

**South East England Development
Agency / Adur District Council**

Adur District

Green Infrastructure Wildlife Corridors Study

December 2009

FINAL



Halcrow Group Limited

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1 Introduction

1.1

The Brief

Halcrow were commissioned by South East England Development Agency (SEEDA)/ Adur District Council to:

- undertake a study of the existing extent of green infrastructure and wildlife corridors within Adur District and the Shoreham JAAP area
- identify opportunities to create new Green Infrastructure and green links within the JAAP area and links to the existing green network.
- identify opportunities to create new Green Infrastructure and green links within the Sompting and Lancing area and links to the existing green network.

1.2

Green Infrastructure Policy

Relevant policy guidance on Green Infrastructure includes:

1. South East Plan (2009), Policy CC8 on Green Infrastructure.

'Local authorities and partners will work together to plan, provide and manage connected and substantial networks of accessible multi-functional green space. Networks should be planned to include both existing and new green infrastructure. They need to be planned and managed to deliver the widest range of linked environmental and social benefits including conserving and enhancing biodiversity as well as landscape, recreation, water management, social and cultural benefits to underpin individual and community health and 'well being'. They will be created and managed as a framework of green spaces and other natural features that will boost the sustainable development of settlements and increase the environmental capacity of the locality and region as a whole, helping communities to be more resilient to the effects of climate change. The provisions of this policy apply region-wide. However, the successful designation and management of green infrastructure will be particularly important in areas designated as regional hubs, where growth may impact on sites of international nature conservation importance or where there is a need to enhance the existing environmental capacity of an area.'

2. English Nature in their publication, 'Housing Growth and Green Infrastructure Policy' state in Policy 4 that Green Infrastructure (GI) should be an integral part of the creation of sustainable communities being *'networks of multi-functional greenspace providing a wide range of environmental and quality of life benefits.....designed into all new development and regeneration schemes at the outset. The valuable contribution of private gardens should also be recognised.'*

Their definition of GI is *'a strategically planned and delivered network comprising the broadest range of high-quality green spaces and other environmental features. GI includes established green spaces and new sites and should thread through and surround the built environment and connect the urban area to its wider rural hinterland.'*

1.3

Methodology

The methodology for this study is based on desk research of available data on environmental designations, local mapping and studies covering in particular the urban fringe, harbour expansion, open space and urban design and the GI guidance as referenced in section 5. A site visit was undertaken identifying the existing green infrastructure and opportunities for future expansion.

The opportunities identified in this study can be developed in greater detail in a subsequent piece of work and will be delivered over time as the phasing of future development becomes clearer and funding is made available.

2

Adur District - existing extent of Green Infrastructure and Wildlife Corridors (figure 1)

2.1

Existing Landscape and Features

The Study area is located in an area of dramatic landscape containing striking natural features including the Sussex Downs Area of Outstanding Natural Beauty (AONB), the Adur River Valley and the coast. Built development is concentrated between the South Downs and the coast with the A27 (Brighton by pass) separating the South Downs from residential areas. The railway line, running east to west, also provides a barrier to movement. Important open areas are located

between the settlements of East Worthing and Sompting (Sompting Gap) and between Lancing and Shoreham (Lancing Gap).

The Secretary of State recently announced the decision to designate part of the South Downs as a National Park and this designation is likely to come into force in 2010. The Downs provide access to open space to local residents for walking and cycling. Two golf courses are located north of the A27 boundary. Open space separates the southern edge of the A27 from residential areas from Mill Hill to Benfield Valley.

The Adur River Valley and floodplain bisect the Downs providing a flat riverine landscape in contrast to the undulating Downs. The Adur flows into Shoreham Harbour providing anchorages for pleasure boats, industrial wharfage and a water frontage for residents.

The majority of the seashore is bordered by residential development but public access is available for much of its length within the study area.

Within urban areas there is a strong structure of vegetation in private gardens, along roadways and in parks, cemeteries, open spaces and schools providing landscape and wildlife value.

2.2

Major Designations

There are numerous designations covering the natural environment in the rural and urban areas including the South Downs Area of Outstanding Natural Beauty which will soon be designated as a National Park.

The Adur Estuary is a Site of Special Scientific Interest (SSSI) containing important intertidal mudflats, saltmarsh, reedbeds and embankments supporting lizards. Part of the Cissbury Ring SSSI is also located within the district.

Sites of Nature Conservation Importance (SNCI) are located at:

- Lancing Ring (1) located on high ground above North Lancing, a popular local destination with a car park
- Lower Cokeham Reedbed (2) situated immediately next to residential areas in South Lancing and is an important component of Sompting Gap.
- River Adur valley (3)
- Mill Hill Nature Reserve (6) located on the Down to the east of Lancing College. A popular vantage point with a car park, well used by walkers, day

trippers and model aeroplane enthusiasts. The SNCI extends to the margins of the A27.

- Southwick Hill (7) a local highpoint and landmark through which the A27 was constructed resulting in a green bridge over the A27. This is an important pedestrian and cycle link from urban areas to South Downs.
- Within Brighton and Hove are Benfield Valley (9) an important link from the South Downs to Portslade; Foredown (8) and Easthill Park (10)
- Shoreham Beach containing vegetated shingle
- Widewater Lagoon

Lancing Ring, Mill Hill, Shoreham Beach and Widewater Lagoon have also all been designated as Local Nature Reserves.

All of these features provide a landscape and seascape of interest to local residents and visitors.

2.3

Existing Green Corridors and Links

Existing green corridors follow two major routes:

- National Cycle Route 2 (11) along the coast linking Shoreham with Worthing to the west and Brighton to the east. From Brighton the route follows the coastline in Portslade along South Basin Road crossing Shoreham Harbour over the locks. It continues along the public roadway and crosses the western harbour over the footbridge where cyclists have to dismount.
- Regional cycle route 79 (12) following the Adur River valley connecting Horsham to the south coast at Shoreham. Within the study area, much of the route is off road.

Within the JAAP area and western Brighton, there are three corridors providing important wildlife links and some public access. They are located from:

- Southwick Hill to Fishersgate (13) – public access throughout although very narrow in parts of urban area
- Foredown Hill to Vale Park (14) – series of green spaces with intermittent public access
- Benfield Valley (9) linking Downs to Old Shoreham Road with consistent public access

Footpaths are widespread especially on the Downs. Connections across the A27 exist for pedestrians and cyclists with overbridges and light controlled crossings.

However, the opportunity exists to increase the number of crossing points by improving public access especially through Sompting Gap and in Lancing Gap linking the Downs to the sea.

Bus walks are provided to four locations in the Shoreham/West Brighton area close to the Downs to provide access to countryside walks by public transport. The location of bus walks A, B C and D are indicated on figure 1.

The railway line forms a barrier to movement throughout the study area with roadways or pedestrians bridges forming the only crossing points and they are often narrow with poor pedestrian and cycle access.

2.4

Future Planned Development

Potential greenfield development areas have been identified at the following areas:

- Sompting Fringe (B), an extension to the existing residential area.
- Lancing Gap contains Mash Barn (C) and Old Salts Farm (D) on the eastern edge of Lancing. Shoreham Airport has also been identified as a potential development area

Development is also proposed at the former cement works (E) on the A283 (a brownfield site in a rural location)

Proposed development areas within urban areas of Adur and the western edge of Brighton and Hove include:

- Shoreham Joint Area Action Plan (JAAP) area including Shoreham Town Centre (F), Shoreham Harbour Waterside North (G), parts of Southwick (H), Fishersgate (I) and Portslade (J), and Eastbrook Allotments (K)
- Shoreham Port development including land reclamation for enlarged port (L) and residential development at Canal Wharf (M)

2.5

Local Features of Interest

Several local landmarks are important as components of the landscape or townscape or as specific destinations including Lancing College Chapel, Mill Hill, Shoreham Airport, Shoreham Old Fort, Shoreham Lighthouse, The Green in Southwick, Shoreham Power Station. Southwick Beach is an important destination for surfers.

Shopping centres are important destinations and have good public transport connections providing opportunities to gain access to open space and green corridors. The Holmbush Centre and Sainsburys in Benfield Valley are relevant within the JAAP area.

2.6

Summary

The study area contains landscape and natural features of high quality in close proximity to the urban areas including the South Downs National Park, the Adur River Valley, Shoreham Harbour and the seashore.

Much of the area is covered by designations including the South Downs Area of Outstanding Natural Beauty, Sites of Special Scientific Interest, Sites of Nature Conservation Interest and Local Nature Reserves.

Two significant green corridors follow the coastline from Brighton to Worthing and from Shoreham northwards along the Adur Valley. Links do exist from the urban areas to the South Downs and the Adur Valley but are most attractive and accessible to the residents living in close proximity. Links from north to south across the urban areas from the seashore to the Downs are not well connected at present but future development could provide the opportunity to improve and complete these links.

Parks, cemeteries and school playing fields, provide valuable green corridors and wildlife habitats across the urban areas. Private residential gardens and allotments, as well as helping to improve people's health, also provide valuable green corridors for wildlife.

Barriers to movement are provided by the A27, other urban roads and the railway line and future GI links need to address this situation to improve movement and legibility.

Footpaths and public routes need to be better linked to create green corridors especially within built up areas to connect to the urban fringe and the Downs, to the coastline and in an east to west direction.

Shoreham Harbour currently has only three pedestrian / cycle crossings and the A259 Brighton Road bridge shared with vehicles. Public access to the waterfront is an issue at present that should be addressed in the future.

Existing landmarks and their environs such as Old Shoreham Fort and Shoreham Lighthouse would benefit from enhancement and provide valuable destinations for locals and visitors.

New development areas provide the opportunity to create new green infrastructure and links which are lacking at present and to improve wildlife habitats.

3 **Sompting and Lancing – opportunities to create green infrastructure and green links (figure 2)**

3.1

Creating green corridors and green links

Sompting Gap - no public footpaths currently cross this open area. There are opportunities to **provide significant public access improvements** linking existing residential areas in Sompting and East Worthing and develop new links within the open area at Sompting through the proposed Sompting Fringe (A) development areas. Combine improved pedestrian and cycle links with reinforcements to hedgerow planting and screen and structure planting along new links and to new developments providing landscape and wildlife enhancement.

Improve links from the Downs to the sea through Sompting Gap – provide new railway crossing at southern end of Loose Lane (6) providing direct access to Brooklands Park and seashore and a new bridge over A27 (10) for pedestrians and cyclists.

Lancing Gap – the only public accessible route follows the western embankment of the River Adur. There are opportunities to **provide significant public access improvements** linking existing residential areas in Lancing and to Shoreham and Downs via existing Adur bridges. Develop new links through Mash Barn (B) and Old Salts Farm (C) development areas. Combine improved pedestrian and cycle links with reinforcements to hedgerow planting and screen and structure planting along new links and to new developments providing landscape and wildlife enhancement (no landscape or habitat enhancements should conflict with safe operation of Shoreham Airport).

Shoreham Airport – opportunity to improve public access along northern and eastern edges of site and through terminal area linking to green corridors.

Improve links from the Downs to the sea through Lancing Gap - provide improvements to railway crossings at Old Salts Farm Road (7) and New Salts Farm Road (8) providing direct links for new green corridors within Lancing Gap. Provide new crossing over A27 at Mash Barn Lane (9) junction to complete linkage.

Improvements to links within Sompting and Lancing – develop links using existing footpaths, open spaces and roadways to create an urban green corridor from Downs (Lancing Ring) to the sea. Important local links should be developed to Lancing Station and in an east to west direction to Sompting and Lancing Gaps and the planned development areas.

3.2

Enhancing biodiversity

Parks and open spaces - link neighbouring parks, open spaces, cemeteries and school grounds as **wildlife corridors** with connections along roadways and private land where feasible.

Improve wildlife habitats within Sompting and Lancing Gaps with new planting along proposed green corridors and within and surrounding proposed development areas.

Adur floodplain including Shoreham Airport – investigate opportunities to restore floodplain grassland where possible.

Lower Cokeham Reedbed (3) needs to be protected from increased public access in Sompting Gap. This can be addressed during selection of green infrastructure links.

Seashore at Lancing (4) and Widewater Lagoon (5) – popular and accessible site. Requires careful management to improve quality and habitats.

3.3

Opportunities in new development areas

New development areas can provide significant green corridor linkages and areas of wildlife enhancement as described in 3.1. In addition, improvements can be

made to the local landscape by providing a stronger landscape structure of trees and shrub planting providing a defined edge to the developments and reinstating hedgerows and other vegetated areas that have become denuded.

4 JAAP Area – opportunities to create green infrastructure and green links (figure 3)

4.1 *Creating green corridors and green links*

Provide **improved links to existing green corridors** National Cycle Route 2 (1) and Regional Cycle Route 79 (2) from town and rural areas to access these routes as quickly and directly as possible (as outlined in figure 13).

Southwick Hill (5), Foredown (6) and Benfield Valley (7) - **enhance to create green corridors from the Downs to the sea shore**. Create improved pathways, signage and lighting (carefully selected) through the existing areas; create new links through Fishersgate and Portslade to the sea, some of which may be possible with future planned developments in JAAP area. The potential development of the Eastbrook Allotments site (A7) would provide an opportunity to create an improved green corridor as part of route from the coast to Southwick Hill.

Remove barriers to movement - improve links across Upper Shoreham Road and Old Shoreham Road for cyclists and pedestrians to provide safer green links. Upgrade railway crossings including bridges for pedestrians and cyclists.

Improve strategic links at major entry points to the Downs (A27 interchange / Mill Hill area, Holmbush Centre, Benfield Valley), connections from Shoreham across the Adur towards Lancing, to popular railway stations at Shoreham and Portslade and into Brighton. Improve routing, upgraded surfacing, signage and separation from vehicular traffic.

4.2 *Enhancing biodiversity*

Parks and open spaces - provide opportunities to:

- create more **wildlife planting** (native trees and shrubs and wildflower grasses) and reduce mowing regimes where appropriate. Integrate these proposals as part of a biodiversity management plan for open spaces, if this does not already exist.
- create **habitats for amphibians (B)** by creating ponds in urban areas and on South Downs **(D)** – both are lacking at present in the area
- link neighbouring parks, open spaces, cemeteries and school grounds as **wildlife corridors** (these are physical connections between disconnected fragments of plant and animal habitat) by managing these spaces to enhance habitat quality (i.e. managing grassland as wildflower meadow or planting native trees and shrub species) with connections along roadways and private land where feasible. Locations to investigate in the future include River Adur corridor / Swiss Gardens, New Shoreham Burial Ground to Mill Hill (A1); Buckingham Middle School, Buckingham Park to the Downs (A2); the development proposals for Southlands Hospital Site (A3); Kingston Buci recreation grounds, school playing fields and Tennis and Croquet Club (A4) parallel to railway line; Southwick / Fishersgate open spaces including The Green, Southwick Leisure Centre and Recreation Ground (A6) and Victoria Park, Portslade Cemetery and Vale Park (A8)
- **recreate suitable habitats for ringed plover** that are currently resident on existing Shoreham Harbour shoreline as part of Harbour reclamation (A10). In addition, opportunity exists to provide facilities for interpretation of peregrines that are resident on Shoreham Power Station chimney.
- **protect species rich grassland (A5)** between Shoreham Harbour East Arm and A259. Incorporate this valuable habitat into open space plans for a future waterfront park and open spaces.
- **Shoreham Fort (A11) and Lighthouse Beach** opportunity to create new open spaces and enhance existing habitats. Both locations can be improved as visitor destinations to entice visitors attracted by the establishment of the South Downs National Park, the coast and other local attractions.

4.3

Opportunities in new development areas

New development on the scale envisaged for the JAAP area provides the opportunity to create significant new green infrastructure and wildlife corridors.

In particular the following opportunities should be investigated:

- **Provide the missing links from Downs to the sea** which the future JAAP developments in Shoreham, Southwick, Fishersgate and Portslade offer. Important connections in the urban area will complete the green corridors from Southwick Hill (5), Foredown Hill (6) and Benfield Valley (7). Green corridors will be especially important to new development areas which are likely to lack extensive open space and access to the wider open space network will be important.
- The density of new development is likely to preclude the provision of extensive areas of open space. **Green roofs** should be investigated as wildlife habitats, to capture rainfall and reduce excessive run off and improve year round insulation.
- **Incorporate green infrastructure and wildlife links** into the possible new development area at Eastbrook Allotments (A7). The allotment site, as previously mentioned, would form part of the Southwick Hill green corridor (5)
- **Reconfigure the existing A259** (Brighton Road / Albion Street / Fishersgate Terrace) which runs parallel to Shoreham Harbour to greatly improve the pedestrian and cycle experience and provide greater access to the waterfront. This could become a major green corridor running in parallel to the existing National Cycle Route 2 which runs along Basin Road South next to the shoreline. Shoreham Harbour would be transformed by having a waterside open space and the area of coastal grassland (A5) could be incorporated into this space.
- **Improve links over Shoreham Harbour** for both pedestrians and cyclists especially on existing footbridge from Shoreham High Street and on Harbour East Arm as part of Fishersgate / Portslade development areas. Investigate possibility of a 'green bridge' (A9) incorporate some planting with potential as a wildlife link

- **Shoreham Harbour expansion** creates a new foreshore with possibility for improved public access for walkers and cyclists. Opportunities for continued use by surfers should also be investigated.
- **Kingston Buci (A4)** open spaces could be connected in future over railway line by green bridge to new development areas and Shoreham Harbour

5 Summary

5.1 *Creating green corridors and green links*

Improve local links to the two existing green corridors - National Cycle Route 2 and Regional Cycle Route 79.

Green corridors must link urban and rural areas and important shopping (town centres, local centres, Holmbush Centre), education and transport nodes (such as Lancing, Shoreham and Portslade Stations) and destinations such as the seafront.

Provide environmental improvements as part of a first phase which is not dependant upon future major development proposals. These could include improving pedestrian and cycle routes around A27 interchange in Adur Valley and access up to Mill Hill; upgrade existing green links (with better surfacing, widening in some areas and signage) from Downs southwards to JAAP area and providing some of the missing linkages and provide an initial green corridor network in Sompting and Lancing Gaps.

Sompting and Lancing Gaps – integrate new green corridors and links into the future development areas. Improved links are required from the Downs to the sea through these areas with new linkages over A27 and the railway line. East to west links are also desirable locally and for longer distance corridors from Shoreham / Adur Valley to Worthing as an alternative to the existing coastal route.

Within Shoreham and JAAP area provide north to south links from Downs to the sea. Small local improvements can be provided in the short term including new

crossing points over Upper Shoreham Road and Old Shoreham Road. Longer term links to the sea are dependant upon the JAAP development programme.

There is an important need to maximise use of urban fringe as it is very difficult to create new open space in development areas due to density. A new country park to the north of A27 should be investigated to provide facilities for JAAP area.

Improve local links to the Downs with improved surfacing for shared pedestrian and cycle usage, access routes and signage especially at A27 interchange / Mill Hill, Slonk Hill / The Holmbush Centre and Benfield Valley.

5.2

Enhancing biodiversity

Existing open spaces and parks to benefit from more wildlife planting and a varied mowing regime.

Provide more habitats for amphibians in urban spaces and on South Downs through the creation of ponds.

Improve wildlife linkages in urban areas using parks, opens spaces, cemeteries, roadways and private land.

Enhance and create new open spaces and habitats at locations such as Shoreham Old Fort and Shoreham (Kingston Buci) Lighthouse.

Protect the species rich grassland beside Shoreham Harbour (as shown in Figure 3) and integrate into future open space plans along realigned A259.

Consider a green bridge over Shoreham Harbour in Fishersgate / Portslade area.

Improve wildlife corridors wherever a new green corridor is developed or enhanced.

5.3

Opportunities in new development areas

Use new development areas as a catalyst to develop or enhance existing green corridors. Link new developments to the existing and planned improvements to the green network. Developments in Sompting and Lancing gaps provide opportunity to create completely new links currently lacking. JAAP development areas are likely to be of high density without significant open spaces. Good

linkages to the green network and existing open spaces will be vital. The building designs should incorporate green roofs and areas of planting wherever possible.

Provide new links over Shoreham Harbour to create the 'Downs to the sea' green corridors. Improve existing link over Shoreham Harbour lock and a new green bridge crossing at Fishersgate / Portslade.

Reconfigure existing A259 parallel to Shoreham Harbour to improve pedestrian and cycle links, access to the waterfront and to protect and integrate species rich grassland into a new waterfront open space.

Shoreham Harbour expansion will provide a new coastal frontage with public access, the interests of surfers should be considered together with the possibility of recreating habitats for ringed plovers.

5.4

Public Access to Sensitive Areas

Future access and management proposals should take account of the need to ensure that public access does not impact in a negative manner on the most sensitive and protected areas such as Shoreham Beach SNCI and LNR and sections of the Adur Estuary SSSI.

5.5

Flood Attenuation Areas

These areas should be recognised as an important component of green infrastructure providing valuable land for recreation and biodiversity as well as fulfilling their role during periods of flooding.

6

References

Open Space, Sport and Recreation Study for Adur District Council, PMP, November 2005

Shoreham Harbour JAAP Assessment of Open Space and Recreation, PMP, May 2009

Consultants Workshop January 2009 and Urban Design Study draft, February 2009 Tibbalds

Urban Fringe Study of Adur District, Baker Assocs & Enderby Assocs, December 2006

A Strategy for Shoreham Renaissance, Urban Practitioners March 2006

A Green Network for Brighton and Hove Final Report, 2009 by Sussex Wildlife Trust, Sussex Environmental Partnership and Brighton and Hove City Council

Interim Planning Guidance for Shoreham Harbour, February 2009

Housing Growth and Green Infrastructure Policy 2009, Natural England

Final Options for Shoreham Harbour Regeneration Port Masterplan, January 2009 Halcrow Group Ltd

Designated Site Map (ESD/09/55) Adur District, February 2009 Sussex Biodiversity Record Centre,

Biodiversity and Geological Conservation Planning Policy Statement 9

Adur District Local Plan 1996

Policy CC8 Green Infrastructure The South East Plan 2009

'Green Infrastructure – connected and multi functional landscapes' 2009 Landscape Institute Position Statement

Green Space Strategies – a good practice guide, CABI Space 2006