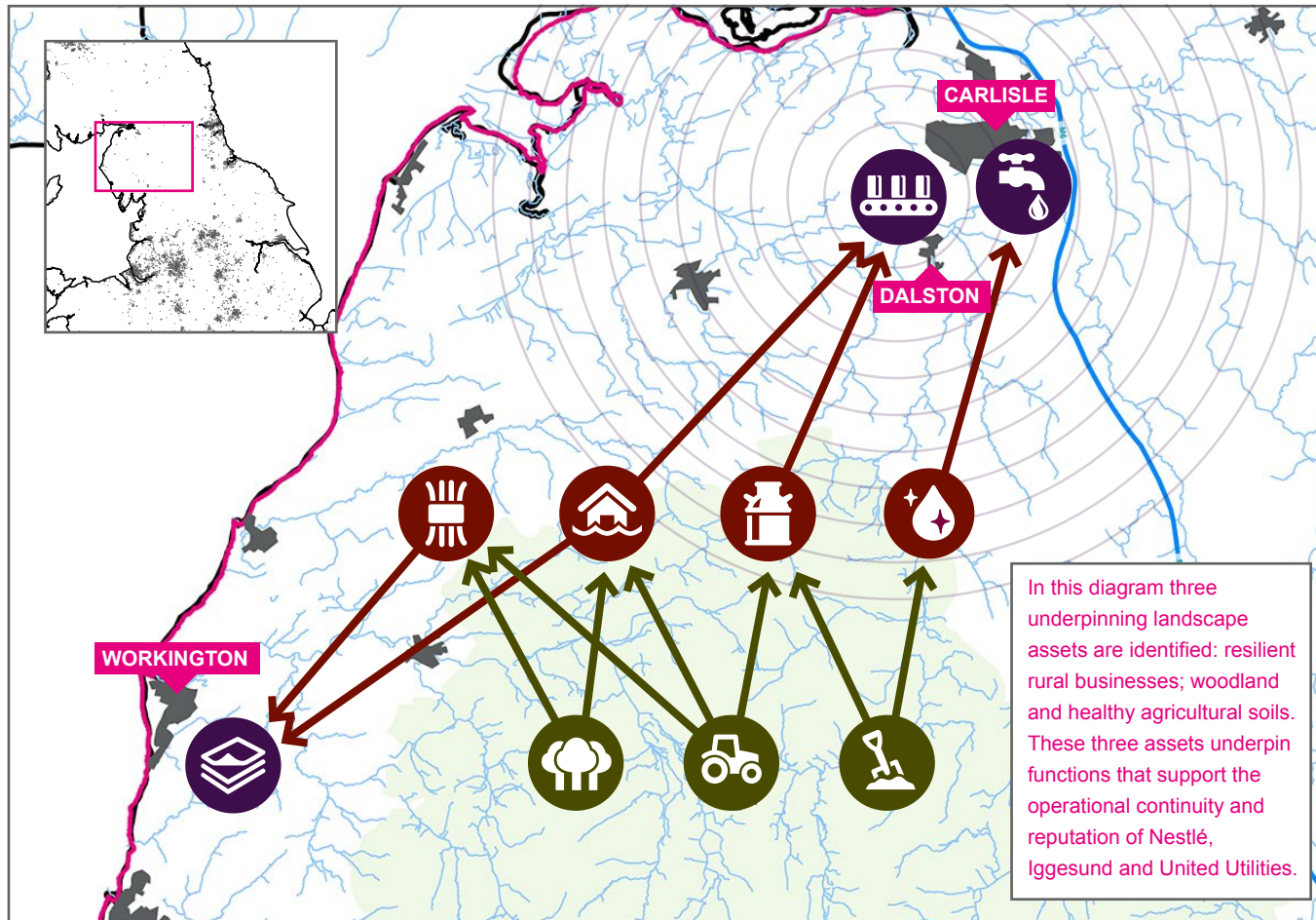
Nestlé's site is dependant on a reliable supply of high quality milk. This primary landscape function is underpinned by having an economically sustainable farming sector and healthy soils and catchments.

Businesses with a shared stake in Cumbrian landscape assets

Multinational manufacturer **Iggesund** and regional water company **United Utilities** both have a shared interest in the health of the same landscape assets. Iggesund has a box board production plant in Workington, employing 400 people. The factory recently invested £108m in a biomass-fuelled CHP plant and is looking to secure the long-term supply of biofuel - short rotation willow coppice. Iggesund is looking to enter into long term supply contracts for willow coppice - and in doing so is supporting farm diversification and economic resilience of rural communities. If well-sited, the willow coppice can have environmental co-benefits in terms of improved water quality and flood mitigation. For example, the Eden Valley has a high erosion risk and is prone to flooding events. As Iggesund also relies on clean water for its processes, it is in its interest to support catchment-scale improvements - a key priority for United Utilities.

Landscape collaboration concept

Given the shared interest in landscape assets in north Cumbria, there is a case for this network of businesses to identify how they could focus investment and influence to deliver improvements in farm profitability, coppice planting and protecting water quality through preventing soil erosion on steep sided and flood-prone area. This could be achieved through investing and promoting services that reduce barriers to farmers diversifying into bioenergy production.



Flood risk mitigation in the Derwent and Eden



Context

Current estimates are that there are more than 35,000 properties at risk from flooding from rivers and the sea in Cumbria. Climate change is expected to increase the frequency and severity of flood events.



Location

Significant flood events have occurred in recent years in Carlisle and Keswick. These towns sit in the Eden and Derwent catchments, respectively - and draw on water from a wider network river systems in the county.



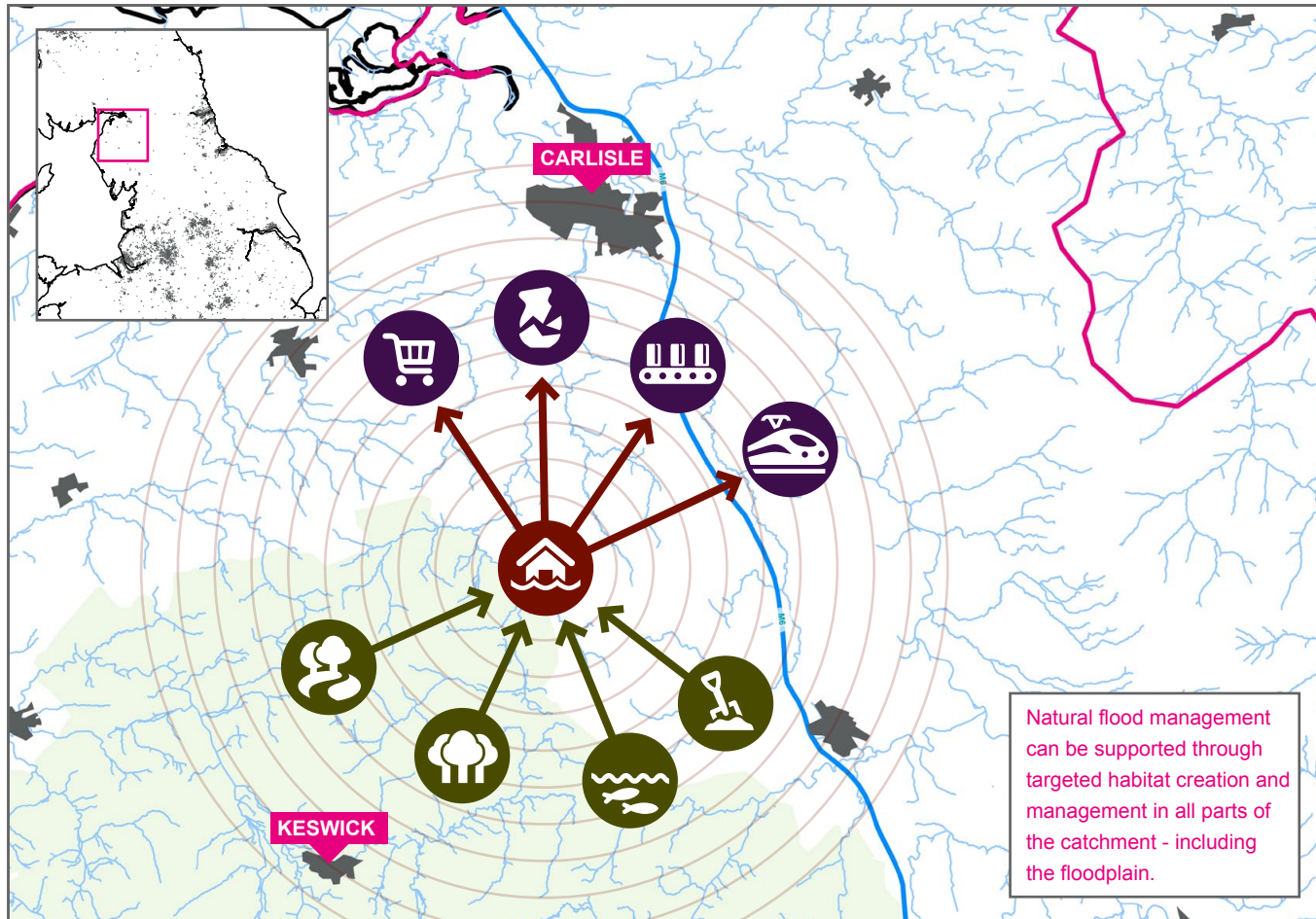
Why flood risk in this location matters to businesses

Cumbrian businesses and communities have been severely impacted by recent flood events - such as those following storms Eva and Desmond in December 2015. For example, United Utilities incurred costs of £13.8 million in 2015 and £19.5 million in 2016 due to flooding, including the inundation of a key pumping station at Keswick. Meanwhile in Carlisle, a Tesco superstore was closed for eight weeks, and production at the United Biscuits was halted until the 4th of March, having been flooded with nearly 40,000 cubic metres of water on at the start of December 2015. Co-op Insurance has commissioned research into the Eden floodplain as the company has faced rising costs from flood-related claims. Hydrologists believe half of the flooding comes from the main river (often the result of development) - with the remaining coming from other watercourses, drains and sewers.



Landscape collaboration concept

Flood mitigation will require a mix of hard infrastructure, improved community resilience and planning - as well as natural flood management (e.g. habitat creation and changes to soil and watercourse management). Given the shared interest in healthy catchments, there is a strong case for a Landscape Enterprise Network to coordinate investment into a range of interventions on the Eden and Derwent floodplains, as well as further up the catchment. Delivery partners exist already, including the Eden Rivers Trust, National Trust, and Woodland Trust.



Investing in habitats to improve landscape resilience

Context

Alongside spectacular landform and culture, natural habitats help define the special character of the county, from raptors to rivers, montane grassland to Atlantic oakwoods, to mires, becks and rivers. They also underpin commercially valuable functions or services to a wide range of very different businesses and sectors across Cumbria.

Location

One of the places where a range of interests in natural habitats is in the area around Ullswater. Here fell-side and river-valley habitats have roles in natural flood risk mitigation, slope stability, protecting water quality, biodiversity conservation, and landscape quality.

Why habitats here matters to businesses

The following organisations have a stake in the health of habitat landscape assets in and around Ullswater...

United Utilities uses Ullswater as a back-up freshwater supply, and has an interest in sediment and nutrient loads in raw water flowing into the lake. Both of which can be helped through habitat measures.

Conservation organisations, like the National Trust and John Muir Trust, who both manage significant and strategic parts of the Ullswater Valley, have an interest in biodiversity conservation and landscape quality, as ends in themselves and as a means of improving the experience of visitors.

Larger companies operating in the Eden Catchment, like Nestlé, Tesco, Iggesund, who have an interest in catchment wide action, both to mitigate direct risks to their businesses and to demonstrate their commitment to the resilience of their local communities.

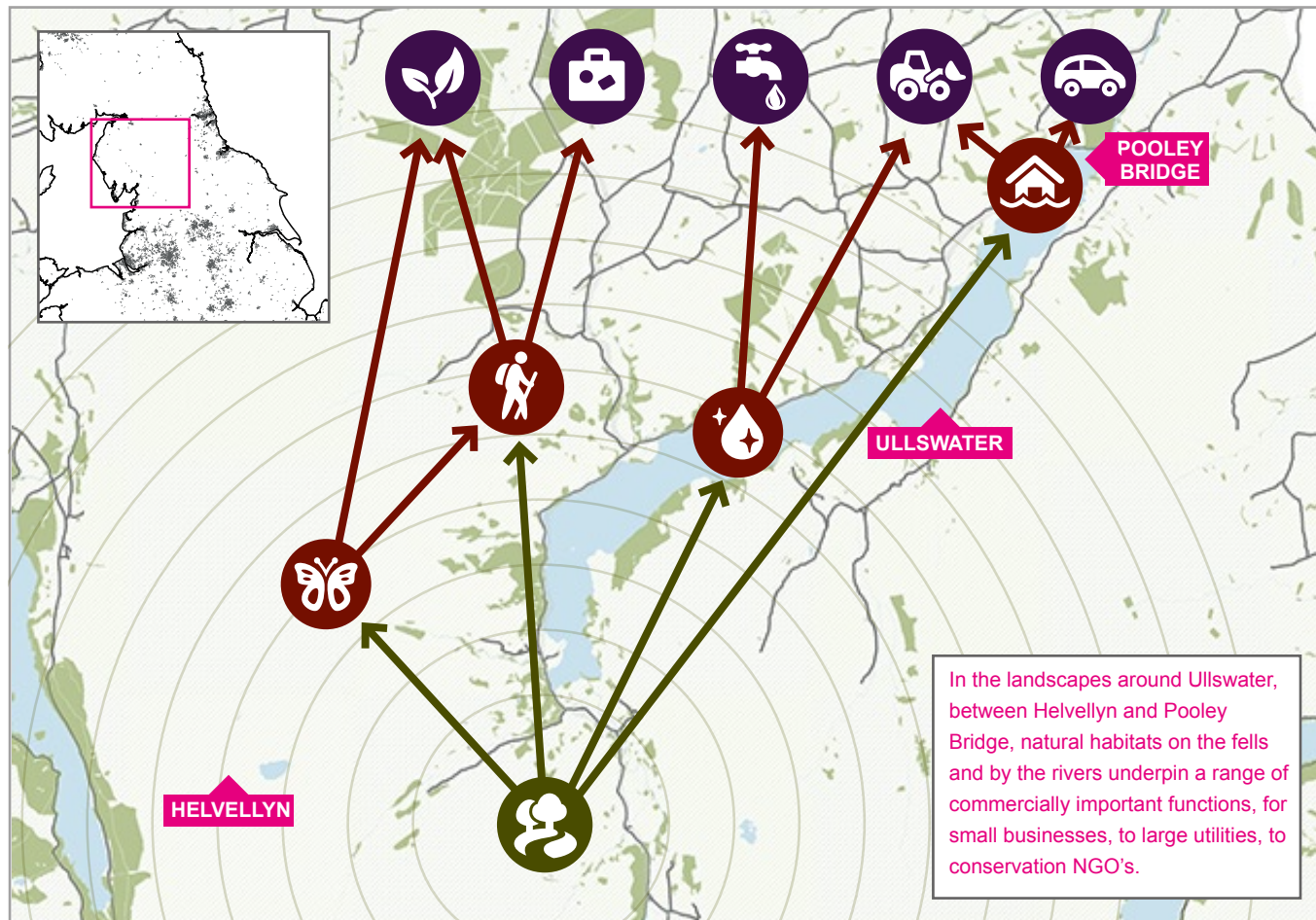
Local businesses. Residents and businesses throughout the valley have suffered significant disruption due to flooding, including damage to property and severe disruption to transport infrastructure. Tourism businesses benefit from enhancements to landscape quality.

The **Local Authority.** Storm Desmond in 2015 damaged £175million of local authority infrastructure across Cumbria, in particular from landslips, and damage to roads and bridges. The area around Ullswater, for example Pooley Bridge, was severely hit.

Insurance Companies, like Coop Insurance, have a significant interest in reducing flood risk and severity both locally in the valley and down through the Eden Catchment.

Landscape concept: Habitat resilience bond

The establishment of a joint venture, jointly funded by stakeholders, to work with landowners and managers to arrange licenses/concessions on land to carry out strategic habitat enhancement. This could be structured, financed, and made available for wider engagement/investment through creation of a 'Habitat Resilience Bond' – along the lines of investment concepts being developed for forestry in the US.



Starting to build a network



LENs is designed to focus and combine the efforts that individual organisations might make to protect strategic landscape assets. It is also intended as a complement to existing landscape-wide and catchment initiatives, helping them to harness commercial drivers for their objectives.



Our work so far sets out the possibilities, and has engaged a set of potential players in a LENs network. The plan now is to build on the interest created in the development phases of LENs to start to build a LENs business network in Cumbria.

The LENs Process



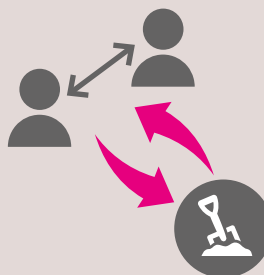
1. Engaging LENs leader organisations

- ▶ Identifying the first cohort of organisations with an interest in forming LENs relationships to manage landscape assets
- ▶ Carrying out analyses to understand the landscape dependencies of these 'leader' organisations



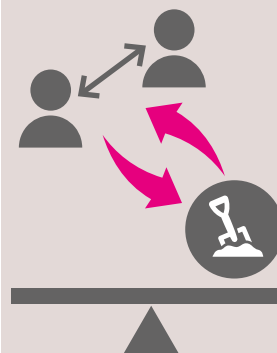
2. Establishing shared interests

- ▶ Identifying LENs focus areas where leader organisations' interests in landscape assets cross over



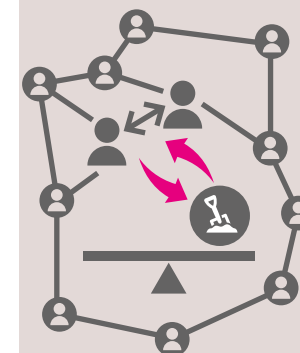
3. Developing a land enterprise response

- ▶ Identifying practical land management and business interventions to protect the asset
- ▶ Finding or establishing land enterprises to deliver the work



4. Establishing a LENs broker organisation

- ▶ Drawing relevant parties into a governance structure
- ▶ Establishing methods for combining demand and coordinating supply
- ▶ Incorporating or finding a 'parent' organisation



5. Expanding the LENs Network

- ▶ Identifying the next cohort of businesses, with potential LENs network links to the original cohort of 'LENs leaders'
- ▶ Engaging next-generation organisations in the LENs process

How to get involved

Starting to build a network

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If your organisation is interested in getting involved in a LENs business network, or you would like more information, please get in contact directly with

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Acknowledgements:

This report was funded by Defra as part of the Health Ecosystems Project, and was commissioned by BITC. The work is based on the Landscape Enterprise Networks model, which was developed in partnership by BITC, 3Keel and Nestlé. This report was researched and written by 3Keel. Graphic design was by Richard Scott Design. We would like to thank the following for their practical support and input: Nestlé, Co-op Insurance, Iggesund Paperboard, National Trust, Natural England, Tesco, and United Utilities.



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18. Calculation based on latest data from AHDB-Dairy: "England Cow Numbers By County"

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