
Arnside & Silverdale Area of Outstanding Natural Beauty Management Plan 2019-2024 (Consultation Draft)

Prepared by the Arnside & Silverdale AONB Partnership, October 2018

Ministerial Foreword

I am fortunate that England's Areas of Outstanding Natural Beauty are part of my Ministerial responsibilities. Whether it be rolling hills, sweeping coastline or a tranquil village, spending time in an AONB can stir the heart and lift the spirit.

This is a pivotal moment for all AONBs. The Government has set its ambition in the 25 Year Environment Plan which states clearly the importance of natural beauty as part of our green future, while AONBs retain the highest status of protection for landscape through national planning policy. Leaving the EU brings with it an opportunity to develop a better system for supporting our farmers and land managers, who play such a vital role as stewards of the landscape. And the Review of National Parks and Areas of Outstanding Natural Beauty led by Julian Glover - the first of its kind for generations - will make recommendations to make sure our designated landscapes can flourish in the years ahead.

In my visits to AONBs around the country, I have been struck by the passion of many people - farmers, volunteers, and hard-working staff - for the beautiful places they live and work. In this spirit I am delighted to welcome publication of this Draft Statutory Management Plan for Arnside & Silverdale AONB. It is significant that this plan will be delivered in partnership by those who value Arnside & Silverdale AONB. I would like to thank all those involved in preparation of this document, and wish you the best of success in bringing it to fruition.

Lord Gardiner

Parliamentary Under-Secretary of State at the Department for the Environment, Food and Rural Affairs

Chairman's Foreword

The Arnside & Silverdale Area of Outstanding Natural Beauty is an extraordinary place, a place that is loved and valued by many people from all over the world and nationally designated for its natural beauty - stunning views and distinctive and diverse landscape, geology, wildlife and history.

The AONB Management Plan has been reviewed taking into account the results of consultations carried out throughout 2018. This Draft Management Plan sets out proposals for delivering the AONB purpose over the period 2019-24. We are now asking for your views on this Draft Management Plan in a six week public consultation.

The AONB Partnership has reviewed the AONB Management Plan on behalf of Lancaster City Council, Lancashire County Council, South Lakeland District Council and Cumbria County Council, with the support of Defra, the National Association for AONBs and many partner organisations, local groups and individuals. Thank you for your support and contributions!

Together and with collaboration, cooperation and good relationships we are well placed to meet the challenges, and make the most of the opportunities, that lie ahead, not least through the current independent national Designated Landscapes Review. Everyone has a role to play in looking after the Arnside & Silverdale AONB, from local communities, landowners and farmers to businesses and individuals. Working together we can make a real difference for the area and its future.

I look forward to hearing your views on this Draft Plan. Thank you for your support, contributions and interest.

Cllr Dr Brian C Meakin

Arnside & Silverdale AONB Partnership Chair

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Arnside & Silverdale Area of Outstanding Natural Beauty

Management Plan 2019-2024 (Consultation Draft)

1 Introduction

1.1 Areas of Outstanding Natural Beauty

Areas of Outstanding Natural Beauty (AONBs) are particularly special landscapes whose distinctive character and natural beauty are so precious that it is in the nation's interest to safeguard them. AONBs are unique and irreplaceable national assets and along with National Parks represent our finest countryside. There are 46 AONBs throughout England, Wales and Northern Ireland, covering 18% of the land area.

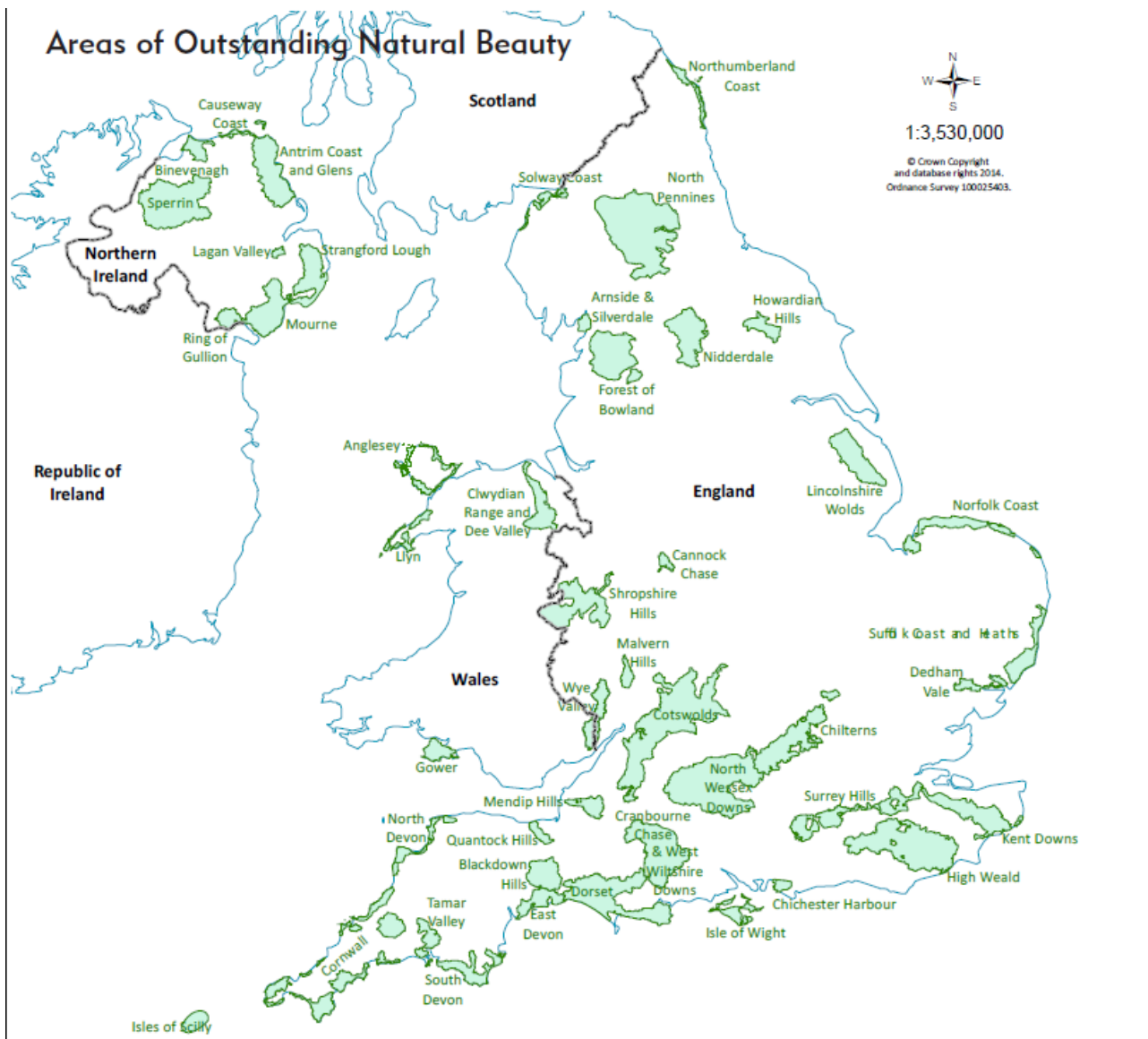
The primary purpose of AONB designation is to conserve and enhance the natural beauty of the area¹. In pursuing the primary purpose, account should be taken of the needs of agriculture, forestry, other rural industries and of the economic and social needs of local communities. Particular regard should be paid to promoting sustainable forms of social and economic development that in themselves conserve and enhance the environment. Promoting opportunities for recreation is not an objective of designation, but the demand for recreation should be met so far as this is consistent with the conservation of natural beauty and the needs of agriculture, forestry and other uses.

AONBs were brought into being by the National Parks and Access to the Countryside Act 1949. The Countryside and Rights of Way (CROW) Act 2000 (Section 89) subsequently strengthened the earlier legislation and placed a statutory duty on local authorities to act jointly to produce Management Plans for AONBs within their boundaries and review them every five years.

AONBs are also within a worldwide category of protected areas, designated by the International Union for Conservation of Nature (IUCN) as Category V – Protected Landscapes/Seascapes – *'protected areas where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value'*.

AONBs offer a wealth of opportunities for both people and wildlife to benefit from our countryside; as vibrant living landscape they underpin the economy and the health and wellbeing of our society.

¹ National Parks and Access to the Countryside Act 1949; confirmed by Section 82 of the Countryside and Rights of Way Act 2000



1.2 Natural beauty

The natural beauty of an AONB landscape is partly due to nature and is partly the product of many centuries of human modification. It encompasses natural and human factors – special qualities – that together make an area distinctive and special: geology, climate, soil, plants, animals, communities, archaeology, buildings, settlements, historic features, culture, people and the perceptions of those who live here or visit.

The special qualities make an area worthy of designation but are also vulnerable to a wide range of pressures, for example from development, recreation, changes in land management and agricultural practices, and the effects of climate change. Positive management is therefore required to conserve and enhance their distinctive character.

1.3 Arnside & Silverdale Area of Outstanding Natural Beauty (AONB)

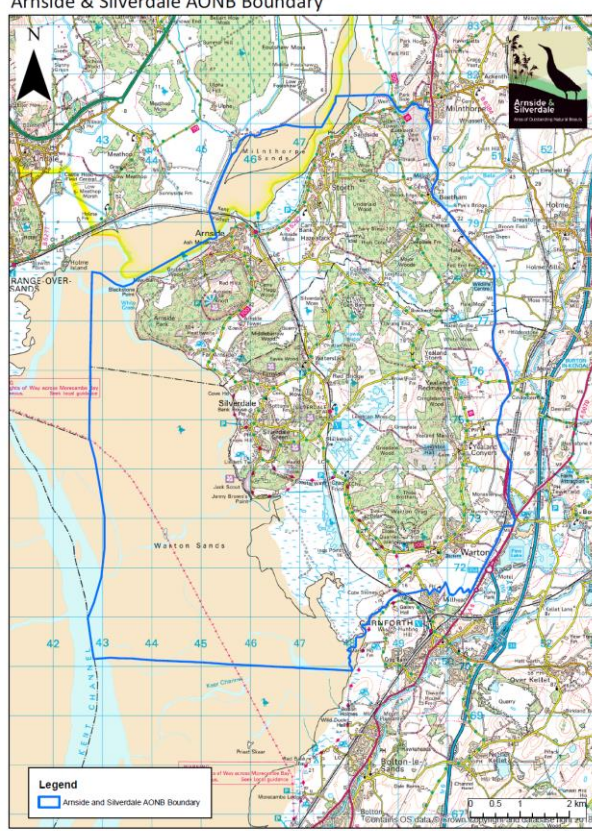
Arnside & Silverdale AONB was designated in 1972 and covers an area of approximately 75km² in south Cumbria and north Lancashire, including around 30km² of intertidal sand and mudflats in the Kent estuary and Morecambe Bay.

Arnside & Silverdale AONB is especially celebrated for its distinctive limestone landscape, magnificent views and extraordinary diversity of wildlife. Low limestone hills, limestone pavements, ancient woodlands, mosses, orchards, meadows and pastures and an impressive coastline, along with a rich cultural history, make this a truly special place.

The intricate nature of many parts of the area and an exceptional variety of special features occurring in such a small place, creates a sense of intimacy and discovery. This fine-grained landscape character then contrasts in every way with the vast openness of adjacent Morecambe Bay.



Arnside & Silverdale AONB Boundary



1.4 Arnside & Silverdale AONB Partnership

Effective joint working is needed to conserve and enhance the AONB for future generations.

The four responsible local authorities – Cumbria County Council, Lancashire County Council, Lancaster City Council and South Lakeland District Council – deliver their statutory duties and obligations arising from Part IV of the Countryside and Rights of Way Act 2000 in relation to the AONB through the operation and management of a statutory AONB Partnership and the publishing, reviewing, monitoring and implementation of the statutory AONB Management Plan. The AONB Partnership aims to conserve and enhance the AONB and is made up of the local authorities, statutory agencies, landowners, conservation organisations, local communities and

interest groups, working together. Each partner nominates a representative to sit on the formal AONB Executive Committee. A full list of AONB Partnership members is shown in Appendix 1.

The partnership structure of the AONB is a particular strength and enables communication and understanding between many different interested parties and the delivery of sustainable, shared solutions.

The AONB Team is the staff team employed for, and on behalf of, the AONB Partnership by Lancaster City Council as host local authority. The Executive Committee formally oversees and monitors the work of the AONB Team.

Responsibilities of the AONB Team include:

- managing the AONB Partnership
- coordinating action to conserve and enhance the AONB at both a local and strategic level
- developing, reviewing and publishing the AONB Management Plan
- securing funding and resources
- developing and delivering projects to implement the Management Plan
- advising upon, facilitating and co-ordinating implementation by others
- providing landscape related planning advice
- involving local communities in managing and conserving the area
- raising awareness of the national importance of the area and its special qualities
- promoting understanding and enjoyment of the area
- working with local businesses to support an environment-based local economy
- developing education resources and running events
- facilitating research about the area
- running an active volunteer programme
- monitoring and reporting on progress
- working at a national level through the National Association for AONBs

There are two voluntary bodies dedicated to supporting the purposes of the AONB: the AONB Landscape Trust, a charity with over 1200 members and the Bittern Countryside Community Interest Company, a social enterprise. Both contribute to delivery of the AONB Management Plan and are represented on the AONB Executive Committee.

1.5 The AONB Family

AONB partnerships from across the country work together as the AONB Family, sharing experience, promoting good practice and fostering collaboration.

The National Association for AONBs (NAAONB) is a registered charity with a vision that 'the natural beauty of AONBs is valued and secure' and with a mission 'to support and develop a network of ambitious AONB partnerships with a strong collective voice'. Their strategic objectives are to:

- support policies for conserving and enhancing natural beauty,
- develop an understanding of AONBs and the issues they face,
- improve the way in which AONB Partnerships, Conservation Boards, and the NAAONB work together, and
- secure and manage resources.

The Arnsdale & Silverdale AONB Partnership is a member of the NAAONB, supporting the AONB Family and contributing to and participating in national initiatives. Further information can be found at <http://www.landscapesforlife.org.uk/>.

1.6 The Arnside & Silverdale AONB Management Plan

The AONB Management Plan is a statutory plan which sets out a shared Vision for the next 20 years. It describes the broad range of issues we face in this area and how we will manage them to conserve and enhance the area for future generations.

As this is the AONB Partnership's Management Plan, we use words such as 'we' and 'our' to mean the AONB Partnership's collective ambition and not the sole view of the AONB Team.

In order to achieve effective conservation and enhancement of the area, working together in partnership is crucial; local authorities, communities, organisations, landowners/managers and businesses must work jointly to successfully implement the Plan.

The aims of the Management Plan, which reflect the AONB purposes, are to:

- conserve and enhance the natural beauty and special qualities of the AONB
- promote and support sustainable agriculture, forestry and other rural industries
- promote the social and economic wellbeing of people living within the AONB
- increase public understanding and enjoyment of the AONB
- meet the recreational needs of local residents and visitors alike - where these are compatible with the purpose of AONB designation.

The Management Plan forms a key part of the strategic framework for action by the many organisations working in and around the AONB, including the local authorities jointly responsible for the Area, and by the local community.

1.7 How the Draft Arnside & Silverdale AONB Management Plan has been produced

This Draft Management Plan has been produced by the Arnside & Silverdale AONB Partnership on behalf of the four principal local authorities: Cumbria County Council, Lancashire County Council, Lancaster City Council and South Lakeland District Council according to an approved Project Plan and following national guidance. A Review Working Group comprising representatives from the four local authorities, Natural England, the AONB Team and the AONB Executive Committee supported and oversaw this process. The Draft Management Plan has been informed by public and stakeholder consultation including a public online survey in early 2018 and a variety of stakeholder workshops held during 2017/18.

The Draft Management Plan has been subject to a Strategic Environmental Assessment and a Habitats Regulations Assessment.

1.8 Current context

In January 2018 the government published a 25-Year Plan for the Environment². It set out an approach to protect landscapes and habitats in England and committed to undertaking a review on National Parks and Areas of Outstanding Natural Beauty (AONBs).

The review is being led by Julian Glover and supported by an advisory group; the review began in summer 2018 and will report in 2019.

² A Green Future: Our 25 Year Plan to Improve the Environment, HM Government (Defra), 2018

The review presents a significant opportunity to:

- raise the national profile and standing of AONBs
- articulate challenges and opportunities and the value AONBs and AONB Partnerships bring to UK society
- position AONBs as integral to the successful delivery of key government policies on the future of environmental land management in the context of Britain's exit from the European Union including the 25 Year Environment Plan, recently published Agriculture Bill and the forthcoming Environment Act 2020
- set out the case for changes needed in order to deliver to our full potential.

The Review is the first independent review of designated landscapes in England since 1991 and it is the first time that AONBs have been included in the same review as National Parks. Previous independent reviews have led to a positive and lasting legacy for the legal and policy framework governing designated landscapes.

The outcome of the review will have a profound effect on the future of our designated landscapes for many years to come.

A full review of the current national and local policy context has been undertaken as part of the Management Plan review process.

1.9 AONB designation and the planning process

The fundamental principle underlying planning and development management in AONBs is that, as designated landscapes, AONBs have the highest status of protection in relation to landscape and scenic beauty. All development is expected to conform to a high standard of design and conserve and enhance the AONB's special qualities.

Section 85 of the Countryside and Rights of Way Act (2000) places a duty on all local authorities, public bodies and statutory undertakers to pay 'due regard' to the purpose of AONB designation in carrying out their functions in relation to, or so as to affect, land in AONBs.

The Government has confirmed that the landscape qualities of AONBs and National Parks are equivalent. As such, the protection given by the land use planning system to natural beauty in both types of area should also be equivalent.

Planning policies for AONBs are contained in the National Planning Policy Framework (NPPF), Local Plans, Mineral and Waste Local Plans and Neighbourhood Plans. The NPPF provides specific guidance for development planning and decision-making in relation to AONBs. It confirms that '*great weight should be given to conserving and enhancing landscape and scenic beauty*³ in AONBs. The NPPF also states that the scale and extent of development should be limited and that planning permission should be refused for major developments in AONBs other than in exceptional circumstances and where it can be demonstrated that they are in the public interest.

³ Paragraph 172, National Planning Policy Framework, 2018

The NPPF confirms that local planning authorities should set out the strategic priorities for their areas within Local Plans that contribute to and enhance the natural environment, by

- protecting valued landscapes, sites of biodiversity or geological value and soils;
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services;
- maintaining the character of the undeveloped coast; and
- minimising impacts on and providing net gains for biodiversity.⁴

AONB designation and AONB Management Plans are material considerations in the planning process. Management Plans are adopted statutory policy of the local authority. A local planning authority has a duty to pay due regard to the conservation and enhancement of natural beauty and the appropriate management of the area as defined by and set out in the statutory Management Plan.

Arnside & Silverdale AONB Development Plan Document

The district-wide Local Plans of both South Lakeland District Council (SLDC) and Lancaster City Council (LCiC) contain policies relating to the conservation and enhancement of the Arnside & Silverdale AONB and its setting. A dedicated Arnside and Silverdale AONB Development Plan Document (AONB DPD) is also being prepared jointly by SLDC and LCiC. The AONB DPD sets out a landscape capacity-led approach to development within the area and contains specific detailed planning policies to reflect the purposes of AONB designation and relevant policies in the National Planning Policy Framework⁵. It allocates a number of small-scale sites for development to help meet local AONB housing and employment needs. Having been subject to public examination the AONB DPD is currently at the stage of consultation on major modifications, which this Draft Management Plan reflects. The DPD is likely to be adopted in early 2019.

Planning decisions and enforcement action affecting the AONB will be made by the relevant local authority with reference to the AONB DPD and the AONB Management Plan as a material consideration. The role of the AONB Partnership is to provide landscape-related planning advice to the local authorities to assist this process. The statutory consultee for landscape-related planning issues is Natural England and the AONB Partnership liaises with this agency on planning matters.

1.10 European Landscape Convention

The European Landscape Convention (ELC) is the first international convention to focus specifically on landscape. Created by the Council of Europe, the convention promotes landscape protection, management and planning, and European co-operation on landscape issues. The ELC came into force in the UK on 1 March 2007. It applies to all landscapes, towns and villages, as well as open countryside, the coast and inland areas, and ordinary or even degraded landscapes, as well as those that are afforded protection.

The ELC defines landscape as: *"an area as perceived by people, whose character is the result of the action and interaction of natural and/or human factors"* (Council of Europe 2000). It highlights the importance of developing landscape policies dedicated to the protection and management of landscapes and establishing procedures for the general public and other stakeholders to participate in policy creation and implementation.

⁴ Paragraph 170, National Planning Policy Framework, 2018

⁵ The AONB DPD has been assessed under provisions of National Planning Policy Framework, 2012

1.11 Core principles

A number of core principles underpin all the different elements of this Management Plan:

Supporting sustainable land management

Landowners and land managers have played a significant role in creating the landscape as we see it today and are continuing to maintain many of the special qualities. Supporting the retention of viable and sustainable livestock farming and active woodland management, maintaining rural livelihoods and local rural skills are vital factors in keeping the area special.

Sustainable development

This means ensuring that development is sound in environmental, social and economic terms, without compromising the ability of future generations to do the same. Within a nationally protected landscape such as this AONB, the landscape and special qualities must be given special consideration in order to achieve sustainable development.

Landscape change and resilience

Change in the landscape is inevitable and need not be unwelcome. In the context of AONB designation and the conservation and enhancement of natural beauty, the challenge is to manage change in an integrated and sustainable way, so that it can make a positive contribution both to the social and economic needs of local communities and to the natural beauty and special qualities of the landscape that justify its designation. This approach helps create a landscape that is more resilient to pressures.

Taking a natural capital and ecosystems approach

By bringing together three principles of the ecosystem approach, we can ensure that the benefits we derive from the natural environment (ecosystem services) are safeguarded and enhanced. The principles are:

- The natural systems that operate within the AONB are complex and dynamic, and their healthy functioning should not be taken for granted.
- Those that live and work in and visit the AONB benefit from services provided by the natural environment. These services underpin social and economic wellbeing and have a value – both monetary and non-monetary.
- Those that benefit from the services provided by the AONB and those who are involved in the management of them should play a central role in making decisions about them.

Using the ecosystem approach is how we, together with partners, will work locally to deliver 'bigger, better, more, joined up' biodiversity, with greater ecological connectivity and enhanced landscapes that benefit wildlife and people.

A landscape approach, embracing both natural and cultural influences and the way people perceive them, is essential to the integrated delivery of a healthy natural environment that delivers the ecosystem goods and services that society needs.

Climate change adaptation and mitigation

In responding to climate change, there is a need to understand and adapt to the impacts such change is likely to have on the landscape and to seek ways in which CO₂ emissions can be reduced. Ensuring that adaptation and mitigation measures do not adversely affect natural beauty and maximising opportunities to improve landscape resilience such as improving habitat condition and enhancing connectivity will be a priority.

Community involvement and engagement

Local people are at the heart of the AONB and are encouraged and supported to become engaged in its management through volunteering and developing projects and initiatives that help to conserve and raise awareness of natural beauty. This involvement is highly valued and an important factor in securing the area's future.

Accessible to all

There should be equality of opportunity for everyone to enjoy what this area has to offer. Barriers such as access to public transport, the need for better information or better infrastructure remain and need to be better understood. Enhancing intellectual and physical access to the AONB should be supported wherever possible.

2 What is special about Arnside & Silverdale AONB?

Arnside & Silverdale AONB is an extraordinary place. From the simple beauty of the Lady's-slipper Orchid to the wild sweep of Arnside Knott and the shining sands of Morecambe Bay, the area is simply awe-inspiring - full of natural spectacles, stunning views and a surprise to be discovered around every corner.

We need to be clear about what makes the area particularly special so that we can put in place effective management to conserve and enhance these qualities for the future.

Together, the special qualities define what 'natural beauty' means in the context of Arnside & Silverdale AONB and what makes the area nationally important. Consultation has been carried out on the special qualities and they are described in detail in a supporting report 'What is special about Arnside & Silverdale AONB?'.

The special qualities of Arnside & Silverdale AONB are as follows:

Outstanding landscape and spectacular views - a highly diverse mosaic of limestone hills, woodlands, wetlands, pastures and coast, with spectacular views and an impressive setting

Unique limestone geology – rare and distinctive Carboniferous limestone geology with extensive areas of limestone pavement, low coastal cliffs, extensive folding and faulting and notable fossil assemblages

Morecambe Bay – a stunning seascape – the largest intertidal area in the UK with extensive intertidal flats and saltmarshes supporting thousands of breeding waders and wildfowl

Rare and precious habitats – an outstanding number and mix of priority habitats within a small area creating a mosaic that is home to an amazing diversity of wildlife

Internationally and nationally important species – an amazing diversity of species many of which are uncommon in a national or international context

Rich sense of history – archaeological, built and cultural heritage reflecting thousands of years of human occupation creating 'time-depth' within the landscape

Distinctive settlement character – the design, detailing and use of local limestone in buildings, and historic layout of settlements contribute to the area's rural landscape character

Strong community and culture – vibrant rural communities strongly identified with the AONB and local landscape

Opportunities to enjoy the countryside – the network of narrow lanes and paths offers wonderful opportunities to enjoy quiet recreation such as walking, cycling and wildlife watching

Sense of tranquillity, space and place – inspiration, spiritual refreshment, unpolluted air, peace and quiet and unique character

A highly designated area – a large number of local, national and international designations for biological, geological and historical interest

3 What benefits does the natural capital of the AONB provide for people?

The environment and natural capital is essential for people and everyday life. Landscapes and habitats are key components of natural capital - they are critical assets. This leads to a focus on management for 'people and nature' rather than 'people or nature'. By securing and investing in natural capital of the AONB - its landscapes and habitats - over the long term we will support more resilient, better managed landscapes and habitats that are good for people as well as nature.

The special qualities and natural capital of Arnside & Silverdale AONB provide a wide range of public benefits. These benefits can also be described as ecosystem services including regulating, provisioning, cultural and supporting ecosystem services⁶.

- Provisioning services - provided by natural resources such as food, water, fibre, and fuel
- Regulating services - provided by natural systems including climate regulation, water purification and flood protection
- Cultural services – non-material benefits including recreation, cultural heritage, spiritual and aesthetic values, inspiration and education
- Supporting services - providing the basic infrastructure of life including soil formation, the cycling of water and nutrients, fixation of carbon by plants and the ecosystems themselves. All other ecosystem services ultimately depend on these supporting services

The ecosystem services relevant to the AONB are listed below together with links to relevant objectives in the Management Plan.

Several studies have been carried out recently to help better understand the natural capital of the AONB and in particular the benefits it provides to people through its *cultural* ecosystem services. A review⁷ of these studies shows a strong interrelationship between the areas that people value and the area's landscape character and its priority habitats.

This Draft Management Plan includes the identification of future land management approaches needed to ensure the landscape is resilient to change and can continue delivering multiple benefits for people into the future.

Many of the objectives and actions set out in this Plan influence the management of land and natural systems to help sustain and improve the range and quality of benefits or ecosystem services that are provided.

The area's natural capital is complex, with a strong interconnectedness between the many of the ecosystem services. As a result, it is likely that a range of approaches will be necessary for the continued and future management of resilient landscapes. These include working together at a catchment scale, to adapt to climate change, manage water, woodlands, farmland, habitats and landscapes to support a strong local economy that includes a sustainable visitor economy.

⁶ These four types of ecosystem services are used in the UK National Ecosystem Assessment framework

⁷ Natural Capital and Resilient Landscapes in Arnside & Silverdale AONB Report, 2017

ECOSYSTEM SERVICES IN ARNSIDE & SILVERDALE AONB	
Provisioning Services: provided by natural resources	Relevant Objectives
<p>Food provision (e.g. crops, livestock, fish, game) AONB farmers produce food through the breeding of store lambs, suckled calves and, increasingly, finished lamb and beef and a limited quantity of dairy products. Wild venison, wildfowl and pheasant is sourced within the AONB and marketed locally by licensed butchers and game dealers. Within the intertidal zone of Morecambe Bay, some traditional tidal fishing (flounder in particular) takes place. When commercial stocks of cockles are available, cockle fishing takes place under licence on the Warton Sands cockle bed and at other locations in Morecambe Bay. Apples, plums, damsons and pears are grown non-commercially in the numerous orchards.</p>	1, 2, 3, 5, 8, 9, 14
<p>Woodfuel Local woodlands have a long history of providing woodfuel and charcoal supplies, both for domestic and industrial activity. Coppicing once widespread declined during the 20th Century but has increased more recently providing a reliable source of local woodfuel and charcoal. There is considerable scope for further development of this resource.</p>	1, 2, 3, 8, 11
<p>Genetic diversity Rare breed species, particularly cattle, are a feature of the management regime of some areas of semi-natural habitat. Local orchards contain many rare historic varieties of fruits, significantly adding to the gene pool of fruit varieties. There are significant areas of species-rich limestone grassland in the AONB and well over a third of the flowering plant species of the British Isles are known to occur here. This makes the AONB a significant 'seed bank' for the surrounding areas for seed dispersal to increase biodiversity of suitable habitats within the Morecambe Bay Limestones NCA. Similarly opportunities also exist for invertebrate species to spread to suitable habitats outside the AONB. There are many rare and threatened species of both flora and fauna. Presence of unique species: The Lancaster Whitebeam is only found naturally within the Morecambe Bay area.</p>	1, 2, 3, 8, 11
<p>Fibre (e.g. timber, arable crops, wool) Historically, the AONB was an important producer of wool, timber and woodland products. Some areas of woodland are managed as part of the active coppice industry that has been successfully rejuvenated over the last 20 years. There are now new opportunities to develop local markets for wood products. There are a number of commercial forestry holdings which are managed for timber production.</p>	1, 2, 3, 8,
<p>Water Supply Natural springs occur and historically dictated the pattern of settlement prior to the introduction of mains water supplies. Some of these natural springs are important for aquatic habitats. Some areas of wildlife interest that are managed in part by conservation grazing require rainwater water storage tanks for animal welfare as the sites are remote from mains water or natural springs.</p>	1, 2, 3, 5, 7, 8, 10, 14

Rock and mineral resources Until the mid-20th century the AONB hosted an extensive limestone extraction industry. Mineral operations, particularly iron ore quarrying and smelting, also took place up to the late 19th century. Today, there remains one active quarry within the AONB providing various stone, aggregate and tarmac products.	1, 2, 4, 8
Regulating Services: provided by the regulation effects of natural systems and processes	Relevant Objectives in Management Plan
Climate regulation and carbon storage Carbon is absorbed from the atmosphere in farmland and woodlands and coastal habitats, particularly salt marsh and an important carbon store is provided in the soils. Functioning mossland in and around the AONB is an active carbon store and work to re-wet areas of moss will help boost carbon sequestration.	1, 2, 3, 8, 9, 10, 14
Water quality Ecosystems can help in the filtering out and decomposition of organic wastes introduced into water bodies and can also assimilate and detoxify compounds through soil and sub-soil processes, improving water quality.	1, 2, 3, 5, 7, 8, 9, 10, 11, 14
Water flow and flood regulation Permeable limestone geology, extensive areas of woodland and a mosaic of varied soil types, including peat mosses in the low lying, undeveloped floodplains, help to regulate water flow and alleviate flooding in times of low and high rainfall. Saltmarsh also provides a buffer against coastal flooding.	1, 2, 3, 4, 5, 7, 8, 11, 14
Soil quality Extensive farming systems used to manage permanent pasture, particularly on species rich limestone grassland provides effective erosion control, often on vulnerable sites where the depth of soil is very shallow and over limestone, making it prone to drought. Limestone grassland species are more resistant to drought stress than ryegrass dominated pasture helping protect soil quality and reducing erosion.	1, 2, 3, 5, 8
Pollination Although the agricultural sector is currently predominantly pastoral, pollination of fruit trees is important for the area's orchards. Most wildflowers are also dependent on insect pollination, yet the numbers of wild and managed pollinators, such as bees, are in decline. The considerable areas of unimproved grassland and wetlands provide key habitat for insect communities, important for both pollination and pest control.	1, 2, 3, 8, 11, 14
Disease and pest regulation A healthy and diverse ecosystem is less vulnerable to pests and disease.	1, 2, 3, 5, 8, 14
Cultural Services: the non-material benefits people gain from ecosystems	Relevant Objectives
Beauty – landscape and seascape, views, wildlife and habitats, variety and contrast The area is nationally designated for its outstanding natural beauty. The landscape, seascape and outstanding views create a unique and distinctive place which is much loved and highly valued by people from all over the world. The area is especially celebrated for its wealth of plants, birds and butterflies. The intricate nature of many parts of the area, an exceptional variety of features occurring in such a small place	1, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14

creates a sense of intimacy and discovery. This fine grained landscape character then contrasts in every way with the vast openness of the coast and the Bay.	
Sense of place – uniqueness, distinctiveness, inspiration, spiritual refreshment The special qualities of the AONB, together, give the area a strong sense of place. The AONB is a place for inspiration, spiritual and mental refreshment, dark skies at night and clear, unpolluted air. People come here to relax, unwind and recharge their batteries, to get close to nature, breathe in the fresh sea air and absorb exhilarating wide open views. The area's distinctive character and combination of scenery, history, settlement character and patterns, abundance of wildlife, peace and quiet, and culture make the AONB unique. Strong village communities and community activities contribute to the sense of place.	1, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14
Tranquillity – sense of space, peace and quiet, dark skies, connection to nature Tranquillity and a sense of space are easy to find both in the intimate inland landscape and on the hills and open coast. Much of the AONB is distant from the noise of road traffic and other urban and industrial activities – a quality which is increasingly hard to find. Light pollution is low resulting in dark skies where the milky way is visible and even occasionally the Northern Lights. The landscape and wildlife provide a strong connection to and enrichment from nature.	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
Recreation – opportunities for quiet enjoyment, walking, cycling and horse riding There is a well-developed Public Rights of Way Network within the AONB, which gives access to important wildlife sites and places of historical interest. A network of country lanes, areas of open access land, Local and National Nature Reserves, extensive areas of National Trust land and the coast provide further opportunities to engage in a range of quiet recreational activities such as walking, cycling, wildlife watching and horse riding. Access to the natural environment can improve mental and physical health and wellbeing. The value of recreation to the local visitor economy based on the AONB landscape and special qualities is high.	1, 3, 4, 6, 7, 8, 9, 11, 12, 13, 14
Sense of history – heritage buildings and features, historic landscape, villages, culture Heritage can be thought of as 'memories' in the landscape from past cultural activity. Human influence within the area can be traced back more than 5,000 years. The heritage of the area includes scheduled ancient monuments, listed buildings, historic parkland, settlement pattern, character and form, field boundaries, industrial features and a wealth of other archaeological and historic features. Heritage also incorporates various traditional practices and rural skills such as coppicing and hedgelaying, and the cultural history of the area's communities.	1, 6, 7, 8, 9, 11, 12, 13, 14
Visitor economy – sustainable tourism destination, contribution to local economy The landscape and natural beauty of the area, together with its wildlife, history and tranquillity, are key attractions for visitors and therefore contribute directly to the local economy by supporting a network of tourism businesses and accommodation providers. Many visitors come to the area to enjoy quiet recreation, particularly walking and cycling and wildlife watching. Key visitor attractions include Leighton Hall, RSPB Leighton Moss, National Trust land properties.	1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 13, 14
Health and wellbeing – relaxation, exercise, connection to nature, fresh air, volunteering, benefits to mental and physical health Visits to the countryside provide excellent opportunities for walking, relaxing days out and other forms of quiet recreation. These can contribute to an individual's health and wellbeing, at a minimal cost. There are numerous opportunities to take part in active countryside management work at a range of sites, as part of a volunteer team. Evidence suggests that taking part in environmental volunteering has very positive impacts on both physical and mental health and wellbeing. Air quality is generally very	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

high, due to a lack of sources of pollution locally and the predominant maritime climate with prevailing Atlantic airflows. The high landscape quality, extensive views, quality of light and the AONB's special qualities provide a sense of spiritual inspiration which benefits mental health and gives many people a stronger sense of health and wellbeing through relaxation, unwinding and enjoying the peaceful nature of the area.	
Knowledge and education – opportunities for formal and informal learning, research, training The AONB provides a location for both formal and informal learning and education. There are many and varied opportunities for people to learn about and experience the area's special qualities through events, site visits, festivals and interpretation materials including an interactive website. It is also a place for scientific monitoring and research, and training in rural skills.	1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13
Supporting Services: necessary for the production of all other ecosystem services	Relevant Objectives
Biodiversity The AONB contains a high diversity of important and rare habitats and species and their conservation is vital to sustaining the ecosystems that deliver the range of services set out above. Two thirds of the area are designated in some way for wildlife interests, 54% of the AONB is covered by Site of Special Scientific Interest designations with a further 11% designated as Local Wildlife Sites.	1, 2, 3, 5, 7, 8, 9, 11, 12, 13, 14
Geodiversity Limestone bedrock underlies the AONB and unifies its character. Limestone outcrops and cliffs are important features, particularly the extensive pavements and exposures of complex faulting and folding. Exposures in disused quarries display depositional and tectonic features. Some localities are important scientific study sites including shelf complexes and fossiliferous beds. Many sites display clear evidence of glacial and post-glacial processes. There are a number of small cave systems. Peat-forming bogs and the intertidal environment are both examples of dynamic geomorphological processes.	1, 2, 4, 7, 8, 9, 11, 12, 13, 14
Nutrient and water cycling Plants, animals and micro-organisms and the landscape play a crucial role in the cycling of nutrients (e.g. breaking down decayed vegetation in to basic nutrients) and water essential for the delivery of ecosystem benefits.	1, 2, 3, 4, 5, 7, 8

4 Vision for the future

Our long-term vision⁸ for the AONB is:

Arnside & Silverdale Area of Outstanding Natural Beauty is a landscape of international importance, whose distinctive character is conserved and enhanced for future generations.

It is a place that is much loved and highly valued, for its strong sense of place, unique geology, diverse wildlife and rich heritage and the benefits it provides to society.

Its outstanding landscape - an intimate mosaic of low limestone hills, woodland, wetland, pastures, limestone pavements, intertidal flats, coastal scenery and distinctive settlements - and rich natural and cultural heritage are enjoyed, cherished, conserved and enhanced by those who live in, work in and visit the area.

The high quality and resilient landscape supports and is supported by the area's thriving rural economy and vibrant sustainable local communities. There are many and varied opportunities for people to access, enjoy and understand the area's special qualities, and participate in their conservation and enhancement, creating a strong connection with nature and the landscape.

Challenges and pressures are effectively and sensitively managed in an integrated way through a partnership approach. The area's natural and cultural assets are managed and used wisely for future generations.

To achieve this, the AONB Partnership is aiming for 3 key outcomes which reflect the national objectives of the AONB Family:

- an outstanding landscape rich in natural and cultural heritage
- vibrant and sustainable communities
- a strong connection between people and the landscape

In working to deliver these outcomes, we must consider environmental, economic and social objectives. The challenges faced by the area are many and diverse, some are local in nature while others are national issues. Some can be relatively easily addressed but others are difficult to resolve.

⁸ 94% of respondents to the Management Plan Review Consultation Survey, 2018, agreed with the Vision with the remaining respondents suggesting a small number of positive amendments, which have been made in this Draft Plan

We must work together with partners and stakeholders to deliver these outcomes while recognising that:

- different organisations, groups and individuals have different opinions on and priorities for how best to conserve the features and qualities which make this landscape special; and
- sustaining this exceptional landscape is a major challenge and requires collaboration, cooperation and significant investment.

5 What is needed to conserve and enhance Arnside & Silverdale AONB and why?

This section sets out what is needed to achieve the key outcomes and why. A framework of objectives for each outcome is presented along with background information and evidence, identification of key issues and forces for change, and recommendations for delivery between 2019 and 2024, and beyond, that all partners, stakeholders, farmers, landowners and communities can work to in order to conserve and enhance the AONB.

This section has been strongly influenced by the consultation responses received during 2018.

It is important to note that the Management Plan does not cover everything affecting the Arnside & Silverdale area, rather those matters directly linked to the purposes of AONB designation.

The State of the AONB report will give further more detailed information and evidence about the current status of matters relevant to the Management Plan when it is published in 2019.

All objectives are to be delivered in a way that supports the AONB purpose and causes no harm to Natura 2000 sites.

5.1 An outstanding landscape rich in natural and cultural heritage

The following objectives will contribute to achieving an outstanding landscape rich in natural and cultural heritage:

Landscape and seascape

1. Conserve, enhance and improve understanding of the natural beauty, landscape and seascape character, and special qualities of Arnside & Silverdale AONB
2. Conserve, enhance and improve understanding of the natural capital of the AONB and the range and value of the public benefits and services that it provides to society

Biodiversity and geodiversity

3. Conserve, enhance and restore the AONB's characteristic mosaic of habitats and improve their connectivity, take targeted action to conserve key species and improve understanding of the biodiversity of the AONB.
4. Conserve and improve understanding of the geodiversity of the AONB.

Water environment

5. Improve water quality and condition of watercourses and waterbodies in the AONB and support natural flood management.

Historic and cultural heritage

6. Conserve, restore and improve understanding of the historic environment of the AONB including heritage assets, historic landscape character and cultural heritage.

Development management

7. Implement a landscape capacity-led approach to development planning and management, which conserves and enhances the natural beauty, landscape and special qualities of the AONB and its setting.

5.1.1 Landscape and seascape

Arnside & Silverdale AONB is a unique limestone landscape defined by the underlying Carboniferous Limestone and coastal setting of Morecambe Bay. The area is a rich mosaic of species-rich limestone grasslands, limestone pavements, extensively wooded limestone hills, agricultural pastures, freshwater mosses, salt marsh, inter-tidal sand and mudflats, and distinctive settlements.

The high quality and outstanding natural beauty of the landscape and seascape sets the AONB apart from the wider countryside and is the reason for its national designation. The area's distinctive character is determined not simply by the presence of particular natural elements or

their rarity value, but also by the way in which they combine to form a mosaic of landscape types and reflect a rich history and cultural heritage.

'Landscape' and 'seascape' are made up of many different 'layers' interacting together – landforms, views, geology, soils, water, wildlife, land management, buildings, heritage and more – and also how we as people perceive them. For the purposes of this plan and to avoid repetition, this section deals with overarching landscape and seascape issues, while subsequent sections look at particular elements of the landscape and seascape in more detail.

Landscape and seascape character

The Arnside & Silverdale AONB Landscape and Seascape Character Assessment (2015) defines the AONB's landscape character types:

- Intertidal flats
- Bay saltmarshes and lagoons
- Lowland moss
- Coastal limestone pasture
- Inland pasture and parkland
- Wooded limestone hills and pavements

Three landscape character types forming part of the setting of the AONB are also defined:

- Drumlin farmland
- Low coastal drumlins
- Lowland valley and coastal margins

The assessment concludes that the landscape and seascape character in the AONB has a high or very high level of inherent sensitivity with limited or very limited capacity to accommodate change or development. Landscape and seascape condition is moderate to good, or good.

Limestone Hills

A series of low limestone hills interspersed with steep-sided valleys characterise the landscape of the AONB; Warton Crag is the highest point at 163m rising just above Arnside Knott, Beetham Fell and King William's Hill and many of the AONB's iconic views are seen from these highpoints. This glaciated landscape has a complex range of features and landforms including limestone pavement, ridges, scree slopes, escarpments and erratics. The hills are now largely wooded.

Farmed landscape

Farming has been a principal influence on the development of the AONB landscape and improved, semi-improved and unimproved limestone grasslands cover a large part of the area. Defra survey figures⁹ show that 56% of the AONB was registered as agricultural land in 2016 with the large majority of this being pasture for livestock grazing. Grazing by livestock is a traditional land use. However, both under and over grazing can cause deterioration of habitats.

Many of the area's distinctive landscape features are associated with farming such as hedgerows, drystone walls, farmsteads and field barns.

Sheep are the main livestock type (82% of stock) while dairy and beef cattle make up around 18%. Between 2010 and 2016 there was an overall decrease in sheep numbers of 1% and cattle numbers of 12%. Over the same period the number of horses has decreased but poultry numbers have risen.

⁹ Defra Agricultural Survey, 2016

Management of land under environmental land management schemes, management plans and other appropriate mechanisms offer opportunities to promote and financially support sensitive management to enhance the landscape and protect natural capital such e.g. soils.

Trees and woodland

Woodland is a key component of the AONB landscape and features strongly within the landscape character assessment. Woodland is often associated with the hills and pavements and covers about a third¹⁰ of the terrestrial AONB; 87% of the woodland is broadleaved, 6% is mixed woodland and 4% is coniferous. There is 652ha¹¹ of Ancient Woodland with 488ha of Ancient and Semi Natural Woodland and 164ha of Plantations on Ancient Woodland Sites (PAWS).

Active woodland management has increased by 54% since 2013 and 73%¹² of the woodland is now in active management. Coppicing plays an important role as a traditional management practice.

There are several ancient trees and numerous veteran and notable trees throughout the area occurring in open fields, within boundaries, within areas of woodland, and as part of designed landscapes and settlements.

Wetland landscape

Freshwater wetlands and mosses occur in the low-lying areas and valleys of the AONB often where natural springs emerge. Haweswater is a marl lake, which is a rare type of waterbody that is dominated by stoneworts, a type of large green algae. The associated marl grasslands are formed from mollusc shells and are the largest area of this rare habitat in England, supporting specialised plants and invertebrates. Woodwell is a good example of a marl spring that coats the surrounding plants and stones in a gritty deposit of calcium carbonate (marl). Leighton Moss, managed by the RSPB, is the largest reedbed in northern England. Silverdale Moss and Barrow Scout fields are areas of reedbed that have been established for conservation over recent years. Hale Moss and Arnside Moss have been drained and improved for agriculture. A large project is in the planning stages to restore wet grassland and grazing marsh at Warton Mires.

Coastal landscape and seascape

The AONB has a variety of distinctive coastal features including low limestone cliffs, saltmarshes, coastal woodland and windblown trees, pebble beaches, and intertidal sand and mudflats. Much of the coastline is undeveloped and has a strong feeling of remoteness. The wide open views over Morecambe Bay are ever changing with the weather and tide, and sunsets over the Bay can be spectacular.

Settlements

The villages and hamlets of the area each have their own distinctive history and character with limestone buildings forming the traditional vernacular. All the settlements are rural in character and have open spaces and views which link strongly with the surrounding countryside.

Historic landscape

Historic features, buildings, archaeology and the historic landscape tell the story of the land and people over many generations, an important element of the area's character.

Tranquillity, dark skies, sense of place

The tranquillity of the AONB is one of its key features. According to the Council for Protection of Rural England¹³, much of the AONB, particularly along the coast, can be regarded as in the context of the wider area as 'most tranquil'.

¹⁰ © Forestry Commission copyright (2017), 2015 data

¹¹ April 2017, © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2017

¹² © Forestry Commission copyright [2017]

¹³ CPRE, 2007

The AONB has relatively dark skies¹⁴; the Milky Way and occasionally the northern lights are visible.

Issues and challenges

- incremental changes over time leading to cumulative loss of character and erosion of the special qualities of the AONB
- effects of climate change including extreme weather, storm surges and sea level rise and temperature change
- land use and land management changes
- agricultural change, particularly intensification
- changes in and uncertainty about national policies relating to farming and forestry in particular approaches to agri-environment and rural development schemes and other support mechanisms for farmers and landowners
- soil erosion, compaction and management
- over or under grazing of limestone grassland
- under management of woodland
- loss and deterioration of key landscape features
- loss and deterioration of dry stone walls and associated features
- loss and deterioration of species-rich hedgerows through intensive mechanised cutting reducing effectiveness to contain stock and value as wildlife corridors
- loss of ancient, veteran and notable trees
- natural geomorphological processes causing changes in the dynamic cycles of erosion and accretion of saltmarsh
- increased intrusion through noise and light pollution affecting tranquillity, dark skies and sense of place
- limited knowledge and awareness of natural capital and ecosystems services
- loss of key views due to vegetation and tree growth

Outcomes

- A high quality landscape, seascape and undeveloped coastline where natural beauty and special qualities are conserved and enhanced
- A landscape and seascape that is resilient to climate change and other pressures
- The natural and cultural heritage of the AONB is in good condition and is well researched and understood
- The natural capital of the AONB and the public benefits and services derived from it are well understood and valued

To address the issues and challenges and achieve the objectives and outcomes, decisions, land management and project delivery should:

- manage the area based on natural capital and ecosystems services approach to increase landscape resilience especially resilience to climate change

¹⁴ CPRE, 2016

- involve people, research and improve understanding of the natural capital and ecosystem services that the landscape provides
- take coordinated landscape-scale approaches to conserving and enhancing natural and cultural heritage
- manage the mosaic of landscape types to conserve and enhance the distinctive character of the AONB and create a resilient landscape
- protect soil carbon stores such as saltmarsh where possible
- protect undeveloped coastline and conserve and enhance coastal features and seascape character
- support and encourage appropriate and sensitive land management approaches such as uptake of agri-environment schemes or site/farm/woodland management plans
- achieve appropriate grazing regimes on limestone grassland sites
- conserve and restore distinctive landscape features such as hedgerows, drystone walls and field barns
- remove infrastructure that adversely affects the landscape, such as pylons and overhead cables wherever possible such as through the undergrounding for visual amenity project
- conserve ancient, veteran and notable trees and ensure succession planting
- carry out a programme of landscape monitoring and produce a State of the AONB report every 5 years
- improving knowledge of landscape and seascape character and how people perceive it
- periodically review and update the AONB Landscape and Seascape Character Assessment
- promote the importance of good soil management for carbon storage, water quality and flood regulation by establishing and implementing soil management plans
- ensure no increased light and noise pollution which would cause adverse impacts on tranquillity or dark skies
- reinforce the AONB's distinctive sense of place
- maintain open views from key view points by managing vegetation and tree growth as appropriate

5.1.2 Biodiversity and geodiversity

Biodiversity

The AONB supports an exceptionally diverse range of habitats of local, national and international importance, creating a mosaic which is home to an outstanding variety of wildlife and forms a key element of the area's natural beauty.

Priority habitats cover around 70% of the AONB¹⁵ and include:

- Deciduous woodland
- Upland mixed ashwoods
- Wet woodland
- Wood pastures and parkland
- Lowland calcareous grassland
- Lowland meadows
- Purple moor grass and rush pasture
- Lowland fens

¹⁵ Arnsdale & Silverdale AONB Priority Habitat Survey, G Skelcher, 2016

- Reedbeds
- Intertidal mudflats
- Coastal and flood plain grazing marsh
- Coastal saltmarsh
- Maritime cliffs and slopes
- Inland rock outcrop and scree habitats
- Limestone pavements
- Oligo-mesotrophic lakes
- Ponds
- Rivers
- Traditional orchards
- Lowland heathland

A significant proportion of the AONB is designated for its biodiversity with 54% of the area being covered by Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC) or Special Protection Area (SPA) designations, and 11% of the area recognised as Local Wildlife Sites.

In 2018, 99.1% of the SSSIs were in favourable or recovering condition (64.7% in favourable condition with 34.4% in recovering condition)¹⁶. 21 of the 64 Local Wildlife Sites have been assessed as being in positive management¹⁷.

Of the remaining SSSIs, Middlebarrow unit 3 remains in decline; Hawes Water unit 3 declined from favourable to declining; Hawes Water unit 12 remains unfavourable no change; Gait Barrows units (Little Hawes Water) and Warton Crag (Three Brothers allotments) have declined from favourable to unfavourable no change. Therefore continuing to improve the condition of nationally designated sites should remain a priority along with ensuring that any plans or projects do not have a significant adverse effect on the important features of SACs/SPAs (Natura 2000 sites).

Over 1,100 notable species have been recorded in the AONB, including nearly 200 priority species (S41 NERC Act) known to be resident or occur regularly within the AONB¹⁸. Of particular note are the Bittern, High Brown Fritillary and the Lady's-slipper Orchid. Restoring, creating and enhancing habitats and improving resilience of ecological networks are key to conserving species alongside taking specifically tailored and targeted action.

There is one National Nature Reserve in the AONB at Gait Barrows and two Local Nature Reserves at Warton Crag and Trowbarrow.

Geodiversity

The Carboniferous limestone bedrock of the Arnside and Silverdale area underpins the natural beauty of the AONB. The limestone unifies its character and creates the conditions that have allowed the wide diversity of habitats to develop.

The superficial geology, for example tidal flats, saltmarsh, lacustrine and peat deposits, also contribute to the natural beauty by creating broad areas of flat ground which contrast with and provide a natural setting for the limestone hills. The saltmarsh areas, dynamically changing in their location and extent, provide natural beauty in their contrast with the different colours and textures of the tidal flats beyond. Deposits have contributed to the development of reedbed, fen and mosses.

¹⁶ © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2018.

¹⁷ County Wildlife Sites Survey, G Skelcher, 2014/15

¹⁸ Notable and Characteristic Species in the Arnside & Silverdale AONB, G Skelcher, 2016

Key geological elements of the mosaic of landscape characters across the AONB are the limestone hills, open and wooded limestone pavements, limestone scarps and slacks (including 'The Trough' close to Trowbarrow Quarry), the limestone quarries themselves, locally complex geological structures, low coastal cliffs, shingle bays, saltmarshes, tidal flats, former and current lakes, former areas of lowland raised bogs, residual peat bogs and reedbeds, and the shapely rounded low hills known as 'drumlins' which are associated with former ice sheets and glaciers.

However, it is not just the geology (i.e. the characteristics of the rocks, sediments and geological structures), which is important; it is also the 'geodiversity', the sheer variety of geological features, including the fossils, minerals, natural processes, landforms and soils – as well as the rocks – which underlie and determine the physical character of the landscape and the natural environment. Other features of geological interest which also contribute to the landscape character include solution hollows (or dolines) in the limestone, sea caves, scree-covered slopes, erratic boulders, karstic features and Carboniferous limestone fossil assemblages.

The landscape has been shaped primarily by its limestone geology but also by a range of geomorphological processes, which have acted upon it over many millions of years. Current active processes, such as losing saltmarsh, channel shifts across the estuary, lead to continuing changes; this is clearly not a static landscape.

There are two nationally important geological sites within the AONB, designated as SSSIs for their geological interest - Trowbarrow Quarry and Hale Moss Caves. The condition of both these sites remains favourable. While both Gait Barrows and Leighton Moss SSSIs are primarily designated for their biological interest they are also important for their geology. There are 7 Local Geological Sites, all of which are in good condition and positive management, and there are 16 Limestone Pavement Orders covering 16% of the AONB area.

Buildings and settlements constructed from local limestone, dating back from Medieval times around 800 years ago, are scattered throughout the AONB and contribute to the character and quality of the landscape and the historic character of the area. Also, limestone wall field boundaries, limestone solution features in boundary walls and buildings, and limekilns are key features.

Geology is also an important aspect of the industrial heritage of the AONB, in particular quarrying and mining. Limestone has long been quarried to provide building stone. Numerous small abandoned quarries contribute to the character of the AONB landscape. Other sites developed into large-scale extraction industries, such as Middlebarrow and Sandside Quarry, and are highly visible reminders of the past industrial activity.

Historically, limestone was extracted and burnt to create lime powder, used for mortar, limewash and as a soil conditioner after firing in nearby limekilns. There are 36 known limekilns sites in the AONB, most of which are substantial limestone-built structures and form significant landscape and industrial heritage features in the AONB.

A Geology Audit and Assessment has been undertaken in 2018. A detailed AONB-wide audit has been carried out and research undertaken into the geological evolution of the area. This has provided a robust evidence base of the geodiversity of the AONB for monitoring delivery of the AONB Management Plan, monitoring landscape change and to inform an ecosystems approach to AONB management activity, helping to ensure the landscape is resilient to change and continues to deliver multiple benefits for people.

Invasive non-native species and diseases

Some invasive non-native species are now present at a small number of locations within the AONB including Japanese Knotweed, Giant Hogweed, Himalayan Balsam, Piri-piri Burr and *Crassula helmsii*. Cotoneaster and buddleia have been recorded at various SSSIs within the AONB and grey squirrels are well established. Mink are also present.

Dieback of ash is a serious disease of ash trees caused by the fungus *Chalara fraxinea* and is present in the AONB. As ash woodlands are the dominant woodland type within the AONB the impact of the spread of this disease on the landscape could be significant. Fungus-like pathogens *Phytophthora austrocedrae*, which causes dieback and mortality of juniper and *Phytophthora ramorum* that causes extensive damage and mortality to trees and other plants, are now present in northern England.

Issues and challenges

- effects of climate change including extreme weather, storm surges, sea level rise and temperature change
- loss and deterioration of some characteristic habitats
- habitat fragmentation and declining resilience of ecological networks
- loss or decline of characteristic species and species diversity including low genetic diversity of some species that are on the brink of extinction e.g. Teesdale violet
- unfavourable or declining condition of a small number of SSSI sites/units
- relatively low level of positive management of Local Wildlife Sites
- the focus on designated sites can make non-designated areas of priority habitat more vulnerable
- scrub encroachment on and nutrient enrichment (through fertiliser, manure or slurry application) of species-rich limestones grassland sites leading to decline in species-richness
- achieving appropriate grazing regimes on limestone grassland
- under management of woodland, particularly on sensitive difficult-to-manage sites such as limestone pavement
- potential for ash dieback to significantly affect ash woodland habitats
- damage to woodland caused by grey squirrels and deer
- invasive non-native species, pests and diseases
- high tide salt water incursion into Leighton Moss and other low-lying mosses during storm surges
- changes in and uncertainty about support mechanisms for farmers and landowners to enable biodiversity enhancements
- recreational disturbance of wildlife particularly breeding and overwintering waders and wildfowl on the coast
- potential to cause harm to biodiversity through works to conserve or research historic assets or archaeological sites
- decline in species reliant on the built environment such as swifts and bats
- loss of, damage to or under management of geological sites or features
- lower than expected level of awareness and understanding of the importance of the area's geodiversity
- terrestrial and marine litter
- wildlife crime

Outcomes

- Increased area of priority habitats that are well connected
- Priority habitat condition is favourable or improving
- Key species are being conserved or are recovering
- The area's biodiversity is well researched and understood
- Geodiversity is in favourable condition
- The area's geodiversity is well researched and understood

To address the issues and challenges and achieve the objectives and outcomes, decisions, land management and project delivery should:

- take a coordinated and landscape-scale approach to nature conservation within the AONB and across the Morecambe Bay area, including by supporting the work of the Morecambe Bay Local Nature Partnership
- deliver net gains in biodiversity, developing robust ecological networks that are resilient to climate change through habitat enhancement, expansion, restoration and creation including improving habitat connectivity by establishing buffer zones, linear corridors and 'stepping stones', with a focus on priority habitats and enhancing landscape character
- improve understanding of the attributes of healthy, resilient landscapes and how this relates in detail to the AONB – for example, what habitat diversity, patch size and connectivity is needed to build resilience
- ensure that any proposed actions do not have an adverse effect on the species or habitats for which Natura 2000 sites are designated
- recognise the statutory importance of designated sites and strive to ensure they are adequately protected
- ensure positive management of Natura 2000 and SSSIs to achieve favourable condition status and carry out regular condition monitoring
- increase the proportion of Local Wildlife Sites that are in positive management
- support high nature-value farming and forestry/woodland management providing bespoke advice and support to landowners, land managers and farmers
- support and encourage appropriate and sensitive land management approaches such as uptake of agri-environment schemes or site/farm/woodland management plans
- implement grazing regimes that enable livestock farming to be sustainable and characteristic habitats to flourish
- retain, improve and expand areas of species-rich calcareous grassland including by clearing scrub and ensuring appropriate grazing regimes
- ensure appropriate seasonal cutting of hay meadows
- facilitate species-rich green hay spreading using appropriate donor and receptor sites
- create more transitional habitats such as woodland edge
- prioritise protection and enhancement of ancient semi-natural woodlands
- sustainably manage woodland through coppicing, selective thinning, creating rides and glades, freeing up veteran trees, retaining deadwood and felling within woodlands where appropriate
- support use of sensitive low-impact woodland management techniques, such as horse-logging, particularly on challenging sites

- manage grey squirrels in a coordinated way through the Westmorland Red Squirrels group and monitor red squirrel sightings
- manage deer in a coordinated way through the Deer Initiative and the Arnside and Burton Deer Management Group
- install and monitor wildlife boxes in appropriate locations
- restore and enhance wetland habitats in appropriate locations including wet grassland, moss and fenland, and reedbed
- ensure collaboration and joined-up habitat management at key sites such as Warton Crag
- raise awareness of, monitor, control, manage, prevent spread and/or eradicate invasive non-native species and diseases including Giant Hogweed, Himalayan Balsam, Piri-piri Burr, Japanese Knotweed, Cotoneaster, Chalara dieback of ash, Phytophthora spp. Grey Squirrel etc. (through Cumbria Freshwater Invasive Non-Native Species, Rapid Response Plans, Tree Health Group, volunteer work parties and focussed projects etc.)
- take planned targeted action to conserve key species with a focus on S41 priority species including High Brown Fritillary, Lady's-slipper Orchid, Maidenhair Fern, Autumn Lady's Tresses, Teesdale Violet, Bittern, Red Squirrel
- implement appropriate species reintroduction working with appropriate bodies and according to IUCN and other appropriate guidelines e.g. floral restoration, dormouse etc.
- tackle wildlife crime in a coordinated way
- support efforts to conserve swift populations and other species reliant on the built environment
- carry out regular litter picks and beach cleans
- conserve, enhance and improve the resilience of pollination as an ecosystem service supporting actions to create pollinator habitat and help pollinating insects
- encourage sensitive management of roadside margins and verges to enhance their biodiversity value
- conserve, manage and improve understanding of geodiversity – both statutory (Special Areas of Conservation, Limestone Pavement Orders, SSSI) and non-statutory (Local Geological Sites) sites and also non-designated geological features and assets
- raise awareness of the importance of geodiversity as part of the landscape character and cultural heritage of the AONB, its importance in providing ecosystem services and its key link to biodiversity
- increase awareness and appreciation of geology and the conservation of geodiversity in a sustainable way for example through the publication of geotrails, interpretation etc.
- coordinate a programme of biodiversity and geodiversity monitoring and research
- carefully manage works to conserve or research historic assets or archaeological sites with a multi-objective approach so that they do not cause harm to biodiversity or geodiversity

5.1.3 Water environment

Overall the AONB is a relatively dry landscape as a consequence of its limestone geology. Water is nevertheless an important feature of the landscape. The two major rivers in the area, River Kent and River Bela form the AONB boundaries, to the north and northwest, and the south west respectively. Leighton Beck, Quicksand Pool and Black Dyke are smaller water courses. The main water body is Hawes Water, an internationally important marl lake, one of only a small number in England. Open water is present at Leighton Moss and there is a small lake at Haverbrack. There are numerous springs and small ponds across the area which form distinctive features and are

historically important having been a key factor in the location of settlement, in particular strongly influencing the dispersed pattern of Silverdale village. About 37% of the AONB is covered by the tidal waters of the Kent Estuary and Morecambe Bay.

Where water quality monitoring takes place in the AONB it shows that water quality is generally good in the rivers and streams and in Hawes Water. At Leighton Moss monitoring indicates levels of phosphorus elevated above the level required to ensure that the SSSI is in favourable condition. Agriculture has been identified as the primary reason for the elevated levels. While there is currently little monitoring information to confirm it, there are concerns about groundwater quality in the Silverdale area. Discharges from sewage treatment infrastructure are the cause of concern here.

Fluvial flood risk has previously been low within the Arnside & Silverdale AONB but in December 2015 Storm Desmond led this to be the wettest calendar month overall since records began and there was flooding in Warton and Beetham villages and across the mosses. Surface water flooding can be an issue in Warton, Arnside and Yealand and coastal flooding is a potential risk in certain areas such as Storth and Sandside. The issue of coastal flooding and salt water inundation of the low lying mosses is cross cutting with climatic factors.

The intertidal sand and mudflats of Morecambe Bay support a range of shellfish, including cockles. Warton Sands cockle bed is located in the south west corner of the AONB. There were active cockle fisheries in Morecambe Bay for most of 2017 but stocks of cockles were not of a commercial quantity at Warton Sands.¹⁹ The fluctuation in cockle recruitment is natural and there can be huge variations over time. The sustainable management of the cockle fishery is very important as over exploitation could impact on the important oystercatcher population within the Bay, which feeds on the cockles in the intertidal area.

Oystercatchers are reliant on the productivity of the cockle beds and reductions in the cockle population could impact on the AONB's important oystercatcher population.

Issues and challenges

- diffuse water pollution from agriculture and point source water pollution from sewage treatment infrastructure
- effects of climate change including extreme weather, storm surges, sea level rise with increased risk of fluvial, surface water and coastal flooding and also low flows in times of drought
- fluvial and surface water flood management
- eutrophication, particularly in the Leighton Moss SSSI
- sedimentation of water courses and water bodies
- lack of comprehensive and coordinated water quality monitoring programme
- modification and loss of natural processes for rivers and wetlands
- increasing and conflicting demands on the coastal zone resulting from coastal squeeze due to sea level rise, enhanced coastal access and land use
- sustainable management of shellfishery

Outcomes

- High water quality and good condition of water courses and water bodies
- Sensitive and sustainable flood risk management

¹⁹ North Western Inshore Fisheries and Conservation Authority, Jan 2018

To address the issues and challenges and achieve the objectives and outcomes, decisions, land management and project delivery should:

- take a coordinated approach to catchment management through Catchment Partnerships delivering projects to help increase flood resilience and improve the quality of the water environment and supporting delivery of the NW River Basin Management Plan and to meet Water Framework Directive objectives
- implement real improvements in the water environment using the catchment approach to dealing with water quality, wider environmental issues and water efficiency
- support measures which protect and enhance aquatic ecosystems, both terrestrial and coastal/estuarine, thus supporting progress towards 'Good Ecological Status'
- improve water quality in and around the AONB and Morecambe Bay working with Environment Agency, South Cumbria Rivers Trust and Lune Rivers Trust to encourage and support local action to protect and enhance the water environment
- support effective delivery of the Leighton Moss and Hawes Water Diffuse Water Pollution Plan
- implement a comprehensive programme of monitoring water quality in water courses and water bodies if feasible
- implement catchment sensitive farming initiatives to tackle agricultural diffuse and point source pollution in target areas
- raise awareness of issues and what action residents can take to improve condition and management of septic tanks through initiatives such as the Love My Beach campaign
- ensure any new development implements high quality sewerage infrastructure
- support research and projects to prevent water pollution
- support the restoration and enhancement of wetland habitats and the reinstatement of natural processes, in appropriate locations
- support appropriate natural flood management schemes and ensure engagement with local authorities, EA, Catchment Partnerships (South Cumbria rivers Trust and Lune Rivers Trust), wherever appropriate to help reduce inland and coastal flood risk and deliver relevant projects within/adjacent to the AONB
- implement sustainable and integrated coastal zone management supporting measures which protect and enhance the coastal and estuarine habitats of the area and protect bathing waters
- ensure appropriate involvement in marine planning (e.g. Shoreline Management Plan, North West Marine Plan etc.) regarding internationally and nationally important coastal and intertidal wildlife sites, water quality management, the seascape, the coastal historic environment, climate change adaptation and mitigation, coastal change and flooding, shell fisheries, tourism and recreation (particularly coastal access)
- reduce marine and coastal litter
- ensure engagement in the development of any coastal zone management and flood risk strategy for the Kent estuary or coastal defence strategy for outer Kent estuary, including Grange and Arnside or any realignment and habitat creation studies
- conserve and enhance the water environment within and beyond the AONB (i.e. Morecambe Bay) to minimise diffuse pollution within the AONB and minimise flood risk and enhance resilience to climate change via EA and Catchment Partnerships
- encourage uptake of agri-environment schemes to help deliver multiple benefits including flood risk benefits, supporting restoration of natural floodplain wherever possible

- sustainably manage Warton Sands shellfishery through Hybrid Fishery Order for Morecambe Bay

5.1.4 Historic and cultural heritage

The rich history and distinctive settlement character of the AONB are identified as two of its special qualities and are integral to its character. The historic environment includes all aspects of the environment resulting from the interaction between people and places through time, including designated and non-designated heritage assets, the potential for unrecorded archaeology and historic landscape character.

Many of the features that make the area distinctive reflect the estate, agricultural or industrial heritage of the AONB such as parkland, field boundaries (drystone walls and hedges), designed landscapes, ancient woodlands, traditionally coppiced woodland, orchards, limekilns and farmsteads. The settlements (the layout, character and appearance of villages and hamlets and the building traditions of the area) contribute strongly to the character and quality of the AONB landscape and are important to the area's local distinctiveness and sense of place.

There are 695 Historic Environment Records within the AONB including 10 Scheduled Monuments, 115 Listed Buildings, 1 Registered Park and Garden and many non-statutory archaeological sites. There are 3 Conservation Areas – Warton, Beetham and the Yealands. Up to date Conservation Area Appraisals (CAA) are available for Beetham and Warton.

The 10 Scheduled Monuments are:

- Arnside Tower, Arnside
- Beetham Hall (curtain wall and uninhabited portion), Beetham
- Hazelslack Tower, Beetham
- Ringwork in Dallam Park 380m south east of Dallam Tower, Beetham
- Dog Holes Cave, Warton Crag, Warton
- Badger Hole, Barrow Scout, Warton
- Warton Crag Hillfort, Warton
- Old Rectory, Warton
- Round cairn on Summerhouse Hill, Yealand Conyers
- Stone circle on Summerhouse Hill, Yealand Conyers

Of these, four remain on the Historic England Heritage At Risk Register (2017): Arnside Tower, Hazelslack Tower, Beetham Hall (curtain wall and uninhabited portion) and Warton Crag Hillfort.

At Warton Crag a major project has recently been undertaken to research and investigate the 'hillfort'. While the formal records are still to be updated, the research has resulted in a change in how Historic England interpret the site; what had previously been described as an Iron Age Hillfort is now best interpreted as a Bronze Age Hilltop Enclosure, most likely used as a site with significance for gatherings, rather than as a defensive structure. Work is currently being undertaken to establish a conservation management plan to balance the needs of the archaeology of the site with its natural heritage importance and management. Once this plan is being implemented it is likely that the site will be removed from the Heritage At Risk Register.

Since 2013 Grade II* listed Slackwood Farm has undergone a full restoration and has now been removed from the Heritage At Risk Register.

South Lakeland District Council and Lancaster City Council are currently preparing lists of local heritage assets within their districts which are not protected by a statutory designation. A local heritage asset is a building, structure or man-made landscape of local historic or architectural importance which contributes to the local landscape, the local built character, settlement formation and 'sense of place' but is not covered by statutory legislation. Once these lists are in place, these assets will be more easily managed through the planning system. There are also a range of other non-designated heritage assets and features that make an important contribution to the historic landscape character of the AONB.

Much of the AONB has been managed for many years as part of private estates. Dallam Tower and Leighton Hall estates remain major landowners and manage large parts of the area for farming, forestry and rural sports. Numerous other smaller estates previously existed and had a strong influence in how the landscape developed in particular historic parkland and designed landscapes and gardens associated with estate houses and lands. The 18th century deer park at Dallam Tower is nationally important and registered. Six undesignated historic designed landscapes were identified to be of exceptional interest and quality and potential national importance in a 2013 research study²⁰, including the gardens at The Hyning, which were designed by renowned landscape architect Ralph Hancock, and those at Hazelwood Hall that were designed by Thomas Mawson.

Agricultural features such as ancient enclosure and other traditional field patterns, traditional stone-built farmsteads, farm buildings and field barns, water troughs, milk churn stands, bee boles, mounting blocks, ponds, springs and wells, traditional boundary walls, hedgerows, historic pathways (such as the Coffin Route), milestones and markers, traditional road and directional signage and ancient and veteran trees and woodland, are important and distinctive features of the historic landscape.

Orchards have also been a feature of the landscape for hundreds of years. There are more than 90 orchards and gardens in the AONB²¹, growing a wide range of apple, plum, damson and pear varieties, including a number of rare and unique varieties. While some orchards are well managed, the condition of others is deteriorating and many are in need of concentrated restoration work.

The area has been a thriving industrial as well as agricultural landscape. Features such as limekilns, quarries (both redundant and active), mineral railways, copper/iron mining and processing sites, coppiced woodland and charcoal-making sites, commercial port facilities and shipbuilding tell the story of how the natural resources of the area have been exploited.

Finds such as a Viking Hoard, a collection of over 200 pieces of silver jewellery and coins, found buried in 2011 indicate that there is likely to be a significant resource of hidden features and archaeology, which would add to the understanding of the area's history.

Historic Landscape Characterisation Reports for both Lancashire²² and Cumbria²³ provide valuable tools for understanding the cultural heritage of the AONB.

While some projects have been undertaken, information on social and cultural history of the AONB such as land management practices, local history and development of the villages is at risk of being lost as people get older and if it is not formally recorded in some way.

The traditional settlement character of the area is distinctive including rural character, pattern, layout, and vernacular design and materials. Limestone buildings, many with characteristic features

²⁰ Arnsdale & Silverdale AONB Historic Designed Landscapes Research Report, E. Bennis, 2013

²¹ Orchards of the Arnsdale & Silverdale AONB, 2007

²² The Lancashire Historic Landscape Characterisation Report, December 2002.

²³ Cumbria Historic Landscape Characterisation – final report, July 2009

such as limestone solution features contribute to the area's historic character. There are Conservation Areas in Warton, Yealand and Beetham.

Issues and challenges

- four scheduled monuments remain 'At Risk'
- declining condition and loss of heritage assets and features that contribute to historic landscape character
- lack of information and research about, and recording of, the heritage assets and historic landscape character of the AONB
- the focus on designated assets can make non-designated assets more vulnerable to loss, damage or neglect
- non-designated historic assets that are an important part of the historic landscape and are valued by people are not always well described or recognised
- gradual loss or fragmentation of traditional field patterns resulting from the removal and erosion of field boundaries such as drystone walls and hedges
- loss of and deterioration in condition of orchards and loss of traditional fruit varieties
- risk of harm to the archaeological resource and traditional character of settlements and individual buildings through inappropriate development
- increased likelihood of damage to and deterioration of structure and foundations of historic buildings through storm events, heavier and winter waterlogging due to climate change
- damage to or loss of chimney and associated structures at Jenny Brown's Point due to erosion of salt marsh and sea level rise
- potential to cause harm to historic assets or archaeological sites through works to conserve or enhance biodiversity
- under management or poor management of heritage assets and features

Outcomes

- Historic landscape character is conserved
- Key heritage assets and features retained and sensitively restored
- The area's heritage is well researched and understood

To address the issues and challenges and achieve the objectives and outcomes, decisions, land management and project delivery should:

- establish an historic environment working group to ensure a coordinated AONB-wide approach to conserving, enhancing and improving understanding of historic and cultural heritage
- reduce number of heritage assets that are 'at risk'
- conserve and enhance heritage assets and their settings
- improve knowledge and understanding of heritage and culture through surveys and research programmes
- monitor condition of heritage assets and use this to inform future management and/or restoration
- maintain and improve the Historic Environment Record for the area
- provide advice, guidance and support for owners
- ensure succession planting for ancient, veteran, notable and parkland trees
- restore orchards in need of concentrated restoration work

- undertake surveys to record historical interest before conversion of historic buildings such as farmsteads and barns to new uses
- research and record oral history and cultural heritage
- manage and interpret heritage assets and features
- take targeted action to protect heritage assets at risk of damage due to climate change
- carry out research, field survey and recording of features along the coast that are likely to be lost due to erosion of saltmarsh and sea level rise including the chimney at Jenny Brown's Point
- support the local authorities in preparation of Local Heritage Lists as part of the protective framework for heritage assets
- support local organisations and projects to enhance local capacity, increase awareness of and public involvement in the management of the local historic environment
- encourage uptake of agri-environment schemes to enhance the historic landscape
- raise the profile of archaeology and support the delivery of archaeology-related projects
- promote the historic environment so that people can appreciate and enjoy heritage assets
- research and describe non-designated heritage assets and features
- carefully manage works to conserve or restore biodiversity or geodiversity using a multi-objective approach so that they do not cause harm to heritage

5.1.5 Development management

Development pressure and inappropriate development were identified as one of the most significant issues affecting the AONB in the Management Plan consultation held in early 2018²⁴.

The National Planning Policy Framework sets out national planning policies relevant to AONBs. Local responsibility rests with the relevant local planning authorities: Lancashire and Cumbria County Councils for minerals, waste, highways etc. and Lancaster City Council and South Lakeland District Council for local planning policy and development management. Local Plans set out strategic and development management policies.

Lancaster City Council and South Lakeland District Council are working together towards adoption of a dedicated Development Plan Document (DPD) for Arnsdale & Silverdale AONB, which sets out a landscape capacity-led approach to development management. Once adopted the AONB DPD will be part of the two authorities' Local Plans; it will include specific development management policies for the AONB and a number of land allocations where housing and employment development has been found to be appropriate. It will also designate open spaces within settlements that make a significant contribution to their character as Key Settlement Landscapes, to be protected from development.

The AONB DPD will set out a policy approach to ensure development is planned and managed in a way that conserves and enhances the natural beauty and special qualities of the AONB. Any new development should seek to deliver enhancements to the landscape, biodiversity and settlement character wherever possible. Robust implementation of the AONB DPD will help to enable the local authorities to fulfil their statutory duty to have due regard²⁵ to the AONB purpose in their decision-making with respect to planning matters.

As is the case in many rural areas, within the AONB there is a recognised need for housing to meet local needs, in particular affordable housing. In Arnsdale & Silverdale AONB there are only a very

²⁴ 86% of respondents to the Full AONB Management Plan Review Consultation Survey, 2018, indicated that development pressure was the most important issue affecting the AONB

²⁵ Section 85 of the Countryside and Rights of Way Act (2000)

limited number of sites that are considered appropriate for development (i.e. can be developed without causing harm to the special qualities of the AONB). It is therefore very important to ensure that affordable housing is in fact delivered on the appropriate sites that have been allocated, as well as windfall developments or redevelopments on other sites, otherwise the need and the consequent pressure for development will remain. In order to address this issue, the AONB DPD stipulates that in developments of 2 or more houses, 50% must be affordable²⁶.

Issues and challenges

- inappropriate location, design scale and/or nature of development which causes harm to the area's landscape character, visual amenity or natural and cultural heritage within the AONB or its setting (for example loss of priority habitat, loss of traditional boundaries, impact on heritage features etc.)
- potential pressure for major development within the AONB or its setting including commercial scale energy development such as wind, tidal schemes, overhead wires and pylons or the winning of shale gas by hydraulic fracturing (fracking)
- loss of character and/or features due to insensitive conversion or modification of traditional vernacular buildings e.g. barns, farmsteads
- significant pressure for new housing development leading to potential loss of open spaces within settlements which contribute to rural, landscape and settlement character or encroachment into the countryside
- urbanisation of villages and rural lanes and roads
- securing enhancements through sensitive development
- lack of mains sewerage systems in large parts of the AONB, particularly Silverdale
- if affordable or other local needs are not met on sites which may be suitable for development in the AONB, those needs will remain unmet potentially putting pressure on more sensitive sites
- development just outside the AONB such as large scale holiday complexes and further commercial development along the A6/M6 corridor, has the potential to adversely affect the setting and views out from the AONB, particularly on the eastern margins

Outcomes

- Implementation of a landscape-capacity led approach to development policy and management
- All development is appropriate and sensitive, conserves and enhances the natural beauty, landscape and seascape character and special qualities of the AONB, and helps meet identified local needs

To address the issues and challenges and achieve the objectives and outcomes, decisions, land management and project delivery should:

- ensure all development conserves and enhances the AONB, and avoid major development, consistent with paragraph 172 of the NPPF
- implement a landscape capacity-led approach to planning and development management as set out in the AONB Development Plan Document (AONB DPD) and the districts' Local Plans
- ensure all development conserves and enhances the natural beauty of the AONB and prevent development that would cause harm to the natural and cultural heritage and special qualities of the AONB

²⁶ this paragraph reflects the currently proposed modifications to the Publication Version of the DPD

- ensure that all development management decisions relating to proposals within the AONB or its setting have regard to the AONB Management Plan, AONB Landscape and Seascape Character Assessment and relevant county landscape character assessments
- ensure that the national importance of the AONB landscape is recognised and that policies to ensure the conservation and enhancement of the area are included in new and reviewed plans and policies relevant to the area
- enable the AONB Partnership to provide independent landscape-related planning and policy advice to local authorities, reviewing and making formal responses to planning applications
- provide design guidance in order to encourage sensitive design appropriate to the AONB
- conserve and enhance the landscape and natural beauty of the area, in particular its characteristic features, rural nature, historic character, local distinctiveness, coastal landscape and seascape, visual amenity and views, tranquillity, dark skies and sense of place and space
- respect local traditional settlement character including pattern, layout, scale, design, vernacular tradition and materials
- encourage robust landscape and visual amenity impact assessments which take full account of cumulative and incremental impacts to be undertaken
- deliver housing which closely reflects identified local needs (with affordable housing a high priority) in appropriate locations
- protect and enhance the natural environment in particular the robustness, function and value of ecological networks and ecosystem services
- protect public open space and recreational networks
- support the designation and protection of areas of open space within settlements that make a key contribution to landscape and settlement character as Key Settlement Landscapes
- protect and enhance the historic environment, including historic buildings, heritage assets and their settings and historic landscape features such as drystone walls, field barns, hedgerows, veteran trees etc.
- encourage the highest standards of design, construction and landscaping that respond to the character of the landscape and local built environment and reinforce what is special and locally distinctive about the area
- retain and improve rural services and community facilities in a way that conserves and enhances the special qualities of the AONB
- ensure economic development supports an environment-based economy, is appropriate and environmentally sustainable and does not harm the natural beauty or special qualities of the AONB and environment based economy
- require new development to contribute towards new infrastructures in a way that reflects the AONB purpose with high priority being given to green infrastructure and benefiting walking, cycling and public transport
- restrict caravan, chalet cabin or lodge style development and ensure tourism development is appropriate and environmentally sustainable and does not harm the natural beauty or special qualities of the AONB
- improve and deliver new high quality sewerage infrastructure and sustainable drainage systems
- ensure advertising and signage is appropriate to the AONB implementing restrictions as required
- ensure sensitive design and management of highway and public realm schemes

5.2 Vibrant and sustainable communities

The following objectives will contribute to achieving vibrant and sustainable communities:

Rural livelihoods and an environment-based economy

8. Support landowners and managers to sustainably manage the landscape in a way that conserves and enhances the special qualities of the AONB and delivers a range of environmental, community and local economic benefits.
9. Ensure that the visitor economy is environmentally sustainable and contributes to the conservation and enhancement of the area's special qualities, and enable visitors to have high quality experiences of nature, culture and quiet recreation.

Affordable housing and rural services

10. Enable the delivery of affordable housing and services to help meet local community needs in a way that conserves and enhances the special qualities of the AONB.

Community engagement and volunteering

11. Engage local communities in conserving and enhancing the AONB and encourage active involvement through volunteering.

5.2.1 Rural livelihoods and an environment-based economy

The interdependent relationship between natural beauty, land management, the economy and community is clear. In pursuing the purpose of AONB designation, account must be taken of the needs of agriculture, forestry, other rural industries and the economic and social needs of local communities and particular regard is paid to promoting sustainable forms of social and economic development that in themselves conserve and enhance the environment.

Working to conserve and enhance the exceptionally high quality environment of the AONB helps create the conditions for economic growth and prosperity both locally and in the wider region and creates tangible connections between businesses, communities and nature.

The most recent estimate of the population living in the AONB (mid 2016) is 7070, 480 fewer than in 2011²⁷. The AONB has an older than average population with fewer children and young working age people than in Cumbria and Lancashire as a whole.

Unemployment rates are very low.

²⁷ Census, 2011

Farming and forestry

Farming and forestry have created much of the special landscape that we see today so the health and viability of the land management sector, national policy approaches and work of individual landowners, farmers and land managers are all critical to conserving and enhancing the AONB. Maintaining a viable and sustainable land management sector will be essential to delivering the AONB purpose into the future.

The total number of commercial farm holdings in the AONB in 2016 was 48, with most of these being under 20ha. Farms grazing livestock (beef and dairy cattle and sheep) are the predominant farm type, 63%, with 17% being general cropping farms (predominantly silage). There appears to have been an increase in the percentage of larger farms (>100ha) since 2010 along with a continued shift away from small holdings (<5ha)²⁸.

Following a period of decline, employment in farming within the AONB increased by 23% between 2010 and 2016. In 2016, 26% of those employed in farming were full time farmers, 35% part time and the remainder full and part time employees and casual workers.²⁹

Farming within the AONB has diversified over the years to encompass a range of non-agricultural activities including equestrian uses and the provision of holiday accommodation, campsites and other facilities associated with recreation and rural tourism. Further diversification is likely as wider economic pressures continue to make income from farming unpredictable.

Agri-environment schemes provide funding and support for farmers and land managers to deliver sensitive environmental management on their land. There is significant uptake of Environmental Stewardship and Countryside Stewardship within the AONB, with 24 live agreements in 2018 covering 1314ha. However, overall coverage has decreased over the last 5 years from 2095ha and 33 agreements in 2013.

Nationally, work is being carried out on the design for a successor agri-environment approach after Britain's exit from the European Union. The key drivers behind this are expected to be priority policy objectives contained in the 25 year Environment Plan.

Managing woodlands produces timber, coppice and woodfuel products and supports jobs. The profitability of forestry is dependent on world market prices and the cost of transport, but increasing interest in the use of woodfuel heating and other wood products is creating the potential for the development and growth of a successful local woodfuel economy. This also leads to an expansion of managed woodland within the AONB with resulting benefits to biodiversity and provision of ecosystem services. Woodlands also play an important role in recreation and tourism, supporting the visitor economy. Forest Enterprise manage 221ha woodland in the AONB as part of the Public Forest Estate.

Rural skills

Increasing the number of skilled contractors, land managers and volunteers trained in traditional rural management practices, such as hedgelaying and building drystone walls, carrying out coppice management and maintaining traditional orchards will benefit both the landscape and the local economy. The AONB Partnership runs an annual rural skills programme, providing a range of events, training and competitions and working with local hedgelaying and drystone walling associations and training providers.

²⁸ Defra Agricultural Survey, 2016

²⁹ Defra Agricultural Survey, 2016

Creative and knowledge-based industries

The AONB, with its high quality landscape, clarity of air, spectacular views and diversity of wildlife attracts artists and crafts people who take inspiration from their environment. The Silverdale & Arnside Art and Craft Trail now involves nearly 90 local artists and craftspeople. Educational and knowledge-based businesses and consultancies are increasing. The area is also popular with people who can work remotely through good ICT links. These businesses can contribute to the tourism offer of the AONB and support the local economy as well as providing local employment and training opportunities.

Local products

Consumer interest in foods and products with local provenance is growing. Strong links can be developed between land management, local products and tourism to support the development of valuable short supply chains. Meat (beef, lamb, venison, game), milk, fruit, apple juice, wood products and arts/crafts are all produced in the AONB.

Visitor economy

Tourism is a key component of the local economy. Around 14% of businesses are involved in tourism business activity (7.2% in accommodation and transport, 6.6% in food and beverage & culture and leisure businesses). This compares with 12.4% for all AONBs and 27.3% in National Parks. Tourism accounts for nearly a fifth of total employment within the AONB.³⁰

Tourism in the AONB is largely based on the area's nature, culture, special qualities and quiet outdoor recreational opportunities with a growing food and drink offer. In the 2013 Morecambe Bay Visitor Survey³¹ the most popular reasons for visiting the area were for its beautiful scenery and its peace and tranquillity. Almost 90% of respondents were interested in visiting places where they can see and or experience wildlife. 94% agreed that Morecambe Bay was good for nature and scenery; 70% of visitors agreed that the area was good for culture and heritage.

Key attractions include RSPB Leighton Moss, Leighton Hall, Silverdale Golf Club, Wolf House Tearooms and Gallery, Arnside promenade and Arnside Knott, Warton Crag, Heron Corn Mill and the Cross Bay Walks.

Leighton Moss visitor figures have grown steadily over the last three years from 99,669 in 2015/16 to 114,373 in 2017/18³².

A sustainable approach to the management of tourism in the AONB is required which takes account of the needs of the environment and does not harm, rather enhances, the special qualities of the AONB. The opportunity exists to encourage the tourism industry to be more sustainable. The number of visitors to the AONB is expected to rise in the future and managing this increase while protecting the special qualities of the AONB is a key challenge. It is important to ensure that recreational pressure is managed effectively at a strategic level to ensure pressures are minimised.

Issues and challenges

- an older than average population and loss of young people affects the ability of the area to maintain a vibrant local economy
- lack of economic and business information applicable to the AONB boundary
- sustaining viable rural, farming and forestry businesses and livelihoods

³⁰ Protected Landscapes Monitoring, Source: IDBR, 2009, Local Units

³¹ Morecambe Bay Visitor Survey, 2013

³² RSPB data, 2018

- uncertainty about future of public funding for agri-environment and rural development schemes
- loss of expertise in traditional rural skills and land management practices such as hedgelaying, drystone walling, woodland management, coppicing and orchard management
- developing short supply chains for and marketing of local products
- limited access to training, business support and networking
- maximising opportunities for businesses to link directly with the landscape/special qualities of the AONB
- detrimental impacts on landscape character, visual amenity and the coast from tourism development in particular detrimental impacts of caravan development including cumulative impacts, urbanisation of sites, erosion of undeveloped coastline, loss of tranquillity and increased traffic (including frequent transportation of static caravans requiring escort vehicles) on narrow lanes of the area

Outcomes

- Viable high nature-value farming and forestry delivering a wide range of public benefits including conservation and enhancement of natural beauty
- Sustainable land management producing high quality products with short supply chains
- Environmentally-sustainable businesses linked strongly to the nature and culture of the AONB
- A high quality sustainable tourism offer – quiet recreation, nature, culture, local food/ products, arts and crafts - benefitting the local landscape, environment and economy

To address the issues and challenges and achieve the objectives and outcomes, decisions, land management and project delivery should:

- promote an environment-based local economy strongly linked to conserving and enhancing the AONB
- provide bespoke advice and support to landowners and managers
- establish an AONB Land Management Network providing information, knowledge sharing, training and events
- implement the Morecambe Bay Countryside Stewardship Facilitation Scheme
- influence, test and trial new approaches to agri-environment schemes post-Brexit and support and encourage uptake of any new environmental land management scheme once it is launched
- develop and support a network of woodland management and woodfuel businesses to make greater use of under-managed woodlands and add value to locally produced wood products
- support social forestry initiatives including Silverdale District Wood Bank
- deliver an AONB rural skills programme (competitions, demonstrations and training events)
- provide apprenticeships / graduate traineeships / internships/ training contracts
- deliver local food and products initiatives - support development of short supply chains which link land management, local products and tourism, and promote local food and products
- ensure tourism development is consistent with the AONB purpose of designation and does not cause harm to the AONB's special qualities including encouraging an environmentally responsible tourism industry (e.g. by encouraging uptake of schemes which improve environmental performance of a business such as the Green Tourism Business Scheme) and managing impacts of tourism growth

- establish an AONB Business Network providing information, advice, knowledge sharing, familiarisation visits, training and events
- promote and support Silverdale and Arnside Arts Trail
- improve understanding of visitor numbers, perceptions and spend within the area by carrying out a business and visitor survey
- effectively market and promote the area using Morecambe Bay destination branding – a collective approach by local authorities, Cumbria Tourism and Marketing Lancashire and a range of other organisations
- ensure appropriate, accurate and positive messages are promoted about the sustainable tourism offer in the AONB
- promote the AONB Visitor Charter
- liaise with local economic partnerships and other relevant organisations
- enable businesses to understand and to work together to promote the wildlife, cultural and recreational experiences the area has to offer
- develop a sustainable visitor giving package
- manage key visitor sites and gateways and monitor impacts including recreational disturbance

5.2.2 Affordable housing and rural services

The continued higher cost of housing in the area compared with average earnings means that provision of affordable housing for local need remains an issue. While this is recognised nationwide, the affordability ratio (average house price to household income) within the AONB is significantly higher than the national average. The Housing Needs Survey for the AONB identified the need for 72 affordable houses. However, while some schemes are in progress and there has been some delivery outside the AONB, no affordable houses have been completed within the AONB over the last five years.

It is hoped this trend can be changed through implementation of the AONB DPD, which identifies appropriate locations for affordable housing which will not have significant detrimental impact on landscape character and stipulates 50% affordable homes on every development of 2 or more houses³³.

Local services and facilities, including schools, doctors' surgeries, shops, post offices, garages and pubs, all contribute to the quality of life of the AONB's communities and are also important to the visitor economy. To maintain the vibrancy of local communities, identified as one of the special qualities of the AONB, retention of these services, alongside provision of affordable housing, is vital. Minimising the distances people have to travel to access services also contributes to reducing CO₂ emissions.

There are thriving primary schools and village/community halls in all of the AONB villages and there are convenience stores/post offices, in all except the Yealands. The largest settlements of Arnside and Silverdale both have medical practices, libraries and a range of other shops and services.

There is regular access to and from the AONB by public transport, principally by rail via the Furness line, which crosses the area with stations at Arnside, Silverdale and nearby Carnforth. This line provides connections with the rest of Morecambe Bay such as Lancaster, Grange, Ulverston and Barrow and the wider region, with direct services to Lancaster and Manchester. Passenger numbers

³³ this reflects the currently proposed modifications to the Publication Version of the DPD

at all three stations have increased over the past five years – by 1% at Carnforth, 22% at Silverdale and 0.5% at Arnside³⁴.

The Carnforth Connect initiative provides a local bus service from Carnforth Station to Yealand Redmayne and the Silverdale Shuttle provides a link between the railway station and the village. There are limited bus services to Kendal and Lancaster. However, travel by bus within the AONB can be difficult, with lack of coordination of services between the Lancashire and Cumbria parts of the AONB and infrequent services. For example, there is no bus service between Arnside and Silverdale. There is clearly scope to encourage the use of sustainable transport options such as public transport, cycling and walking as alternative means of getting to and from the AONB and travelling around and enjoying the special qualities of the AONB.

There is limited but improving mobile phone and superfast broadband coverage.

Issues and challenges

- the need to deliver housing which meets local needs, with affordable housing as a particular priority, without harm to the special qualities of the AONB
- low level of affordable/local needs housing delivery
- retention of local rural services and facilities
- limited mobile phone and superfast broadband coverage in some parts of the AONB
- reliance on private cars for travel and under-use of sustainable forms of transport leading to detrimental impact of vehicles and traffic on the AONB's character and tranquillity
- decline in bus and train services and need for improvements to station infrastructure
- lack of car parking and cycling and walking infrastructure provision in some locations

Outcomes

- Retention/enhancement of rural services and delivery of appropriate affordable housing schemes and facilities to meet local needs and in a way that conserves and enhances the special qualities of the AONB

To address the issues and challenges and achieve the objectives and outcomes, decisions, land management and project delivery should:

- prioritise delivery of affordable housing in appropriate locations and retention of local services and facilities in policy and decision-making
- ensure any new infrastructure and/or facilities are delivered in a way that conserves and enhances the special qualities of the AONB
- promote use of sustainable transport options particularly bus/train travel, cycling and walking for both residents and visitors to help retain usage of local services and mitigate against climate change
- improve station facilities and information so that Arnside and Silverdale stations act as arrival hubs for visitors
- promote the interests of the Furness train line as a key transport link especially through the activities of the Furness Line Community Rail Partnership (FCRP)
- support Broadband 4 the Rural North (B4RN) and other bodies to achieve enhanced super/hyperfast broadband connections and mobile phone signal coverage in a way that does

³⁴ Office of Rail and Road Data

not harm the special qualities of the AONB and avoids new vertical infrastructure in sensitive locations

5.2.3 Community engagement and volunteering

Sustaining the vibrant communities of the AONB and retaining a feeling of shared identity is very important. There is a concentration of local societies and groups that share interests in the special qualities of the AONB. Awareness of the designation in the local community is considered to be high, although there are still residents who know little about the area and its protected landscape status. The AONB Partnership is seeking to put people at the heart of policy-making. Supporting the community to take part in managing and making decisions about the future conservation and enhancement of the area is essential in building sustainability of the AONB Partnership.

The contribution to local community life made by all kinds of volunteer activity across a broad spectrum of interests and activities is widely recognised. Encouraging continued and wider voluntary involvement by residents in supporting the conservation and enhancement of the AONB through, for example, the AONB volunteer programme and the AONB Landscape Trust, will be an important element in supporting community vibrancy.

There are numerous opportunities to support the area's local groups and societies enabling people to meet, talk and share experiences of the area. Encouraging community participation in decision-making offers an opportunity to strengthen involvement and community ownership. Vibrant, active and engaged communities are at the heart of delivering the AONB Management Plan. There is long-standing Parish Council representation on the AONB Executive Committee and good participation in AONB Management Plan consultation process.

The Arnside & Silverdale AONB Landscape Trust is a registered charity with over 1100³⁵ members, run entirely by volunteers, and plays an important role in raising awareness of and achieving conservation of the AONB. The Trust owns a network of nature reserves which it manages for conservation, publishes Keer to Kent magazine and organises a popular annual events programme, all of which are instrumental in helping the public understand more about the AONB and its management. The Trust is one of the largest charities in the country that is associated with an AONB.

The Bittern Countryside CIC is a social enterprise, run entirely by volunteers, that seeks to promote a more sustainable future by delivering a programme of community-based sustainable development initiatives with local communities, businesses and organisations active in and around the AONB. For example the CIC has undertaken a community renewables scheme and a project to address fuel poverty.

There is tremendous scope for local people to take an active role in conserving the character of the AONB and there are many local groups across the AONB which come together as communities of place or interest. Where these are connected to the purposes of the AONB designation, every effort should be made to build capacity of and support for these organisations and to work collaboratively to develop appropriate initiatives and projects.

Further opportunities exist to establish and support community-led volunteer groups to take action to conserve and enhance key sites.

³⁵ The Landscape Trust had 1126 members in January 2018

Issues and challenges

- encouraging effective engagement, participation and representation by local communities in the management of and decision-making about the AONB - putting people at the heart of policy-making
- supporting communities to conserve and enhance the special qualities of the AONB
- maintaining a shared sense of identity linked to the AONB and its special qualities
- maintaining a high level of volunteer involvement
- the global need to reduce carbon emissions, reduce consumption of natural resources and adopt sustainable lifestyles

Outcomes

- Communities are engaged and involved with caring for the AONB

To address the issues and challenges and achieve the objectives and outcomes, decisions, land management and project delivery should:

- ensure effective inclusive consultation and participation regarding AONB policy
- seek people's views, experiences and ambitions for their environment, in order to understand what environmental features and services people value and how people wish to access the natural environment
- maintain Parish Council representation on AONB Executive Committee
- deliver the AONB Grants Fund – a small grants scheme managed by the AONB Partnership and Landscape Trust working together, to enable projects which support AONB Management Plan delivery
- support and build the capacity of community-led organisations which directly support the conservation of the AONB in particular the AONB Landscape Trust, Bittern Countryside CIC and Silverdale District Wood Bank
- support and promote practical volunteering programmes via the AONB Partnership, Landscape Trust, National Trust, RSPB, Butterfly Conservation, Natural England etc.
- support and encourage community initiatives and groups which help to conserve and enhance the area including Friends groups, Arnside District Natural History Society, John Barnes Memorial Trust, Mourholme Society, Arnside Archive etc.
- run a successful AONB Volunteer Programme providing opportunities to engage in practical conservation management tasks, monitoring, administration and event support
- support sustainability and low carbon living initiatives
- work alongside communities, helping them to identify local issues and develop innovative solutions, whilst conserving and enhancing the special qualities of the local natural and built environment
- deliver a programme of litter picks and beach cleans

5.3 A strong connection between people and the landscape

The following objectives will contribute to achieving a strong connection between people and the landscape:

Enjoyment and understanding

12. Provide high quality information, events and activities to enable people to enjoy, learn about and celebrate the AONB's special qualities in a sustainable way.

Access and recreation

13. Maintain and improve access to the coast and countryside in a sustainable way for a diverse range of people and promote responsible and safe quiet recreation.

Health and wellbeing

14. Provide opportunities for people to improve their health and wellbeing by connecting with nature, culture and the landscape

5.3.1 Enjoyment and understanding

Encouraging enjoyment and improving understanding of the special qualities of the AONB and the benefits provided to society by the landscape generates support and positive action for conservation, contributes to the local economy and improves the quality of people's lives. Information, interpretation and communications raise awareness; events and activities encourage more and a wider range of people to connect deeply to nature, culture and landscape.

The tourism offer within the AONB is based on the area's special qualities. Visitors' experiences are enhanced by good quality information being available about the special qualities, and about how people can experience them and support their conservation. Promotion of opportunities for quiet enjoyment such as walking, running, cycling and bird watching enables visitors to make the most of what the area has to offer.

We know that many people care passionately about Arnside & Silverdale AONB. An online study carried out in 2016 saw over 100 people placing pins on an online map to describe how and why they valued the landscape. The results clearly showed the AONB is much loved and highly valued particularly for its beauty, views, wildlife, sense of place, tranquillity and recreational opportunities³⁶.

The AONB Partnership produces a variety of high quality online and printed communications and operates a small Information Centre at Arnside station. There were 95,942 unique pageviews on the AONB website in 2017/18 and 1734 face to face enquiries were dealt with at the AONB Information Centre in 2017. In September 2018 the AONB Facebook page had 1611 followers, with 2788 on Twitter and there were 791 subscribers to the AONB e-newsletter.

³⁶ Natural Capital and Resilient Landscapes in Arnside & Silverdale AONB Report, 2017

Events encourage people to enjoy, learn about and celebrate the special qualities of the area, connecting people with nature and encouraging participation and engagement. Partner organisations organise a vibrant programme of events throughout the year for all age groups including walks, talks, activities and festivals.

For example, the AONB Partnership's Go Wild! initiative encourages children and families to get outside and have fun. It brings together a whole series of events for schools and families happening across the area. A Woodland Fun Day held in July 2018 attracted over 100 people to build dens, play games and enjoy the woodland and a series of successful Land Art events promote a deep connection with nature through art.

Over 900 visitors attended the AONB Apple Day in 2017 to celebrate the orchards of the AONB, the wildlife they support and the associated local produce. An AONB Annual Conference is held with a different theme each year; over 60 people attended in 2018.

A broad range of educational activity is delivered including working with local Primary and Secondary schools, hosting work experience placements, supporting University field visits and research, presenting specialist subject talks to local groups and societies and leading guided visits for a range of groups.

For example, in 2017 over 25 educational group visits were hosted at Warton Crag Local Nature Reserve and over 2000 school pupils visited RSPB Leighton Moss.

Nationally there is relatively low awareness of AONB designation.

Issues and challenges

- the need to raise awareness and understanding about the area, its special qualities and opportunities for enjoyment
- maintaining high quality and up to date communications with limited resources including responding to the changing ways people use and consume data and information
- maximising opportunities for lifelong learning
- providing and resourcing a wide range of events and activities to engage with different audiences including those with additional needs
- lack of resources to cover transport costs for school visits
- the national issue of children and young people losing their connection with nature
- a highly competitive environment for attracting funding support

Outcomes

- High awareness and understanding of the AONB designation and the special qualities of the AONB
- More and wider range of people connecting deeply to nature and the landscape through opportunities to enjoy and appreciate the special qualities of the AONB

To address the issues and challenges and achieve the objectives and outcomes, decisions, land management and project delivery should:

- take a strategic approach to communications, providing a variety of high quality online and printed communication and interpretation materials with a recognisable and consistent 'AONB identity'

- provide high quality visitor information and interpretation
- promote walking, running, cycling, horse riding and wildlife watching and other forms of quiet recreation as ways of enjoying the AONB
- offer an integrated and coordinated annual AONB programme of events, guided walks, festivals, talks and conferences - including a flagship biennial AONB event (Apple Day or similar) and Annual Conference
- run and support education programmes for primary and secondary schools (e.g. Forest Schools, John Muir Award, links with urban areas) in particular offering structured educational visits to key sites such as the Local Nature Reserves and RSPB Leighton Moss
- connect with and work in partnership with Universities to encourage research projects and field studies
- operate the AONB Information Centre at Arnside Station
- deliver projects to interpret and celebrate the special qualities of the AONB
- use AONB events and educational visits to encourage participation and engagement by young people, helping develop their voice in setting future policy for conserving and enhancing the AONB

5.3.2 Access and recreation

There is an extensive network of over 110km of Public Rights of Way (PRoW) within the AONB, including footpaths and bridleways, and there are also numerous permissive paths. Significant areas of the AONB are openly accessible to the public such as the Local and National Nature Reserves and National Trust-owned land. Ranger and wardening services are provided on many of these sites. Footpaths are largely signposted with high quality wooden directional way markers.

The contribution of the access network to the local economy should be fully recognised; retaining, maintaining, improving and promoting this access network will enable residents and visitors to continue to have a high quality experience of the area.

Improving opportunities for people with disabilities and/or reduced mobility to enjoy the area is a priority. The AONB Trampler is currently hosted at RSPB Leighton Moss to enable people with limited mobility to discover the reserve; it has been used over 200 times so far in 2018. The More to Explore project is now enabling new routes to be added so that Trampler users can also explore further afield for example at Gait Barrows National Nature Reserve and at Sandside embankment.

The bridleway network for horses has the potential to be extended to improve availability and connectivity of routes.

Delivery of the England Coast Path is a current priority for Natural England. This will establish new access to the coast in certain locations. Habitats Regulations Assessments will ensure no adverse impact on the interest features of Natura 2000 sites (SAC, SPA, Ramsar).

National Cycle Network Routes 6 and 700 pass through the AONB. The Morecambe Bay Cycle Way (Route 700) was established in 2015 and attracts many people to enjoy the coast between Walney and Glasson Dock, with part of the route tracking the coastline of the AONB. Figures supplied by Morecambe Bay Partnership suggest that The Bay Cycle Way brings over 50,000 cyclists to explore the wider Bay area each year.

The development of a footpath and cycleway link from Arnside to Grange across the viaduct would provide a key strategic access link and a significant new visitor attraction.

The coastal area of the AONB can be dangerous, with shifting quicksands and fast incoming tides; Arnside coastguard have responded to 37 incidents so far in 2018. It is therefore important that information regarding safe access on the coast is widely available and promoted. Increased coastal access and the loss of salt marsh along the AONB coast due to natural erosion is likely to lead to increased risk of more people using the intertidal sandflats for recreation. In developing and implementing coastal access every opportunity should be taken to promote safety on the sands.

While the vast majority of people treat the countryside with respect, public access can lead to issues that cause problems for landowners. Public access particularly with dogs, can disturb grazing livestock or wildlife on sensitive sites. Dog attacks on sheep or cattle cause a significant impact on farmers' livelihoods. Noise disturbance, cycling on footpaths, damage to infrastructure, litter and dog fouling are all potential issues which need to be managed. Working in partnership with landowners to tackle issues, increasing awareness of potential impacts and encouraging responsible behaviour in the countryside is therefore of high priority; The Countryside Code is a powerful tool to help with this. Access to particular areas, such as Warton and Kent Estuary saltmarshes, needs to be restricted to avoid disturbance to breeding and roosting birds.

Issues and challenges

- the need to maintain the Public Rights of Way network to a high standard
- improving public access for a wide range of people including those with disabilities often requires the cooperation of many different partners, stakeholders and landowners and ability to attract sufficient resources
- relative lack of bridleway routes for horses in the AONB and off road cycling routes
- maintaining high quality signage for the AONB access network
- irresponsible behaviour in the countryside
- recreational disturbance of wildlife on the coast and other sensitive sites
- disturbance of and attacks on grazing livestock by dogs and dog fouling
- public safety, particularly on the coast
- increasing volume and speed of road traffic
- erosion of paths at key locations
- recreational activity that can cause disturbance and other detrimental impacts e.g. jet skis, motorbikes on the foreshore and mountain bikes on footpaths

Outcomes

- A high quality and well managed access network facilitates enjoyment of the AONB for a diverse range of people
- People are enjoying the coast and countryside safely and responsibly

To address the issues and challenges and achieve the objectives and outcomes, decisions, land management and project delivery should:

- maintain PRoW network to a high standard
- identify opportunities to improve and/or expand public access, engage partners and deliver appropriate schemes
- work in partnership to adopt the section of the England Coast Path through the AONB

- increase opportunities for disabled people and those with additional needs to enjoy the countryside
- continue to make the AONB Tramper available for use at RSPB Leighton Moss and develop the network of Tramper routes through the More to Explore project
- improve network and connectivity of bridleways for horses
- secure agreements for permissive paths at appropriate strategic locations
- provide high quality and consistent style of path waymarker signposts throughout the area
- encourage and promote responsible behaviour in the countryside, particularly in relation to dogs
- actively promote The Countryside Code
- work with landowners to address site specific access issues where appropriate
- develop and promote a new Coastal Code which raises awareness about public safety on the sands and recreational disturbance of wildlife
- work towards securing a new footpath/cycleway link to Grange over Sands across Arnside viaduct
- provide a variety of downloadable self-guided routes on the AONB website
- promote sustainable forms of travel including public transport, walking and cycling (including electric bikes) to contribute to people's wellbeing and mitigate climate change
- develop and promote a Coastal Code
- minimise recreational disturbance of sensitive sites wherever possible, restricting access if required

5.3.3 Health and wellbeing

95% of people living in the AONB reported that they were in 'very good, good or fair' health in the 2011 Census, slightly above average.

Better health and wellbeing are major social and economic benefits that can be secured through good management of the natural environment. The AONB landscape provides relevant cultural ecosystem services including beauty, sense of place and space, tranquillity, recreation and sense of history; health and wellbeing benefits arise from relaxation and unwinding, exercise, connection to nature, fresh air, inspiration and spiritual refreshment.

Active outdoor activity such as walking, running, cycling and conservation work has been shown to boost both mental and physical health and wellbeing including enabling people to lead happier more fulfilling lives. Good access to the countryside is key to delivering these benefits and the AONB offers a range of opportunities to enjoy the countryside. For example, over 500 people took part in the AONB Walking Festival in 2012. Volunteering offers valuable opportunities to participate in active sociable tasks which make a real difference. The wide range of opportunities to enjoy the countryside represents one of the special qualities of the AONB.

There are also proven therapeutic effects of natural beauty and nature and tailored activities can help tackle national health issues such as obesity and social exclusion, or bring benefits to those with life limiting conditions such as dementia.

The AONB Partnership is well placed to contribute to public health and wellbeing through its work to conserve and enhance the natural environment of the AONB and through the management and promotion of opportunities to access and enjoy it.

Issues and challenges

- national public health issues such as obesity and social exclusion
- barriers to accessing nature and the countryside
- low level of collaboration between the environmental and health and wellbeing sectors

Outcomes

- The natural and cultural heritage of the AONB offers a wide range of opportunities to improve people's health and well being

To address the issues and challenges and achieve the objectives and outcomes, decisions, land management and project delivery should:

- enable people to improve their health and wellbeing through accessing natural beauty and nature
- deliver Walking for Health-style initiatives
- offer a programme of therapeutic walks / outdoor experiences for people with a range of needs, e.g. dementia support
- promote regular and meaningful physical activity and help to improve mental health and wellbeing, tackle social inclusion (e.g. such as through leading walks and promoting walking, running, cycling and other physical activities within the AONB) and attempt to increase grassroots participation
- promote the network of footpaths and public rights of way, outdoor tourism and associated activities
- offer opportunities for schools from nearby urban areas to access and discover the AONB
- build new partnerships between the environmental and health and wellbeing sectors

6 Delivering the Plan

6.1 Delivery

Section 5 sets out the actions that will need to be delivered to conserve and enhance the special qualities of Arnside & Silverdale AONB.

Delivery will be achieved in a variety of different ways and will be undertaken by many partner organisations, landowners and managers, businesses, individuals and groups. We know that the mechanisms for delivery are likely to change significantly during the lifetime of the AONB Management Plan.

However, the Plan will act as a framework so that land management, decision-making and projects deliver conservation and enhancement of the AONB, whatever changes occur and whatever the political and funding context.

All delivery will be carried out in a way that supports the AONB purpose and causes no harm to Natura 2000 sites.

6.2 A dynamic and successful partnership

Dynamic and successful partnership working is critical to enable delivery of the Management Plan and to create a strong and resilient AONB Partnership. The AONB Team plays an essential role in this process: providing management and leadership; making things happen on the ground, translating vision and national policy into local action; stimulating collaboration and delivering results; and providing value for money by accessing funding and resources.

Partners believe that:

- the long-term resourcing of the AONB Team is a critical success factor in the delivery of this Management Plan
- AONB management structures should be strongly supported by partners and relevant authorities
- the statutory requirement to produce Management Plans provides an important opportunity to strengthen partnerships and achieve better outcomes
- security and flexibility of funding for AONBs will deliver better outcomes
- training and skills development is an important element in delivering the Management Plan

Implementation of this AONB Management Plan will need the support and involvement of many organisations and individuals who play an important role in the future of the area. There are likely to be opportunities for sharing resources and collaborating to provide value for money.

Sustaining the exceptional landscape of Arnside & Silverdale AONB is a major challenge and requires significant investment. In order to successfully deliver many of the actions, additional resources will need to be secured. It will therefore be a key priority for the AONB Team to secure additional funding from a range of external sources.

7 Monitoring

The Management Plan is not an end in itself. Monitoring is required in order to identify whether or not the Plan is achieving the purpose of designation – to conserve and enhance the natural beauty of the AONB.

Monitoring has been undertaken in response to previous AONB Management Plans and this data provides the evidence on which this Management Plan is based and forms a baseline for monitoring over the next 5 years. This information will be presented in the State of the AONB Report to be published in 2019.

Monitoring will take two forms:

- monitoring performance: to establish how well the Partnership is progressing in delivering the Plan's objectives and actions; and
- monitoring condition: to establish whether the special qualities/features of the AONB are in favourable condition, showing no change or deteriorating and hence whether the aim of conserving and enhancing the AONB is being achieved.

Monitoring performance will involve collecting data from partners to demonstrate delivery. Performance will also be monitored by reviewing progress on actions in the AONB Team Business Plan. An AONB Annual Report will be produced detailing and evaluating progress with implementing the Plan and summarising achievements of the AONB Partnership.

Monitoring condition will make the best use of data collected by a range of organisations and interest groups. It is important that changes in condition are monitored against a baseline set of evidence, and a number of indicators for which data is available will be used for this process. As new issues present themselves, new indicators may be needed and an initial baseline will need to be established.

Indicators that are proposed for monitoring implementation of the Management Plan are shown in Appendix 2.

8 Glossary of terms

Agri-environment Scheme

A scheme that will provide funding to farmers and other land managers in England to deliver effective environmental management on their land including Environmental Stewardship, the English Woodland Grant Scheme and Countryside Stewardship.

AONB

Areas of Outstanding Natural Beauty are areas of high scenic quality that have statutory protection in order to conserve and enhance the natural beauty of their landscapes. AONBs are designated solely for their landscape qualities, for the purpose of conserving and enhancing their natural beauty (which includes landform, geology, plants, animals, landscape features and the history of human settlement over time).

Appropriate

Within the AONB Management Plan the word “appropriate” is generally used to mean “appropriate to the AONB statutory purpose and designation and the AONB’s special qualities” unless it is being quoted from another source, document or policy statement etc.

Biodiversity

The variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems

Buffer zone

Areas between core protected areas and the surrounding landscape or seascape which protect the network from potentially damaging external influences and which are essentially transitional areas.

Calcareous

Mostly or partly composed of calcium carbonate, calcium or limestone.

Carbon sequestration

The process of capture and long-term storage of atmospheric carbon dioxide (CO₂).

Carboniferous period

Geological time period dated 385 - 300 million years before present.

Carboniferous limestone

Sedimentary rock laid down in a warm tropical sea some 340 - 320 million years ago.

Conservation Area (building)

Conservation Areas are places of special architectural or historic interest where it is desirable to preserve and enhance the character and appearance of such areas.

Corridor

Way of maintaining physical linkages between core areas for vital ecological or environmental connectivity.

Ecosystem

A dynamic complex of plant, animal and microorganism communities and their non-living environment interacting as a functional unit.

Ecosystem services

The benefits people obtain from ecosystems. These include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, spiritual, religious and other non-material benefits.

Favourable condition

Favourable condition means that the SSSI land is being adequately conserved and is meeting its 'conservation objectives'; however, there is scope for the enhancement of these sites. Unfavourable **recovering condition** is often known simply as 'recovering'. SSSI units are not yet fully conserved but all the necessary management measures are in place. Provided that the recovery work is sustained, the SSSI will reach favourable condition in time. The condition of the SSSI land in England

is assessed by Natural England, using categories agreed across England, Scotland, Wales, and Northern Ireland through the Joint Nature Conservation Committee.

Geodiversity

The diversity of minerals, rocks (whether “solid” or “drift”), fossils, landforms, sediments and soils, together with the natural processes that constitute the Earth’s topography, landscape and the underlying structure.

Geology

Science of the Earth (and other planets), including origin, structure, composition, development and history (including the development of life), and the processes that have given rise to their present state.

Glacial processes

The processes of erosion and deposition of land arising from the presence and/or movement of an ice mass on a landscape

Green Tourism Business Scheme

A national sustainable tourism certification scheme.

Karst

Water-worn limestone scenery, where erosion has principally occurred through the percolation of ground water and underground streams rather than surface run-off and typically includes the development of limestone pavements and cave systems. Paleokarst is the general term for ancient karst features that have been fossilised or preserved.

Limestone pavement

Continuous areas of exposed limestone consisting of rock blocks (clints) interspersed with cracks/clefts (grikes).

Local Nature Reserve

Land owned by a local authority can be established as a Local Nature Reserve by that local authority in consultation with Natural England.

Local Wildlife Sites

Commonly known as Biological Heritage Sites in Lancashire and as County Wildlife Sites in Cumbria, these sites are of local or regional importance for biodiversity. These sites do not enjoy direct statutory protection but are the subject of specific Local Plan policies aimed at ensuring their wellbeing.

Marl

A lime-rich mud laid down in freshwater conditions, which has high levels of carbonate material, usually calcium carbonate (calcite) that precipitates out, giving a gritty coating over substrates.

National Nature Reserve

Established to protect some of the country’s most important habitats, species and geology and to provide outdoor ‘laboratories for research. About two thirds of England’s NNRs are managed by Natural England, as is the case for GAIT Barrows within the AONB.

Natura 2000

An EU-wide network of nature protection areas established under the 1992 Habitats Directive. The aim of the network is to assure the long-term survival of Europe’s most valuable and threatened species and habitats. It is comprised of Special Areas of Conservation (SAC) designated under the Habitats Directive, and also incorporates Special Protection Areas (SPAs) designated under the 1979 Birds Directive and Ramsar sites, wetland sites of international importance designated under the Ramsar Convention.

Priority habitats and species

UK BAP priority species and habitats were those that were identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan (UK BAP). The original list of UK BAP priority species was created between 1995 and 1999. In 2007, however, a revised list was produced, following a 2-year review of UK BAP processes and priorities, which included a review of the priority species and habitats lists. As a result of new drivers and requirements, the ‘UK Post-2010 Biodiversity Framework’, published in July 2012, has now succeeded the UK BAP. The UK BAP lists of priority species and habitats remain, however, important and valuable reference sources. Notably, they have been used to help draw up statutory lists of priorities in England. The

Natural Environment and Rural Communities (NERC) Act came into force on 1st Oct 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England.

Resilience

In the field of ecology, resilience means building the capacity of a system to withstand shocks and to rebuild and respond to change, particularly unanticipated change. The Resilience Alliance defines resilience as the capacity of a system to absorb disturbance, undergo change and still retain essentially the same function, structure, identity and feedbacks. **Climate change resilience** is the capacity of an individual, community or institution to respond dynamically and effectively to shifting climate impacts circumstances while continuing to function at an acceptable level. Simply put it is the ability to survive and recover from the effects of climate change. It includes the ability to understand potential impacts and to take appropriate action before, during and after a particular consequence to minimise negative impacts and maintain the ability to respond to changing conditions.

Sites of Special Scientific Interest (SSSI)

Sites of national importance for their plants, animals, or geological or physiographical features designated by Natural England under the Wildlife and Countryside Act 1981.

Special Areas of Conservation (SACs)

Areas that are protected under the EC Habitats Directive. They are sites of community importance for habitats or species listed under the Directive where a 'favourable conservation status' is to be maintained or restored.

Special Protection Areas (SPAs)

Areas that are protected under the EC Birds Directive 1979 for vulnerable species listed on Annex1 of the Directive and also regularly occurring migratory species.

Stakeholders

Those individuals or organisations which are vital to the success or failure of an organisation or project. Primary stakeholders are those needed for permission, approval, implementation and financial support and also those who are directly affected by the activities of the organisation or project. Secondary stakeholders are those who are indirectly involved or affected.

Sustainable Development

A widely accepted definition is: 'development which meets the needs of the present without compromising the ability of future generations to meet their own needs'.

Sustainability

The ability to maintain a certain process or state. It is now most frequently used in connection with biological and human systems. In an ecological context, sustainability can be defined as the ability of an ecosystem to maintain ecological processes, functions, biodiversity and productivity into the future.

APPENDIX 1 Arnside & Silverdale AONB Partnership Executive Committee members

Cumbria County Council
Lancashire County Council
Lancaster City Council
South Lakeland District Council
Environment Agency
Natural England
Arnside Parish Council
Beetham Parish Council
Silverdale Parish Council
Warton Parish Council
Yealand Conyers Parish Council
Yealand Redmayne Parish Council
Arnside & Silverdale AONB Landscape Trust
Campaign to Protect Rural England
Country Land and Business Association
Royal Society for the Protection of Birds
National Farmers Union
National Trust
Wildlife Trusts
Ramblers
North Lancashire Bridleway Association
Farming/landowner representative
Business/tourism representatives x2

APPENDIX 2 Proposed indicators

Please note some data is to be confirmed.

Description	Source	Latest data
An outstanding landscape, rich in natural and cultural heritage		
Landscape and Seascape		
<i>Landscape characterisation/quality</i>		
Landscape character type condition	AONB LSCA	3 good 3 moderate to good
CQuel	NE	Data to be confirmed
Farmed landscape		
Number of /area managed under agri-environment agreements	PLNB3	In 2018: 19 Environmental Stewardship agreements were live, and of these 1 were at Higher Level 5 Countryside Stewardship agreements were live 1196 ha within the AONB was in Environmental Stewardship, including 25% at Higher Level 118 ha was in Countryside Stewardship, including 96% at High Tier
The uptake of themed groups of ES options that contribute to conserving and enhancing landscape character	PLNB1	In 2018: Area of land under ES specifically for the management and protection of archaeological features was 14.4ha Number of hedgerow trees and in-field trees managed under ES was 304 Area of woodland managed and created under ES was 30ha Area of low input grassland managed, restored or created under ES was 272ha
Land use within the agricultural setting	Defra Agricultural Survey, 2016	In 2016: 80% of the farmed land was grassland 11% was woodland 5% was crops and bare fallow
Livestock numbers	Defra Agricultural Survey, 2016	In 2016 livestock numbers within the AONB were: 2570 cattle (257 beef herd, 621 dairy herd) 12,047 sheep 10,580 poultry 62 horses
Woodland landscape		
Area and % of AONB which is woodland	PLEco5	In 2015: The area of woodland in the AONB is 1,559ha
Area and % of Ancient Woodland	PLNB13	The area of Ancient Woodland in the AONB 652ha
Woodland in Active Management	PLNB2	In 2017: 73 % of woodland is in positive management
Number of ancient, veteran and notable trees	Ancient tree inventory	Ancient trees – 2 Veteran trees – 110 Notable trees - 16

Area of Forestry Commission managed land	FC	221ha
Development		
Number of planning approvals within the AONB (years 2013 to 2017)	SLDC LCiC CCC LCC	Data to be confirmed
Number of new homes delivered within the AONB (years 2013 to 2017)	SLDC LCiC	New homes within the AONB: 33
Number of formal responses to planning applications (2013 – 2017) submitted by the AONB Partnership	AONB	Number of formal responses to planning applications submitted by the AONB Partnership: 2013 - 15 2014 - 36 2015 - 56 2016 - 59 2017 - 59
Biodiversity		
Designated sites		
Number/area of sites and % of AONB	NE/MAGIC	Data to be confirmed
Condition of SSSIs	PLNB12	In 2018: 99.1% in favourable or recovering condition
Condition of broad habitats within SSSIs Woodland, grassland, freshwater wetlands, coastal habitats	PLNB 5	In 2017: 98.7 % of Broadleaved, mixed and yew woodland (upland) 100% of Calcareous grassland (lowland) 100% of Calcareous grassland (lowland) 100% Earth heritage 90% Fen, marsh and swamp (lowland) 91.9% Inland rock 100% Littoral sediment 100% Standing open water and canals Within SSSIs were in favourable or recovering condition
Condition of Local Wildlife Sites	G Skelcher, County Wildlife Sites Survey (2014/15)	21 % in positive management in 2015
Priority habitat		
Extent and type of priority habitat within the AONB	G Skelcher, Priority Habitat Survey , 2016	Priority habitats cover around 70% of the AONB
Hectares of land enhanced for nature through the work of the AONB Partnership	AONB	Data to be confirmed
Hectares of nature reserves (NNR, LNR, NT, RSPB, WT, Woodland Trust, Landscape Trust plus private nature reserves) in the AONB	NE, NT, RSPB, WT, LT, Woodland Trust	Data to be confirmed
Species		
Number of species recovery programmes delivered	NE	Ladys slipper Orchid
Species records	LERN CBDN Butterfly Conservation	Data to be confirmed

Geodiversity		
Geology		
Number/area of sites and % of AONB	NE/MAGIC	SSSI LGS LPO
Condition of geological SSSIs	PLNB12	100% in favourable or recovering condition
Condition of broad habitat (earth heritage, inland rock) within SSSIs, PLNB6	PLNB 5	100% Earth heritage 91.9% Inland rock within SSSIs were in favourable or recovering condition
Number and % of LGS in positive management	AONB Geology Audit and Assessment, 2018, Cuesta Consulting	2018 audit concluded x % in positive condition
Soils		
Number of Soil Management Plans within the AONB	NE	Data to be confirmed
Agricultural land classification		Data to be confirmed
Soil maps		Data to be confirmed
Historic Environment		
Number of heritage assets	PLNB14 LCC/CCC SLDC/LCiC	In 2018 in the Arnside & Silverdale AONB there are: 10 Scheduled Monuments 115 Listed Buildings (6 Grade 1, 10 Grade II*, and 99 Grade II) 1 Registered Parks and Gardens 3 Conservation Areas 695 Historic Environment Records
Number of heritage assets at risk	PLNB4	In 2017: 4 sites within the AONB are on the Heritage at Risk Register
Number of heritage assets where condition has been improved through the work of the AONB Partnership (volunteer work)	AONB	Data to be confirmed
Number of research projects that have been undertaken to improve understanding of the heritage assets of the AONB over the last 5 years (2013 – 2018) through work of or support of the AONB Partnership	MBP UCLAN Mourholme Society	5 – Jenny Browns Point, Warton Crag hillfort, Arnside boatyard and workshop, documentary research into the salt industry, stone circle at Summerhouse Hill
Water Environment		
Water quality		
Ecological status of river, standing and transitional water bodies	EA	Data to be confirmed
Bathing water quality		
Bathing water quality classifications	EA	Both beaches in Morecambe were classified as ‘good’ in 2017

Water resources		
Abstraction licences within the AONB	EA	There are 8 licences within the AONB, permitting 4 surface water abstractions (3 from the River Bela and one from the River Keer) and 4 groundwater abstractions
Private water supplies	SLDC LCiC	There are 8 private water supplies in total. 4 of these are boreholes. 4 of these are private distribution systems
Flood risk		
Distribution of areas at risk of fluvial flooding	EA	Data to be confirmed
Number of natural flood management projects within the AONB 2013- 2018	SCRTLRT	0
Tranquillity (or Perceptual Qualities)		
Levels of tranquillity	CPRE 2006	Data to be confirmed
Levels of intrusion	CPRE 2007	Data to be confirmed
Dark night skies	CPRE 2016	Data to be confirmed
Vibrant and sustainable communities		
Sustainable Communities		
Population – Demographics		
Age distribution	Cumbria Observatory, Office for National Statistics	In 2016 in the AONB: 2.8% of the population were under 4 years old, 8.1% aged 5-14, 7.9% aged 15-24, 13.5% aged 25-44, 31.2% aged 45-64, 20.3% aged 65-74, 16.3% aged 75+
Indices of Multiple Deprivation		
Levels of Deprivation	Cumbria Observatory, Lancaster City Council	In 2015: The Index of Multiple Deprivation ranks of the 6 LSOAs covering the AONB show that deprivation is scarce within the AONB.
Housing		
Affordability ratio	SLDC LCiC	The affordability ratio of median earnings to median house prices in 2018: Arnsdale & Beetham ward – 7.8¹ The affordability ratio of average wage of the district to average house prices in 2016: Silverdale ward – 12.1³⁷ Warton ward – 8.6¹
Number of new affordable homes delivered within the AONB	SLDC LCiC	Number of new affordable homes delivered within the AONB over 5 years, 2013 – 2017: 0
Local services		
Numbers of rural services	AONB	Within the AONB in 2018 : Schools: 6 Post Offices: 4 Convenience stores: 8 GPs: 2 Village halls: 5 Libraries: 2 Bus services: 3 bus routes Trains: 1 train line

³⁷ The SLDC and LCiC figures cannot be directly compared because of dates and way calculated.

Train passenger figures for Silverdale and Arnside	Railway User Groups	In 2016/7: Arnside – 110,610 Silverdale – 55,892
Access to Broadband	Connecting Cumbria B4RN	Data to be confirmed
Local Economy		
Employment		
Employment by sector	2011 census	Within the AONB (in 2011), industries employed: 2.0% of the population in agriculture, forestry, fishing 7.0% in accommodation and food service activities and 15.0% in education 14.6% in human health and social work activities 13.6% in wholesale and retail trade
Total employment in farming, Defra	Defra Agricultural Survey, 2016	In 2016: 107 total labour (28 farmers full time, 37 part time)
Unemployment rate	SLDC LCiC	Data to be confirmed
Proportion of employed/retired people	2011 census	Within the AONB (2011) 63.4% of the population are economically active 59.6% are in employment 28.5% are retired
Farming/forestry/land management		
Farm size in 2016	Defra Agricultural Survey, 2016	38% of farms are under 20ha, 35% are 20 to 100ha and 27% are over 100ha
Farm type in 2016	Defra Agricultural Survey, 2016	63% of farms are grazing livestock and 17% general cropping farms
Total annual values of agri-environment agreements	PLSC9	In 2018: Total value of Environmental Stewardship agreements - £227,143 Total value of Countryside Stewardship agreements - £81,059
Area of Forestry Commission land	FC	221ha
Sustainable visitor economy/sustainable tourism/nature and culture-based tourism		
Number of caravans/holiday parks/pitches	SLDC LCiC	1,684 caravan pitches (1,388 static, 292 touring and 4 residential) on 14 registered sites (split between touring and static)
Number of visitor beds	Cumbria Tourism/Marketing Lancashire	Data to be collated.
Number of members of Cumbria Tourism/Marketing Lancashire within the AONB	Cumbria Tourism/Marketing Lancashire	Data to be collated
Number of tourism businesses within the AONB	SLDC LCiC	Data to be collated
Number of visits to Leighton Moss/Arnside Knott	RSPN/NT	RSPB Leighton Moss – 114,373 in 2017/2018
Skills for the future/skills development		

Number of AONB led training events and number of people trained as part of the AONB Rural Skills Programme	AONB	Drystone walling, hedgelaying, first aid etc.
Community engagement and volunteering		
<i>Community engagement</i>		
Number of AONB Landscape Trust members	AONB Landscape Trust	In Jan 2018: Number of Landscape Trust members - 1126
<i>Volunteering</i>		
Number of people actively volunteering	AONB LT	Data to be confirmed
Number of hours worked on conservation management by AONB Partnership volunteers	AONB	Data to be confirmed
A strong connection between people and the landscape		
Enjoyment and understanding		
<i>Effective communication</i>		
Number of unique AONB website pageviews	AONB	2017/18 – 95,942
Social media performance (followers on AONB Twitter, 'likes' on Facebook)	AONB	Facebook – 1611 Twitter – 2788 (in Sept 2018)
Number of AONB newsletter subscribers	AONB	2018 - 791
Number of visitors to the AONB Information Centre	AONB	1734 in 2017 (face to face enquiries)
<i>Events and learning</i>		
Number of AONB Partnership events held to promote awareness and understanding of the AONB, 2013 - 2107	AONB	Data to be confirmed Guided walks, apple Day, conference etc.
Number of participants attending?	AONB	Data to be confirmed
Number of school visits facilitated by the AONB Partnership	AONB	Data to be confirmed
Number of university research projects facilitated by the AONB Partnership	AONB	Data to be confirmed
Access and recreation		
<i>Countryside access</i>		
Length of PRoW and National Trails	SLDC LCiC	Data to be confirmed Including England Coast Path when dedicated
Length of national cycle routes	Sustrans	Data to be confirmed for S6, S90, S700
Number of uses of the AONB tramper	RSPB	229 (up till Sept 2018)
Number of promoted tramper routes	AONB	3 – Gait barrows/Hawes Water route , Leighton Moss
<i>Population – Human Health</i>		
Health of population	2011 census	In the 2011 census: 95.3% of the AONB population were in very good, good or fair health
Number of health and wellbeing events	AONB	Data to be confirmed
<i>Valuing the landscape</i>		
Most visited and valued parts of the AONB	AONB/NE - PGIS project	Arnside Knott, Leighton Hall, Arnside promenade and shore, Leighton Moss nature reserve, Fairy Steps,

		Sandside, Gait Barrows National Nature Reserve, Middlebarrow/Eaves Wood, Hawes Water, Silverdale, Jenny Brown's Point and Jack Scout, Woodwell, Warton Crag
Reasons for valued sites	AONB/NE - PGIS project	Top 4 reasons: Views – 23% Recreation – 21% Wildlife – 19% Beauty – 17%