

PEOPLE AND NATURE NETWORK

GREEN INFRASTRUCTURE IN THE SOUTH DOWNS NATIONAL PARK
AND WIDER SOUTH EAST



MARCH 2020

ACKNOWLEDGEMENTS

This Network would not have been possible without the input and support of many people. The authors would like to thank the members of the original 2014 **Technical Working Group**, comprised of officers from:

- South Downs National Park Authority;
- East Sussex, West Sussex, Hampshire and Surrey County Councils and Brighton and Hove unitary authority;
- Wealden, East Hampshire, Mid Sussex, Adur and Worthing representing local authorities;
- Environment Agency, Natural England, Historic England, Forestry Commission, Woodland Trust;
- Country Land and Business Association, National Farmers Union;
- Brighton and Lewes Downs Biosphere, Arun and Rother Rivers Trust.

In developing this Network the SDNPA has also worked closely with members of the Sussex, Surrey and Hampshire Local Nature Partnerships.

AUTHORS

- Sharon Bayne BSc (Hons) MSc MCIEEM, LL.M CEnv, Blackwood Bayne Ltd with officers from the SDNPA.
- Val Hyland BA Dip LA (Hons) PG Cert. UD CMLI V Hyland Associates Ltd.
- Ray Drabble, Chris Paterson, Bruce Collinson, Chris Sculthorpe, Veronica Craddock
- GIS mapping and EcoServ-GIS modelling provided by Andrew Lawson
- Sussex Biodiversity Record Centre, www.sxbrc.org.uk
- Suggested citation: S.Bayne & V.Hyland (2016), *People and Nature Network, Green Infrastructure in the South Downs National Park and wider South East, Report for South Downs National Park Authority and Partners*

Cover image:

Egret's Way shared path along the River Ouse. © Andrew Pickett/SDNPA



CONTENTS

A BRIEF HISTORY	2	DEFICITS IN NATURAL GREENSPACE	12
WORKING IN PARTNERSHIP	2	SOCIAL EQUALITY	13
1. INTRODUCTION TO THE PEOPLE AND NATURE NETWORK	3	BUILDING RESILIENCE.....	13
AIM OF THE NETWORK.....	5	URBAN EDGE PRESSURES	13
OBJECTIVES OF THE NETWORK	5	WORKING TOGETHER	13
THE NETWORK AREA.....	6	6. THE PEOPLE AND NATURE NETWORK.....	14
2. TAKING THE LEAD FROM NATURE	7	STRATEGIC PRINCIPLES FOR THE PEOPLE AND NATURE NETWORK	14
3. WHY TAKE A REGIONAL APPROACH ?.....	8	SPECIFIC PLACES FOR NATURAL CAPITAL INVESTMENT.....	15
MAP OF PLANNED DEVELOPMENTS IN THE NETWORK AREA ..	9	CASE STUDY: NATURAL FLOOD MANAGEMENT – WINNALL MOORS NATURE RESERVE, WINCHESTER.....	18
4. SUPPORTING THE ECONOMY	11	CASE STUDY: PETERSFIELD NEIGHBOURHOOD PLAN, BRINGING THE DOWNS TO THE TOWN.....	19
5. KEY FINDINGS FROM THE RESEARCH	12	CASE STUDY: THE AQUIFER PARTNERSHIP (TAP).....	20
THE PROTECTED LANDSCAPES AS A FOCUS	12		
AN AREA OF INTER-RELATED ISSUES	12		
THE NEED TO PLAN FOR CONNECTIVITY.....	12		

A BRIEF HISTORY

During the preparation of the South Downs Local Plan, stakeholders were asked whether the SDNP should develop a partnership approach to green infrastructure planning. The positive response was overwhelming with 80 per cent of respondents supporting this approach.

In October 2014, the South Downs National Park Authority began the process of developing a Green Infrastructure Framework for the South Downs National Park and wider sub-regional area with its partners. This has since been developed as a People and Nature Network (PANN) and now includes the other members of the South East and East Protected Landscape group (SEEPL) – Chichester Harbour AONB, High Weald AONB, Surrey Hills AONB, Kent Downs AONB, Cotswold Hills AONB, Chiltern Hills AONB, North Wessex Downs AONB, Isle of Wight AONB, Suffolk Coast and Heaths AONB, Norfolk Coast AONB, the Broads Authority and the New Forest National Park.

WORKING IN PARTNERSHIP

The protected landscapes of the south east are increasingly the green oasis of the sub region. The PANN seeks to achieve coordinated and strategically planned provision for green infrastructure and natural ecosystem services for communities and nature throughout the entire region within and beyond the boundaries of the protected areas.

Since this work began, a number of other initiatives have emerged across the south east (SE) which are complementary to it. The Local Nature Partnerships for Sussex, Surrey and Hampshire/loW, all of which the SDNPA works closely with, have been particularly active – projects include mapping ecological networks (Hampshire/loW LNP), investigating financing mechanisms (Surrey LNP)

and creating a Natural Capital Investment Strategy (Sussex LNP). The Sussex LNP work builds directly on and interlocks with the evidence in this report. In addition, the New Forest National Park has created a Green Halo Partnership and the Hampshire and loW Wildlife Trust has launched a Wilder campaign.

Taken together with the evidence and principles in this People and Nature Network report, all these initiatives are creating a dynamic and interconnected approach for the wider SE. Government policy has also moved behind our local approach: with the publication of the Defra 25 Year Environment Plan, Net Gain in the NPPF, the challenges of Climate Change and the need to achieve Net-zero through nature-based solutions, and the proposals in the Environment Bill that all Local Planning authorities should produce a Nature Recovery Strategy.

The Protected Landscapes (National Parks & AONBs), and the Local Nature Partnerships (Sussex, Surrey, Hampshire & loW, and Kent) will continue to work closely together to integrate these initiatives and to share resources, knowledge and expertise.

Working with a range of local authority, community, charitable and business partners, we want to establish a sub regional network for people and nature which delivers benefits not only to the environment but also to the development of better places in which to live, work and invest. We want to ensure that planning for nature and people follows key principles which protect and enhance natural services, habitats, climate change adaptation, landscape connectivity, social inclusion and equality and economic prosperity.

This document is an introduction to how this coordinated and cross-sectoral approach to environmental master planning and regeneration has been developed within the original study area in 2014.

1. INTRODUCTION TO THE PEOPLE AND NATURE NETWORK

1.1 This document called the People and Nature Network (PANN) sets out how a wide range of partners can work together to plan positively for nature and natural services within and surrounding the protected landscapes of the south east. This is in recognition that nature, and the provision of natural ecosystem services do not follow administrative boundaries. Figure 1 is a map of the PANN area

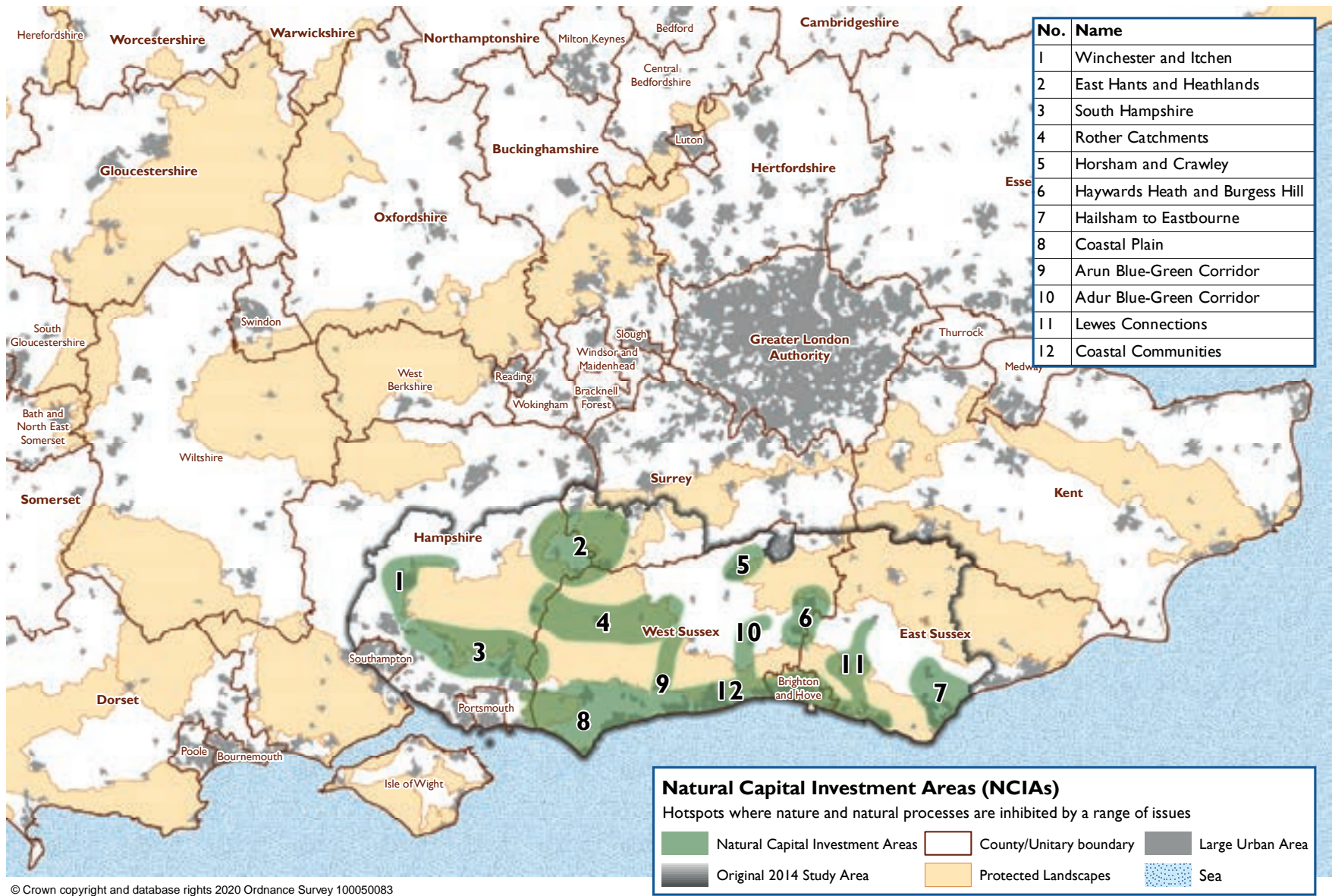
1.2 We have analysed a wide range of evidence to develop a series of key priorities and principles for the 1st phase of the PANN area. From these high level principles more detailed and localized strategies, plans, projects, and their delivery can be developed in the future. In this way partners across the region will work together to achieve the shared aims of the Network partnership.

1.3 The research has also found that there are hotspots in the study area where a number of issues coalesce to inhibit nature and natural processes. We have called these areas 'Natural Capital Investment Areas' (NCIAs). The first 12 NCIAs are shown on figure 1. Each of these areas has a unique set of environmental challenges and there is no prescribed methodology for how to address these. Each NCIA requires a bespoke approach. Over time as the research and evidence is extended it is likely that further NCIAs will be identified.



Outdoor learning area at Botany Bay Conservation Project, Duncton, West Sussex. © SDNPA

FIGURE 1: NATURAL CAPITAL INVESTMENT AREAS (NCIAs)



AIM OF THE NETWORK

To protect, enhance and create a network of green and blue spaces which sustainably meet the needs of local communities, support natural ecosystem services and respects the special qualities of protected landscapes by proposing the strategic principles for planning, delivery and management of natural capital assets in the area.

OBJECTIVES OF THE NETWORK

- Use natural assets to support health and well-being of people and businesses in the Network area;
- Identify and realise the economic benefits through planning green infrastructure in the Network area;
- Protect and enhance biodiversity and improve habitat connectivity to maintain and improve the health of the environment;
- Protect and enhance the beauty of the landscape in the Network area;
- Improve resilience to the effects of climate change;
- Improve the sustainability of communities across the network area;
- Create opportunities for enjoyment, understanding and learning about the natural environment;
- Use green infrastructure to support the delivery of ecosystem services;
- Integrate cultural heritage into the Network;
- Improve access opportunities to natural greenspace in the Network area for all sectors of society;
- Identify and prioritise opportunities to enhance and deliver optimum benefits from masterplanning for nature;
- Encourage the enhancement and delivery of strategic green infrastructure through contributions from new development;
- Plan, deliver and manage natural capital assets to re-naturalise river catchments and other landscapes where possible.

THE NETWORK AREA

1.4 The extent of the initial network study area is shown in figure 1. This shows that there is also potential to extend the area to achieve a larger regional network of all the protected landscapes in the south east if this is widely supported.

1.5 The Network is intended to be a catalyst for coordinated action, building upon existing partnership working and bringing new and existing partners together around a shared agenda.

1.6 This is a collaborative document, developed with the input and advice of many partner organisations and an original Technical Working Group (listed on inside cover). It brings together the existing strategies and plans of partners and places these alongside additional evidence to add depth to the understanding of the region. This has enabled the identification of key evidence sources, areas of significant environmental concern (the NCIAAs) and also where further study could embed the approach at a regional scale.



Overlooking the river Itchen. © SDNPA

2. TAKING THE LEAD FROM NATURE

2.1 The natural services we get from nature such as clean air, clean water, healthy soils, pollination, biodiversity, food and recreation are vital to our survival. Many land use decisions and policies have an impact on the natural provision of these services and this is being increasingly taken into account in decision making. Ensuring that these natural systems can function and have the capacity needed is increasingly being evaluated through mapping (Geographical Information Services – GIS) and through financial accounting – Natural Capital Accounts. All of these processes involve an assessment of the underlying natural asset and the value of the services that it inherently provides.

2.2 Figure 2 shows the relationship between Natural Capital, Ecosystem services and green infrastructure and explains how they are used when making land use decisions

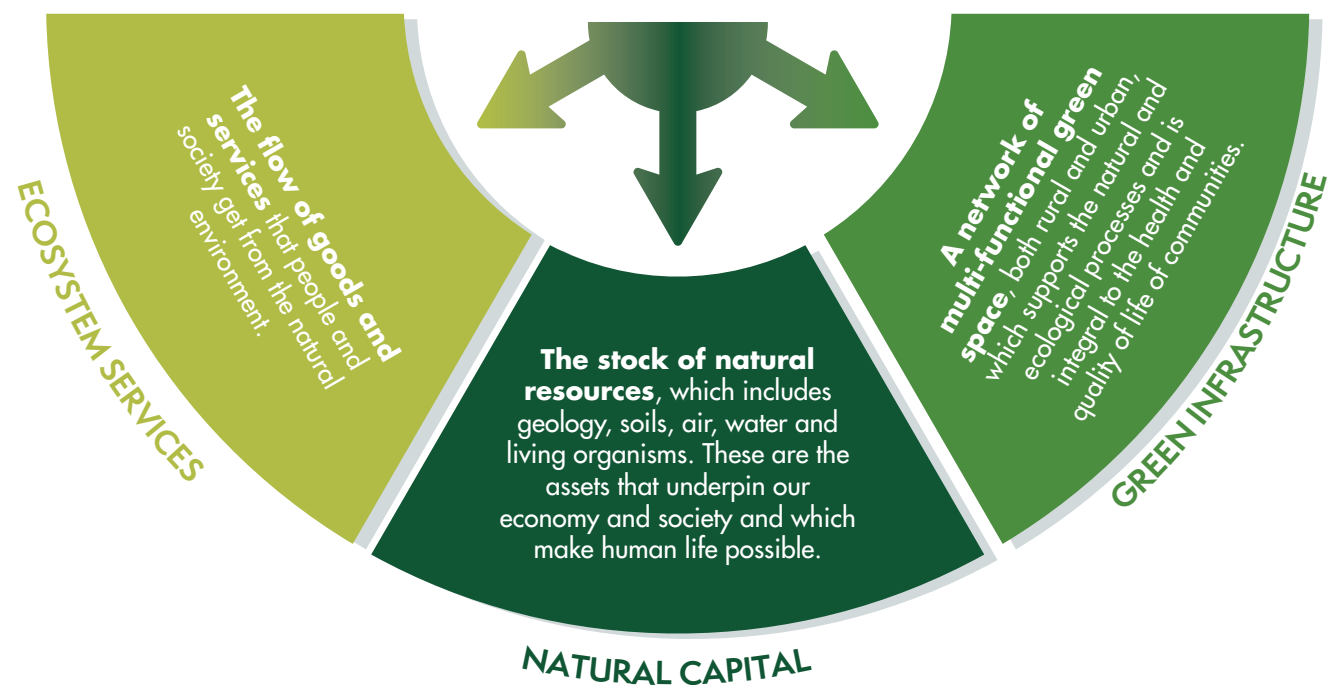
2.3 The government's 25 yr Environment Plan¹ was published in 2018 and sets out how the use of **natural capital accounting** will be used as a gold standard decision making tool in the UK in the future.

2.4 Healthy **ecosystem services** are described in the plan as essential to good economic growth

and productivity whilst **green infrastructure** is seen as a key delivery mechanism for issues such as flood mitigation; improving health and

well being and air quality, reducing the impacts of climate change, extending habitat networks and providing space for nature.

FIGURE 2: RELATIONSHIP BETWEEN NATURAL CAPITAL, ECOSYSTEM SERVICES AND GREEN INFRASTRUCTURE



¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

3. WHY TAKE A REGIONAL APPROACH ?

3.1 The Network builds on all of the existing environmental work by partners and provides the following additional benefits;

- Providing a common agenda for action and a supporting evidence base.
- Ensuring strategic issues are considered at their appropriate scale.
- Promote the consistent and joined-up management of larger scale natural capital assets which cross administrative boundaries.
- Support and guide partnership working and providing a platform for bringing partners together.
- Provide a common framework to attract and guide investment in natural capital.
- Plan for biodiversity at a landscape scale across local authority boundaries and identifying and mapping ecological networks in accordance with the NPPF paras 114/117 and the DEFRA 25 yr Environment plan.
- Robust and compelling evidence at the sub-regional scale is more likely to access funding sources which may not be available at a more local level.

- Demonstrating a working Duty to Cooperate (Localism Act 2011) collaboration where climate change, biodiversity, flood risk management and ecological networks are better planned at a strategic level.
- Demonstrating the Duty of Regard² towards the purposes and Special Qualities of the

- Protected landscapes³ by Local Authorities and statutory undertakers whilst carrying out their statutory duties.

The pressure for new housing in the Network area is one of the key drivers for the development of this regional approach to nature. Known developments which are proposed of over 100 houses are shown in figure 3.



² Section 62 of the Environment Act 1995

³ www.southdowns.gov.uk/discover/why-are-we-a-national-park/sdnp-special-qualities

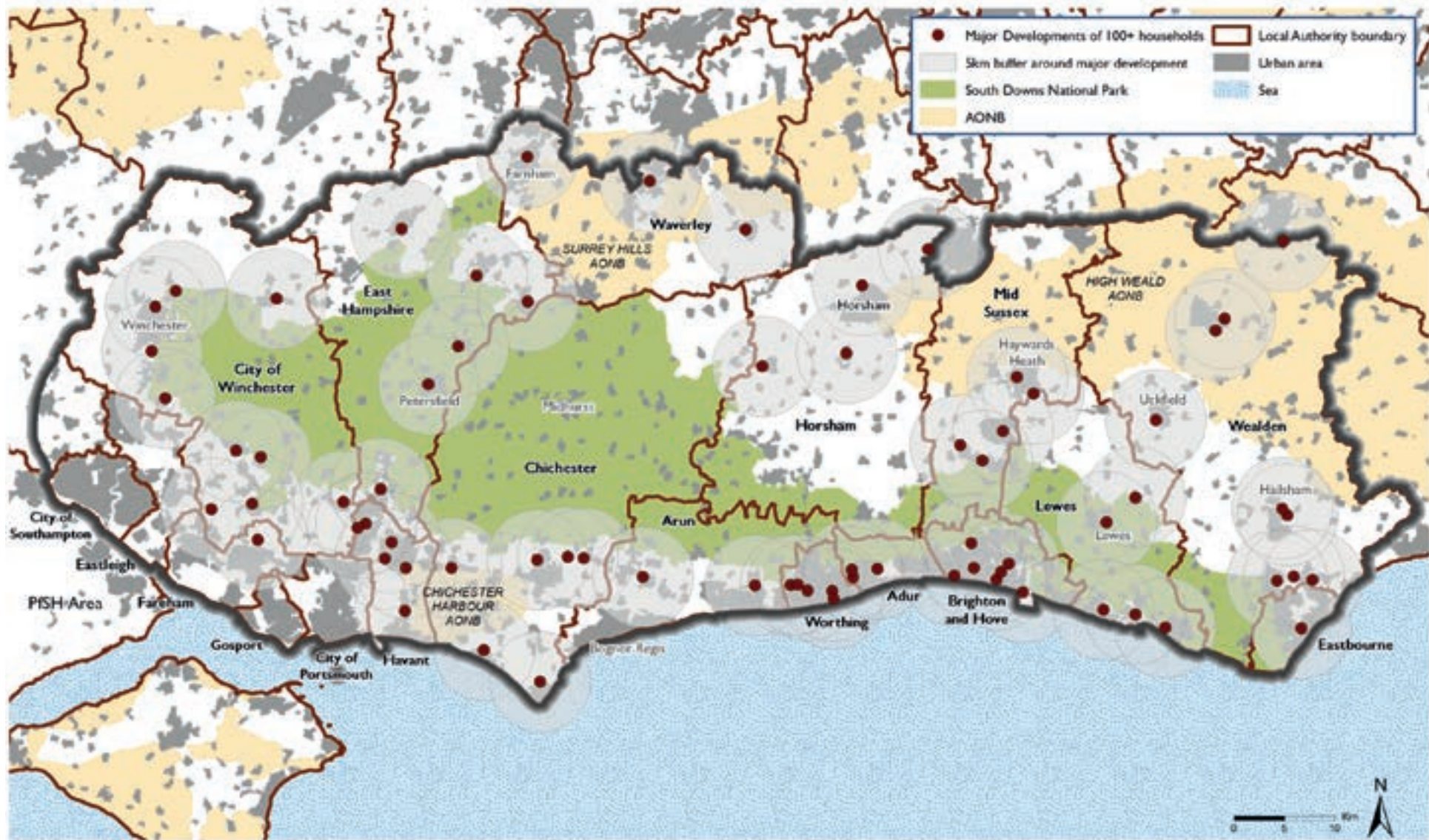
MAP OF PLANNED DEVELOPMENTS IN THE NETWORK AREA

3.2 This plan scale is helpful in showing how development is proposed around and on the edges of the designated landscapes and the current pressures for building land. It shows clearly how important it is that we plan for these areas of designated land to be connected for nature to move around the landscape and for natural ecosystem services to function across the region. It is also important to ensure that access to nature and the health and well being benefits it provides is secured for all communities.



Walking on the Shipwright's Way, Hampshire. © Richard Perry

FIGURE 3: MAP OF PLANNED DEVELOPMENTS IN THE NETWORK AREA



© Crown copyright and database rights 2020 Ordnance Survey 100050083

Locations of allocations are accurate as at October 2015.

Data is subject to constant change and should be validated with local authorities. Created in 2015, updated 2017.

4. SUPPORTING THE ECONOMY

4.1 Planning for nature in relation to economic prosperity is becoming increasingly well understood and relates to the 3 pillars which underpin sustainable development in the NPPF⁴ – Society, Economy and Environment. Whilst nature is valued in its own right, the economic value of nature is also increasingly being considered in many land use decisions through the use of natural capital valuation tools which monetizes the services and functions that nature provides – eg agricultural pollination by insects is valued at £690m pa in the UK⁵.

4.2 The economic benefits of a healthy natural environment are now well evidenced⁶ through for example:

- Increased inward investment in companies located in areas with a high quality environment and increased visitor spending;
- Pollination services to agriculture valued at £690m in the UK;
- Increased carbon sequestration by trees, woodland, soils & vegetation in general;

- Environmental cost savings through ‘green’ versus ‘grey’ engineering solutions coupled with embedded amenity benefits, eg rain gardens, green roofs, air purification, soils;
- Reducing the financial cost of health and social care through the health and well-being benefits of a high quality outdoor environment and natural spaces;
- Upsurge in interest in local food production in urban areas;
- Increased employment and retention of the workforce, a high quality environment and planning for nature creates new employment opportunities and also contributes to factors in retaining staff.

4.3 Partnership working, shared objectives, pooling knowledge, securing resources and advocacy will be the keys to success for the Network and its ambitions.



4 The National Planning Policy Framework (NPPF) notes that to achieve sustainable development, economic, social and environmental gains should be sought jointly (para 8) and, in pursuit of this, that net gains for nature should be achieved (para 9).

5 www.reading.ac.uk/web/files/food-security/cfs_case_studies_-_sustainable_pollination_services.pdf

6 eg in Natural England's work 'MEBIE 2'.

5. KEY FINDINGS FROM THE RESEARCH

5.1 Evaluating the evidence from the Network area revealed a number of key issues from which the Strategic Principles were drawn (see page 14). These findings strongly reconfirm the need for the partnership to continue to work together and to build on the approach developed to date.

THE PROTECTED LANDSCAPES AS A FOCUS

5.2 The protected landscapes across the region, geographically, form the focus points of the Network area. These special landscapes provide many benefits to the sub-region, both for its residents and for surrounding communities; for recreation, biodiversity, farming and heritage amongst others, as captured in their Special Qualities. The designated landscapes want to create a new dynamic for the Network area. This is a positive force for change; rather than a driver for fragmentation. With strong partnership working, the designated landscapes could serve to bring partners together to provide benefits for all of them.

AN AREA OF INTER-RELATED ISSUES

5.3 The Network area has a range of issues which are often inter-related to other areas. Exert pressure in one area and the effect can manifest itself in another. Lack of recreational greenspace in one area, for example, can result in more pressure on greenspaces in other areas, perhaps with unforeseen consequences such as pressure on sensitive locations; erosion of landscape quality; increased use of motor transport; alternatively – increased financial costs to the health service where the benefits of the natural environment cannot be accessed by sectors of the community.

5.4 It is in the interests of all partners to work together on these issues to understand them better and plan measures to address them. The protected landscapes work to manage and adapt to the increased pressures placed on them by a growing population and to protect their Special Qualities. The areas outside the designated landscapes must also accommodate market growth while building vibrant, healthy and sustainable communities. Working to deliver these in tandem will bring benefits to all partners, to the landscapes and

natural assets across the Network area and, importantly, all residents.

THE NEED TO PLAN FOR CONNECTIVITY

5.5 The need to make links for water, nature and people is a common thread running through all green infrastructure planning: Joining up fragmented areas of habitat, for example to improve biodiversity and support landscape resilience; Addressing gaps in the access network; Working across landscapes and not local authority boundaries, necessitating cross-boundary and cross-sectoral working for mutual benefit; Planning for the water environment at river catchment scale and identifying a range of multi-functional benefits including improvements to water quality and riverside landscapes.

DEFICITS IN NATURAL GREENSPACE

5.6 Based on the review of standards⁷, greenspace provision is insufficient for identified need in many places, particularly outside the protected landscapes. Many local authorities are

⁷ southdowns.gov.uk/accessible-green-space-study

facing increasing pressures on their ability to both retain and manage their greenspace sites.

SOCIAL EQUALITY

5.7 There is a link between communities in poor health, high levels of social or economic deprivation and lack of high quality greenspace and natural environment. This is the situation for a number of places in the Network area where significant levels of growth are planned, bringing the pressures of development and its associated infrastructure, pollution and noise. Unless the issues affecting the communities in these places are addressed, including raising the standard and provision of greenspace and green infrastructure, the effect of new development will be to make the situation worse for these communities.

BUILDING RESILIENCE

5.8 Natural capital planning at the network scale is needed to identify areas under pressure and the actions needed to build resilience to climate change, urbanisation, recreation demands, higher populations and intensification of agriculture creating pressure on biodiversity.

URBAN EDGE PRESSURES

5.9 Across the Network area, there are examples of urban-edge landscapes, including recreation pressure causing car parking, erosion of settlement character and urban sprawl, loss of tranquillity, anti-social behavior, increases in traffic movements and human activity. Changes in the farmed landscape including fragmentation of landholdings, piecemeal development at the urban edge, loss of settlement character due to urban expansion and loss of biodiversity and a long term connection with nature. Barriers to using natural spaces including major roads and railways encourages more car use.

WORKING TOGETHER

5.10 Working across boundaries will enable the pooling and sharing of knowledge and joint approaches to securing resources. It will enable combined advocacy to raise the profile of the significance and value of nature and natural capital so that this is fully recognised and appreciated by decision-makers and champions at the highest level. Continue to work with existing partnerships where they already exist.



© SDNPA

6. THE PEOPLE AND NATURE NETWORK



STRATEGIC PRINCIPLES FOR THE PEOPLE AND NATURE NETWORK

6.1 The Network principles are not prescriptive but they can be used as a common thread by all of the partners in the most appropriate way for their local area. The following section identifies the high level principles for the Network, the full text is included in the Evidence and Action Report.



MAKE STRONG CONNECTIONS

6.2 The need for better connections crosses many areas- biodiversity networks and sustainable transport, as well as planning and delivering green infrastructure across boundaries and across sectors.



A NATURAL & CULTURAL CANVAS

6.3 The well-being of the area fundamentally relies on the quality of the landscape, its ecosystems and the services they provide. The natural landscape and cultural heritage should be strengthened and celebrated, providing distinctive settings for its cities, towns and villages and underpinning the future prosperity of the area.



SUPPORT SUSTAINABLE AND HEALTHY COMMUNITIES

6.4 The health and well-being of people living in the Network area is linked to the quality of their environment. People need access to nature and the benefits of a healthy functioning environment. New development must build communities, not just housing. This is vital for the health of the towns and villages and contributes to the economic prosperity of the area.



BECOME FIT FOR THE FUTURE

6.5 The Network area needs to build resilience to help it adapt to change. Housing growth and transport will continue to make demands on the landscape and natural resources, particularly water. Climate change will create pressures and challenges which will require adaptation. Economic forces will test farming and forestry. The management of these complex challenges requires forward planning into the medium and long term horizons.



BETTER THROUGH WORKING TOGETHER

6.6 Partnership working, shared objectives, pooling knowledge, securing resources and advocacy will be the keys to success for the Network and its ambitions

SPECIFIC PLACES FOR NATURAL CAPITAL INVESTMENT

6.7 The Natural Capital Investment Areas (NCIAs) (see figure 5) have emerged from the assessment and evaluation process where the coalescence of a number of ecosystem issues indicated the need for more targeted, strategic and crosscutting interventions – they are regional environmental ‘hotspots’. Each of the NCIAs, are unique in their particular set of issues, needs and opportunities. In response to their uniqueness there is no prescribed methodology for progressing them. The various partners will work together to make these bespoke judgements. Sometimes work in the NCIA will be triggered by an outside force – eg national infrastructure project, or large growth development for example.

6.8 Since these hotspots were identified through the evidence gathering process for the PANN other initiatives have been developed by partners such as for example the Natural

Capital Investment Strategy⁸ by the Sussex LNP⁹, the Hampshire Ecological Network Mapping¹⁰ and the Surrey Nature Partnership Natural Capital Investment Plan¹¹. The strategic extent and coverage of the NCIAs in this study is not definitive and it is intended that these areas which are indicative at the moment will flex to respond to these emerging protocols and new evidence work.

6.9 As the NCIAs have been developed from a sub-regional scale review, they provide the opportunity for further local level planning. In many of the NCIAs there are organisations and projects already operating and policies in place. There will be scope for more joined-up approaches to deal with cross-sectoral and cross-boundary issues and the principle of partnership working to bring single aspect projects together as a holistic approach. The map and table on pages 16 and 17 briefly describe each NCIAs. A SWOT analysis was undertaken for each of the NCIAs and these are included within the Evidence and Actions Report which accompanies this summary document.



© SDNPA

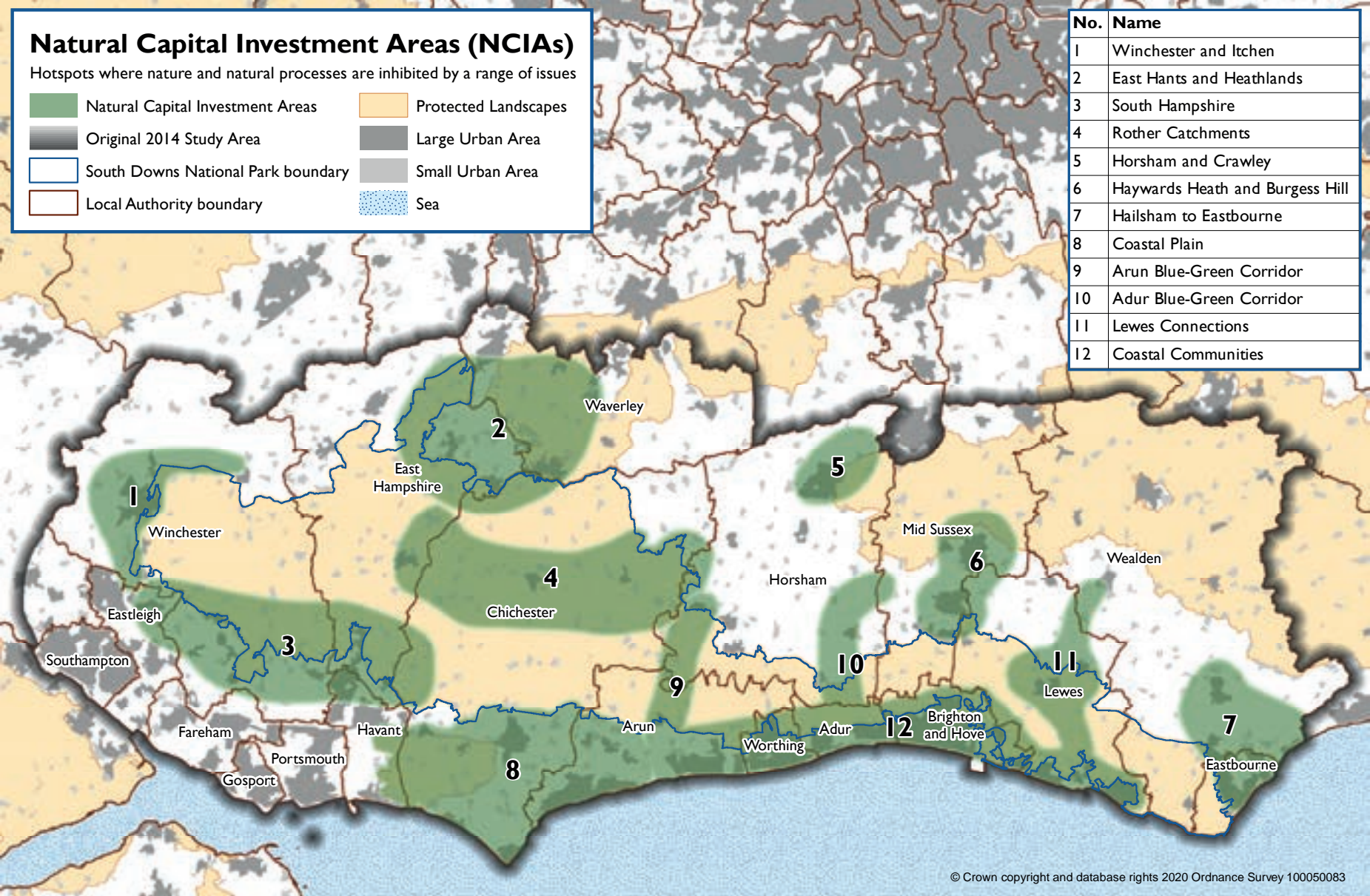
⁸ sussexlnp.org.uk/wp-content/uploads/2020/03/Natural-Capital-Investment-Strategy_Summary_Feb2020.pdf

⁹ sussexlnp.org.uk

¹⁰ hants.gov.uk/landplanningandenvironment/environment/biodiversity/informationcentre/information#step-7

¹¹ surreynaturepartnership.files.wordpress.com/2018/03/natural-capital-investment-plan-for-surrey.pdf

FIGURE 5: NATURAL CAPITAL INVESTMENT AREAS (NCIAs)



© Crown copyright and database rights 2020 Ordnance Survey 100050083

NATURAL CAPITAL INVESTMENT AREAS

1. Winchester and Itchen <p>This NCIA follows the River Itchen from south of Winchester city and in an arc to the north. The Itchen also forms one of the Network's Blue-Green Corridors, linking villages to the north, through Winchester City and to the south to Eastleigh/Southampton. Winchester lies on the edge of the South Downs National Park and is an important interface area with the National Park.</p>	2. East Hants and Heathlands <p>This NCIA includes several heathland sites, many of international importance, and in several administrative boundaries (National Park, East Hampshire and Waverley District Councils, Surrey, Hampshire and West Sussex County Councils and Surrey Hills AONB). Several European sites are recognised as being sensitive to recreation, for which mitigation measures are required, but many more have been highlighted as sensitive by land managers, for which mitigation of impacts is very challenging.</p>	3. South Hampshire <p>This NCIA lies to the north of the Partnership for South Hampshire (PfSH) Area and the southern part of Winchester and East Hampshire Districts. Alongside a large existing population in the area, significant levels of new housing are planned. The PfSH Green Infrastructure Strategy is already in place and this links to the Southern People and Nature Network to ensure that a continuous approach to nature, water and people is developed.</p>	4. Rother Catchment <p>This NCIA follows the wider catchment of the River Rother from Liss, through Petersfield and Midhurst, to join the River Arun at Pulborough Brooks. This NCIA is wholly within the National Park and crosses a number of local authority boundaries; East Hampshire, Chichester and Horsham and Hampshire and West Sussex County Councils.</p>
5. Horsham and Crawley <p>Growth of these towns is ongoing with more planned. This includes an extension to Crawley on the boundaries of both Horsham and Mid-Sussex districts. As these towns continue to grow, landscape, communities and access could come under increasing pressure unless green infrastructure is planned to develop across connections and greenspace provision and protect the edge of the High Weald AONB.</p>	6. Haywards Heath and Burgess Hill <p>This NCIA includes Haywards Heath, Burgess Hill and Hassocks/Hurstpierpoint, all within Mid Sussex but adjacent to the Lewes District and National Park borders, and close to the boundaries of Wealden district and the High Weald AONB; requiring a cross-boundary approach. One of the largest housing allocations in the Network area is planned for Burgess Hill. This area will remain the focus of development pressure, lying between two protected landscapes, which means a robust long term approach to planning for nature is needed.</p>	7. Hailsham to Eastbourne <p>The Hailsham to Eastbourne NCIA straddles Wealden and Eastbourne local authority areas. There is development planned in both areas; in Hailsham and Polegate, the latter being directly adjacent to the Eastbourne border. All of the settlements are situated on the upstream feeder streams for the Pevensy Levels SAC and Ramsar. Water resources are an issue, with constraints on waste water, flooding and the need for no adverse effect on Pevensy Level. Road and rail infrastructure forms a barrier to access in some areas.</p>	8. Coastal Plain <p>This NCIA covers the low-lying coastal plain from the west of Littlehampton (where it intersects with the Arun Blue-Green Corridor and the Coastal Communities NCIA) through to Chichester in the north and Bognor Regis and the Manhood Peninsula in the south, including Chichester Harbour AONB. This area is important for crops and horticulture, along with areas internationally important for wildlife. The plain crosses Chichester and Arun local authority areas, requiring a joined-up approach to developing strategies. There is a likely need to adapt to flood-risk and coastal change resulting from rising global temperatures, increased rainfall and storm events.</p>
9. Arun Blue-Green Corridor <p>The NCIA is one of the main river valleys which cut through the South Downs National Park. These river valleys are important corridors for access to the Downs, especially for deprived coastal communities, for water resources and biodiversity. This NCIA extends from Littlehampton to Billingshurst, intersecting both the Rother Catchment, and the Coastal Plain and Coastal Communities NCIA's.</p>	10. Adur Blue-Green Corridor <p>This NCIA is one of the main river valleys which cut through the South Downs National Park. These river valleys are important corridors for access to the Downs, especially for coastal communities, and for water resources and biodiversity. This NCIA extends from Shoreham-by-Sea to Steyning/Upper Beeding, with the Adur continuing towards Henfield.</p>	11. Lewes Connections <p>Lewes is one of the largest settlements within the South Downs National Park, situated on the River Ouse where the river cuts through the South Downs. This NCIA includes Lewes town and two corridors- the north-south River Ouse corridor and the east-west downland habitat and offers potential for an integrated approach to green infrastructure, incorporating water resources, access improvements and habitat connectivity.</p>	12. Coastal Communities <p>This extensive NCIA stretches from Littlehampton in the west to Seaford and Newhaven in the east, including Worthing, Shoreham-by-Sea and Brighton and Hove. It includes two rivers, the Adur and the Ouse that connects the coast with the South Downs and the Weald. There are multiple issues in this NCIA, with a commonality of needs, requiring co-ordinated action on many fronts. This includes the likely need to adapt to flood-risk and coastal change resulting from rising global temperatures, increased rainfall and storm events.</p>

CASE STUDY: NATURAL FLOOD MANAGEMENT – WINNALL MOORS NATURE RESERVE, WINCHESTER



Winnall Moors Nature Reserve, Winchester. © SDNPA

In Winchester, the Itchen valley is internationally designated for its habitat value and is highly regarded as a beautiful chalk river. The Heritage Lottery Funded restoration of the water meadows and ditch systems at Winnall Moors Nature Reserve in the Itchen Valley has played a vital role in reducing the level of flooding currently affecting the city. This initiative by Winchester City Council and Hampshire and Isle of Wight Wildlife Trust

is allowing the water meadows to flood using traditional water management systems such as sluices to direct excess water into the meadows and away from the city. This work has increased the capacity of the flood plain to hold water on the land, improved habitat for wildlife in the river valley and restored the historic landscape of the water meadows. There has since been a dramatic reduction in the speed by which flood water has

entered the city and in addition visitors to the nature reserve are able to experience the size and space created by the floodplain at the edges of the city.

CASE STUDY: THE AQUIFER PARTNERSHIP (TAP)

PROTECTING OUR PRECIOUS GROUNDWATER IN THE SOUTH DOWNS

The famous white chalk of the South Downs hills acts like a giant sponge, soaking up and storing water for 1.2 million people in the south east. The Aquifer Partnership (or TAP) will build on the success of the ChaMP project (Chalk Management Partnership), which was established in 2016 to protect and improve the quality of groundwater in the chalk landscape around Brighton. Led by a partnership between the South Downs National Park Authority, Southern Water, the Environment Agency and Brighton and Hove City Council, this wide-reaching programme works with residents, farmers, landowners, and schools across the Brighton and Lewes area to safeguard our drinking water.

Winter is a particularly vulnerable time as bare fields and higher rainfall allow excess nitrates in the soil to leach through into the aquifer.

The project is working with two farmers on the Brighton chalk block to see whether winter cover crops can reduce nitrate leaching through soils and into the aquifer.

These plants will take up excess nitrates in the soil and use them to grow and will also provide cover for birds, small mammals and invertebrates, reduce erosion and improve the health of the soil.



Event showcasing cover crop trial in Brighton. © SDNPA/Aimee Felus





Easebourne Community Space, West Sussex. People's Choice Award, 2019 South Downs National Park Design Awards. © SDNPA

Contact:

South Downs National Park Authority
South Downs Centre
North Street
Midhurst
West Sussex
GU29 9DH
01730 814810