

**Visit. Sleep. Cycle. Repeat -
opportunities to enhance Natural Capital and
Nature Connectedness**

Executive Summary



Introduction

If we do too little, too late, children growing up today will live to see a much-changed climate and impoverished environment. We are now faced with, perhaps, the greatest existential challenge of our age, and of any age. The scale of the transformation needed across all sectors of civic life and the economy is enormous.

Globally, temperatures are 1.1°C higher than the pre-industrial baseline. We have all witnessed the impacts of catastrophic weather events, which scientists predict will become more frequent and intensify in the future. The climate and the natural world are inextricably linked. Natural capital can provide multiple benefits for biodiversity, human health, and a sustainable economy, whilst helping mitigate the impacts of climate change and increasing community resilience. During the pandemic people discovered local parks, countryside and greenspaces and there is now an appetite for a post-COVID nature-based recovery.

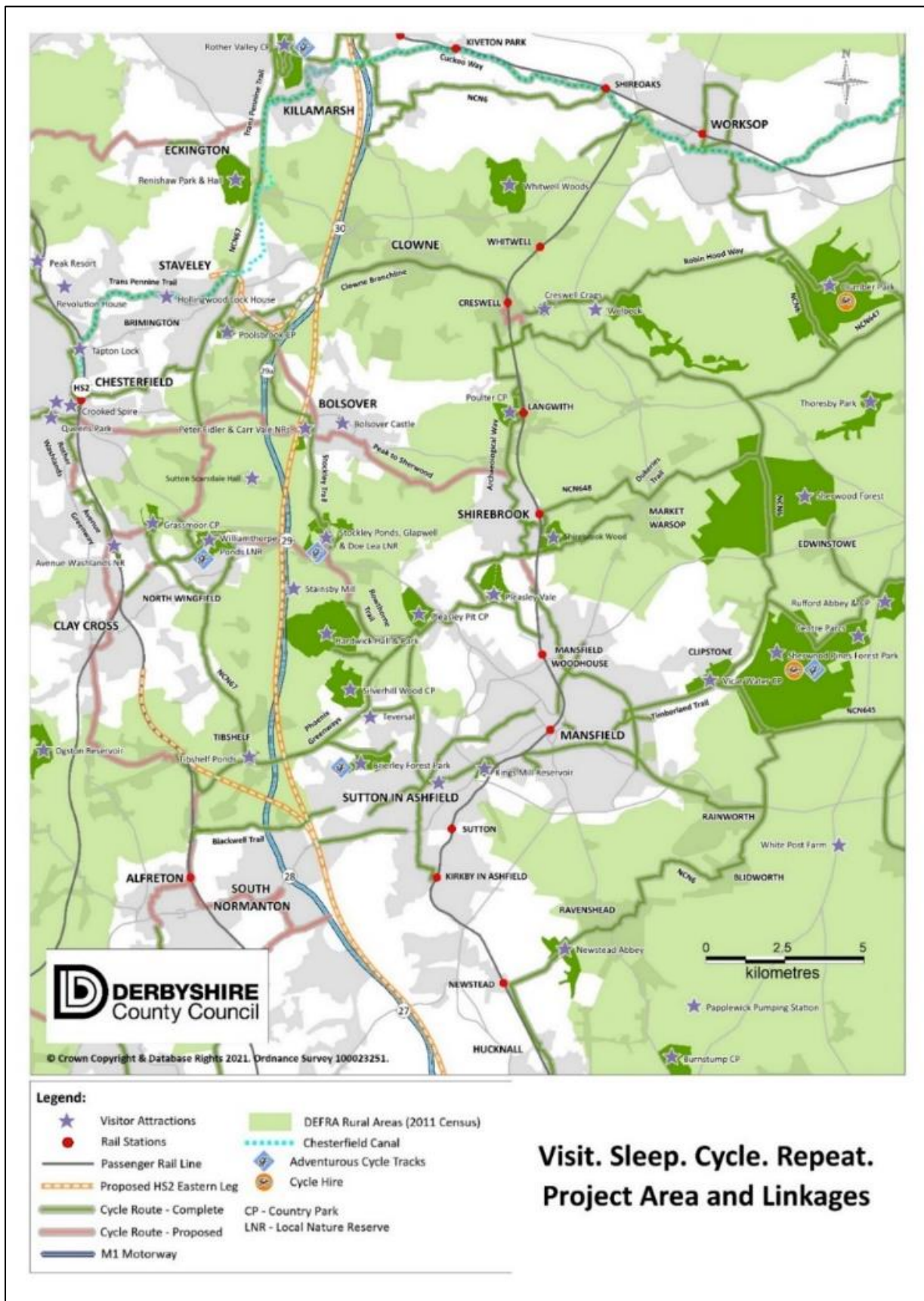
Visit. Sleep. Cycle. Repeat. (VSCR) is a cross-cutting programme, developed by partners and stakeholders from North Derbyshire and North Nottinghamshire. It covers the area between Chesterfield, Worksop, and Mansfield, see Figure 1. The cross-cutting programme aims to develop a sustainable visitor economy, encourage active travel, support carbon reduction, improve health and wellbeing, and enhance biodiversity and nature connectedness. The VSCR Destination Plan estimates the Area attracts 8 million day and 900,000 overnight visitors, worth £455M to the economy, which supports 6,200 jobs. With investment, a further £85M and 650 new jobs could be added. Further details are available at www.derbyshire.gov.uk/vscr.

The Area's natural capital is an important asset and provides multiple social and environmental benefits, including supporting growth of the local visitor economy. As the birthplace of the industrial revolution, the East Midlands is one of the most nature-depleted areas of the UK. In Derbyshire, outside the Peak District, only 8.4% of land is designated as Local Wildlife Site. Only 41% of these sites are positively managed, 20 - 25% are declining and around 130 sites have already been destroyed, and a further 63 damaged. In the wider landscape natural capital has been depleted and there are now few opportunities for wildlife to thrive. Biodiversity is confined to small, fragmented islands and this impacts on the local economy and peoples' health.

However, over the past thirty years around 10 km² of land in the VSCR Area (equivalent to 1,250 football pitches) has been reclaimed and renatured, and tens of millions of trees planted. These new country parks and wildlife sites are often connected by multi-user trails, some of which are rich in nature. And the VSCR Area has 100km of trails, arguably one of the best networks in the Country.

The report examines actions we can take to improve local natural capital and nature connectedness, as part of the Area's response to wider national and international issues, such as climate change and the biodiversity crisis, which can often appear daunting and too large to tackle but ultimately need a local response. This report is the Executive Summary to a much more extensive piece of work, the Main Report of the same name.

Figure 1 – the VSCR Programme Area



Why is Natural Capital so important?

There are many definitions of Natural Capital, these are discussed further in the Main Report. Here is one common definition:

Natural Capital - 25 Year Environmental Plan

Natural capital as the sum of our ecosystems, species, freshwater, land, soils, minerals, our air, and our seas. These are all elements of nature that either directly or indirectly bring value to people and the country at large. They do this in many ways but chiefly by providing food, clean air and water, wildlife, energy, wood, recreation, and protection from hazards.

Recently, there has been a shift in policy to support natural capital. The 25 Year Environment Plan, and the Agriculture and Environment Acts, now present opportunities to fund future environmental works.

Figures 2 and 3, below, show priority habitats and restorable habitat fragmentation Action Zones. The challenge for the future is how we connect these fragments together to provide multiple social, economic, and environmental benefits.

Natural capital can help transform communities and support future resilience. Inspiring people to connect with nature by creating spaces to support physical health and mental wellbeing, whilst supporting the local economy. The benefits that nature provides are called ecosystem services. Figure 4 summarises some of the wider benefits that nature-based solutions can provide in ecosystem services.

Financial benefits can be attached to ecosystem services, for example, applying a Biodiversity Net Gain (BNG) market value to appraise the 10km² of renatured land within the VSCR Area, creates a value of £3.3M per year¹. In addition, this same land provides a carbon sequestration service valued at around £220,000 per year² to give an ecosystem service value of over £3.5M per year for these two services alone. What if the value of reduced flooding or benefits to health and wellbeing, or other ecosystems services were also calculated, what would the true value of the renatured areas be?

1. Based on 10km² of renatured land across the VSCR Area. An analysis of the BNG market suggests that Biodiversity Units (BU) will be around 0.25ha with a value of £25,000 over 30 years/BU, this equates to £3,333 ha/yr
2. Based on an aggregated mosaic habitat, carbon sequestration potential figures supplied by Rewilding Britain. The carbon price is from February 2021, when the initial analysis was carried out. See Carbon Sequestration text box in Main Report for further details and analysis

Figure 2 – Priority Habitats and Figure 3 - Priority Habitats including restorable habitat fragmentation action zones (courtesy of DEFRA)

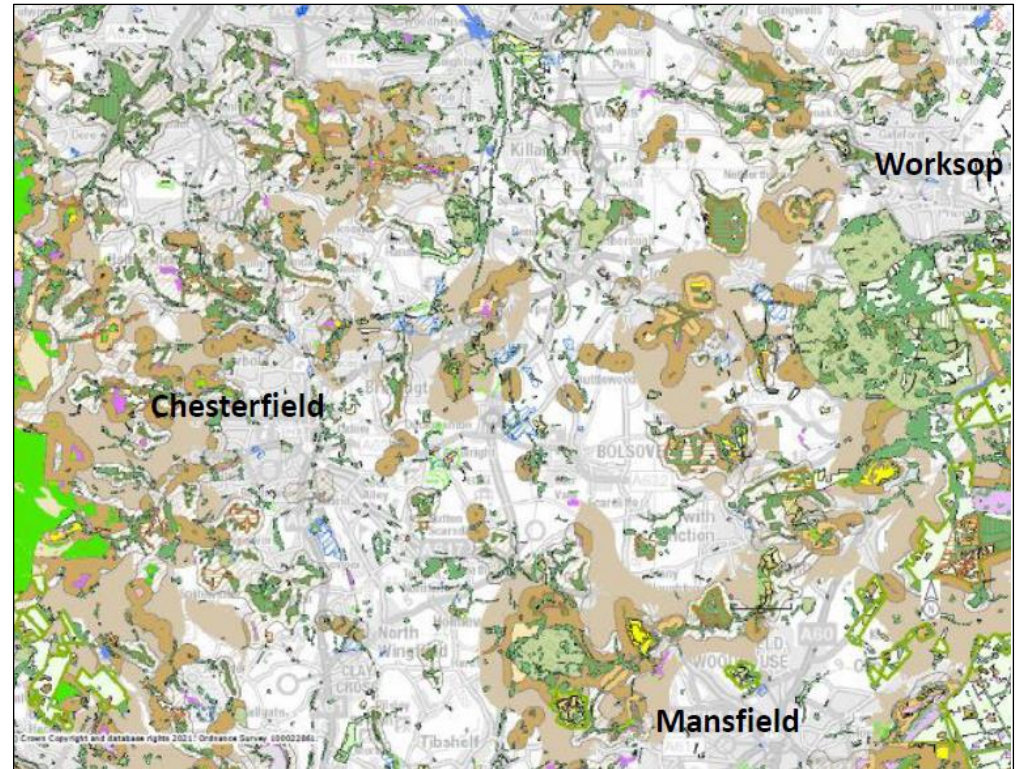
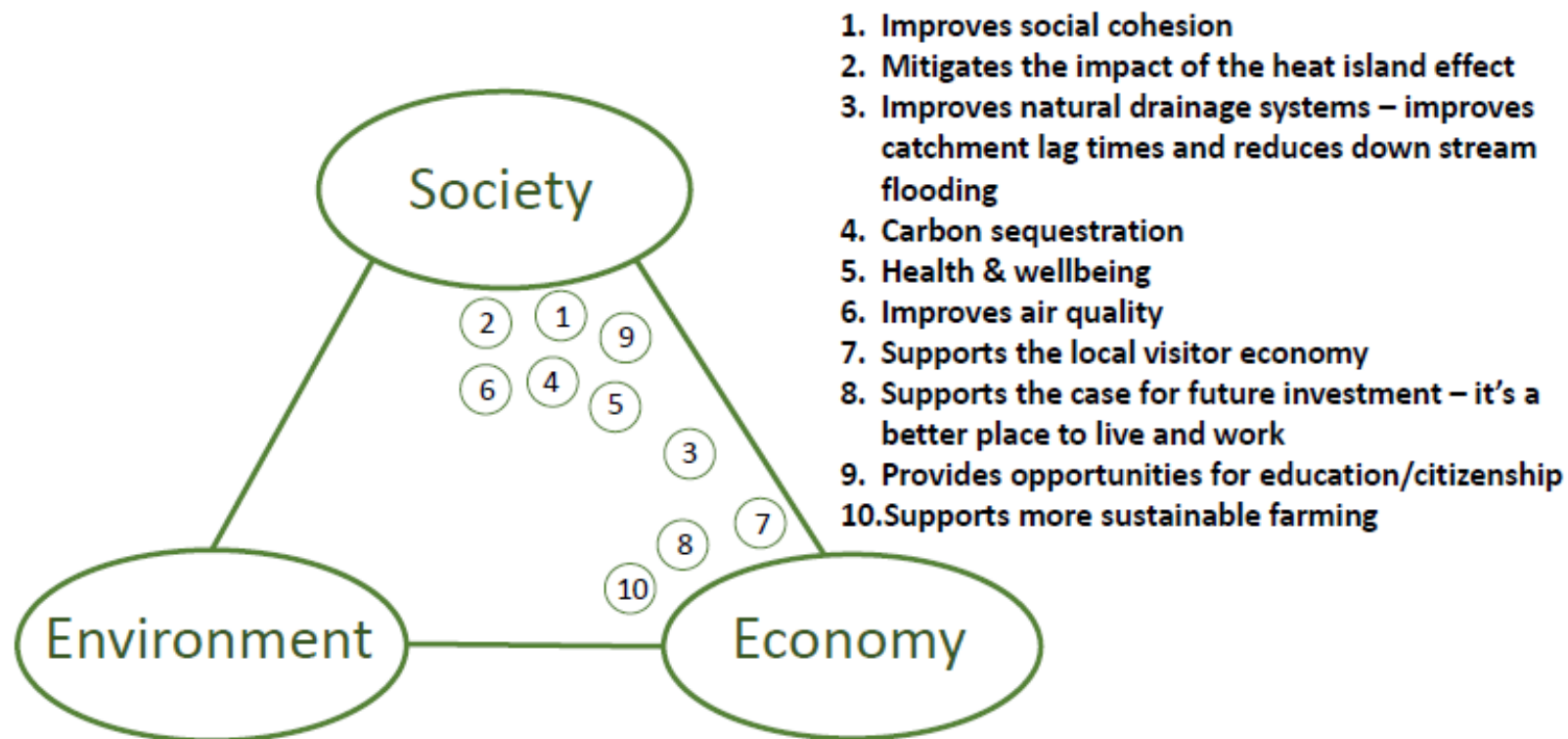


Figure 4 – The social and economic benefits of adopting nature-based solutions



N.B. 1. The position of each ES indicates its relative importance to a specific aspect of sustainability.

2. Environmental benefits, such as landscape value or spiritual connection, are not included, as these are considered intrinsic rather than direct benefits.

The ten Ecosystem Services (ES) outlined in Figure 4 have been categorised into three broad headings:

1. Health and wellbeing, and social cohesion (ES: 1, 5 and 9)
2. Benefits to human environments and mitigating the impacts of climate change (ES: 2, 3, 4, 5 and 6)
3. Economic benefits (ES: 7, 8 and 10)

These are discussed in more detail in the Main Report. It is calculated that for every £1 spent on ecosystem restoration there is a £10 return on the investment through ecosystem services.

What can we do?

There are a range of practical solutions that could be adopted to enhance local natural capital, including: rewilding, renaturing, natural flood management, nature recovery networks, regenerative agriculture, agroforestry, management of roadside verges, use of yellow rattle, combating ecological tidiness disorder, pictorial meadows, micro forests. These are all discussed in detail in the Main Report.

The Lowland Derbyshire Biodiversity Action Plan identifies two main landscape types in the Area, each has a unique role to play in supporting natural capital:

- Magnesian Limestone Area
- Rother and Doe Lea Valleys Area

The Magnesian Limestone Area contains remaining fragments of calcareous grassland and limestone woodland and forms part of a principal aquifer. There are issues with diffuse rural pollution, mainly from intensive agriculture. 15% of land has biodiversity value and tree cover is around 10.5%, (above the England average of 10%). The area has the highest percentage of biodiversity and woodland cover in Lowland Derbyshire outside the National Forest.

The Rother and Doe Lea Valleys Area is significant for its range of wetland and riparian habitats, along the river network and canal corridor. The availability of natural capital is low and there is a lack of accessible semi-natural greenspace, tree cover and catchment management. The latter will create flooding in the Area and further downstream in the Don Catchment. There are localised air quality issues along the M1 and Chesterfield-Staveley-Barlborough corridors. 6.8% of land has biodiversity value and tree cover is low at around 6.3%, significantly below the England average.

The following priority areas are recommended to enhance natural capital across both landscape types:

- footpaths, bridleways, green lanes, and multi-user trails – to maximise the potential for nature connectedness along paths and trails with legal access rights
- existing sites of high biodiversity
- adjacent to water courses, springs, field margins, across contour strips within fields and less-productive wet hollows - where run-off could lead to flooding, loss of topsoil, or issues with diffuse rural pollution
- urban greenspaces - to enhance opportunities for nature connectedness and services such as improved air quality or cooling the heat island effect
- the Doe Lea and Rother River corridors and throughout their wider catchments – to reduce flooding
- the Chesterfield Canal corridor - which provides a significant opportunity to link Chesterfield to accessible natural capital
- the M1 and Chesterfield-Staveley-Barlborough corridors - to mitigate issues of air quality

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> • Land reclamation has significantly enhanced the areas natural capital. This is a great springboard on which to base further work • The Area has abundant world-class heritage and enhanced natural capital would complement the growth of a sustainable visitor economy • The Area has one of the best trails' networks in the Country • There is a strong track record of partnership working in the Area • There is a growing awareness of the impacts of climate change, loss of biodiversity and the need to enhance communities' health and wellbeing. This should help galvanise support for enhanced natural capital and nature connectedness 	<ul style="list-style-type: none"> • The area has islands of relatively high biodiversity within a landscape of limited natural capital • Most areas where natural capital can be improved are outside the public or third sectors control • Over the last decade there has been significant cuts in the public sector's ability to manage natural capital. The third sector's ability to deliver natural capital projects has also been impacted by COVID-19 and current inflationary pressure • There is no overall coordination to the current management of natural capital. Governance needs to be improved if progress is to be made
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Enhancing natural capital will deliver a range of ecosystem services that would help local communities become more resilient to the impacts of climate change, provide opportunities for wildlife, nature connectedness and health and wellbeing • The opportunity exists to develop a regenerative economic model which ties together the development of a sustainable visitor economy and enhanced natural and social capital - to create a virtuous economic cycle and establish positive feedback loops • Recent policy changes now support opportunities to enhance natural capital • Climate change and environmental issues are now more high-profile than ever before, and this trend is likely to grow over the coming decade. Finding local solutions will help galvanise hope and optimism 	<ul style="list-style-type: none"> • Modern lifestyles are more sedentary and spent indoors, so people are generally less nature connected than a generation ago • Often the people who could benefit most are the hardest to engage due to a range of complex issues - health inequalities are significant in some disadvantaged communities and research suggests such communities are less-likely to have had previous experience of nature connectedness • There is a lack of resources to deliver current maintenance demands let alone enhance natural capital or nature connectedness • It is likely that public finance will continue to be squeezed due to the cost of dealing with COVID-19, at the same time as we experience a cost-of-living crises and post-pandemic inflationary pressure. Historically, investment in natural capital is difficult to justify in such circumstances

Future funding is key. Currently, most natural capital works are funded by the public sector but there is pressure on this resource from the cost of dealing with the pandemic and rising inflation. The private sector is increasingly aware of the role it can play in improving the environment and the third sector also has a significant role to play, as do individuals. All options need to be considered and unlocked, to support natural capital. Again, this is discussed in much more detail in the Main Report.

One option being examined as part of VSCR is the development of a regenerative economic model that brings together possible returns from growth in local tourism and other pro-environmental ventures (such as waste food cafes, Incredible Edible <https://www.incredibleedible.org.uk> and Precious Plastic <https://preciousplastic.com/> etc) within hubs, with the aim of creating positive feedback loops to establish a virtuous cycle, with any surplus fed back into projects that support natural and social capital.

For example, surplus from camping pods at Pleasley Pit could support the maintenance of the Country Park and the local trails network. The pods could be discounted in the off-season or when not occupied to provide opportunities for voluntourism, health and wellbeing boot camps, biodiversity/forest schools/nature connectedness workshops, etc.

The Pleasley Hub presents an opportunity to pilot the regenerative economic model, it was identified as an area for growth in the Destination Plan and contains:

- Destinations - Hardwick Hall (one of the best NT properties, attracting around 500,000 visitors), Pleasley Pit Country Park (a growing destination with a new visitor centre and a good network of all-season, accessible paths), and Pleasley Mills - a potential destination with a well-regarded Outdoor Activity Centre
- Partners - many are public bodies or third sector partners, already engaged in VSCR
- Accessible semi-natural greenspace - about one third of the area is either designated for nature conservation, part of a historic landscape, or a priority habitat
- Markets - around 300,000 people live within 10km and there are 3.7M people within a 1-hour drivetime
- Trails - a quarter of the VSCR Trails Network (25km) is within or immediately adjacent to the hub

Future activity must concentrate around coordinated action. The Main Report outlines an action plan with the following outcomes:

- Develop a regenerative economic model for VSCR around natural capital
- Develop opportunities for nature connectedness
- Ensure clear communication, consistent promotion, and marketing
- Clarify governance arrangements

Conclusion

Creating new natural capital and opportunities for nature connectedness has the potential to create jobs, by supporting the development of the visitor economy and taking advantages of new nature recovery markets. In addition, entrepreneurship and community action could bring additionality and develop economies around pro-environmental behaviours (PEB) to create a strong brand for the Area, which would support the transition to a low-carbon, more resilient and nature-rich economy.

Nature needs to be brought into peoples' daily lives by ensuring opportunities in our streets, verges, parks, open spaces, and farmland play a role in supporting physical and mental health and wellbeing, along with the provision of wider ecosystem services.

The coming decade is seen as a decade of environmental restoration. By working towards a common goal of developing natural capital and nature connectedness we can strengthen our intrinsic connection to the natural world.

So, for example, the Archaeological Way (AW) through Shirebrook becomes a nature-rich corridor which connects the town to its local countryside and people to their local environment. Town Park, which is on the route of the AW, has a small magnesian limestone grassland remnant, this becomes valued for its rich nature rather than being seen as a neglected unmanaged eyesore.

The economic case for investment in natural capital is clear, on average for every £1 spent there will be a return of £10, for example, the 10km² of reclaimed and renatured land in the VSCR Area annually provides £3.5M of benefits on just two ecosystem services. The true value of these sites is likely to be much higher when all the services they provide are considered.

For further details of the themes discussed in this report please consult the Main Report of the same name, which is a more in-depth companion piece.