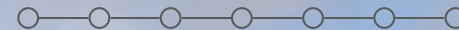




ARUP

Waterside Green Links Study

New Forest National Park Authority | January 2024



“Totton and the Waterside presents a unique opportunity to lead a national green recovery, embedding the principles set out in the Government’s 25 year Environment Plan by delivering a world class economy in a world class environment.”

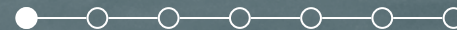
Extract from ‘A Vision for the Waterside’ prepared by New Forest District Council, New Forest National Park Authority, and Hampshire County Council

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SECTION 1

Introduction

Introduction

The Waterside refers to the general area between the edge of the New Forest National Park and Southampton Water. The study area focusses on the Waterside area along the A326 corridor and is loosely defined by the settlements of Totton in the north and Calshot in the south. It is situated within the county of Hampshire and predominantly within the administrative boundary of New Forest District Council with the remaining area falling within the New Forest NPA.



Figure 1: Study area © Arup

This Study seeks to inform the legacy for future generations, reinstate the historic reach and influence that the New Forest has held beyond the National Park, and build on the overall vision for the Waterside in accordance with the Re:New Forest Partnership Plan.

The Study imagines a series of green links that reconnect habitats, facilitate grazing animals, join up local communities and reflect positive landscape management guidance. A key aim of the Study is to promote anchoring and connecting green spaces with the Waterside. It is anticipated that the Study will be used to scope future projects and support the National Park Authority in responding to consultations for new development and future highway improvements in the Waterside area.

The Study is organised into the following parts:

- Section 1 (this section) introduces the study, its aims and its purposes.
- Section 2 collates the ambitions of the New Forest planning authorities and summarises the policy context for the Waterside area.
- Section 3 presents the baseline analysis.
- Section 4 identifies the opportunities and constraints for new and existing green links.
- Section 5 presents the Green Link Vision Plan and practical ideas to reconnect the New Forest National Park and the Waterside, and to reduce the severance of the A326.
- Section 6 explores inspirational precedents and the key aims and outcomes of their implementation.
- Section 7 provides a summary of the study.



SECTION 2

Ambitions

Ambitions

Re:New Forest – Partnership Plan 2022-2027

The Re:New Forest Partnership Plan 2022-2027 sets out the priorities for the New Forest and provides details of how it will be delivered. It focusses on five key themes that seek to deliver on the vision and the statutory purposes of the National Park.

The Plan provides the expected direction of travel for the National Park and is relevant to anyone with responsibilities or an interest in the National Park. Many of the actions overlap between the themes so there is the potential to deliver multi-functional benefits. For example, it is likely that future green investment could enable habitat restoration at a strategic scale which could then relieve pressure on designated nature conservation sites. A coordinated approach to recreation that connects settlement areas with key destinations in the local area could also increase engagement within the New Forest and encourage greater active travel.

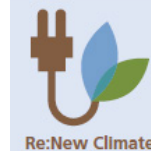
With regard to the Waterside, it notes the growing populations and the potential to provide a new country park to relieve pressure on protected habitats in the New Forest.

Recent legislation, the Levelling up and Regeneration Bill, supports the opportunity for neighbouring Local Authorities to demonstrate the duty to further the purposes of National Parks.

How the new Plan brings together existing forums, policies, plans and strategies



Extract from Re:New Forest - Partnership Plan 2022-2027



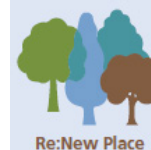
Net Zero with Nature – significant cuts in land-based carbon emissions are secured through restoring natural habitats and enabling carbon capture.



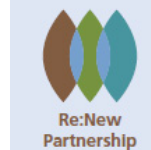
Nature Recovery – habitats are more resilient, restored, expanded, connected and maintained to enable wildlife to thrive, both within and beyond the National Park.



An Inclusive National Park – people within reach of the New Forest of all backgrounds, abilities and socio-economic groups value the National Park as an important part of their lives and seek to care for it.



Thriving Forest – a living, working Forest is sustained through its rich cultural heritage, natural beauty and support for commoning. There is a vibrant local produce market, access to affordable homes and a growing green economy featuring sustainable tourism and green businesses.



Team New Forest – communities, businesses and organisations work together as a team to deliver the vision of the Partnership Plan, sharing knowledge, ideas and resources to deliver the best for the Forest.

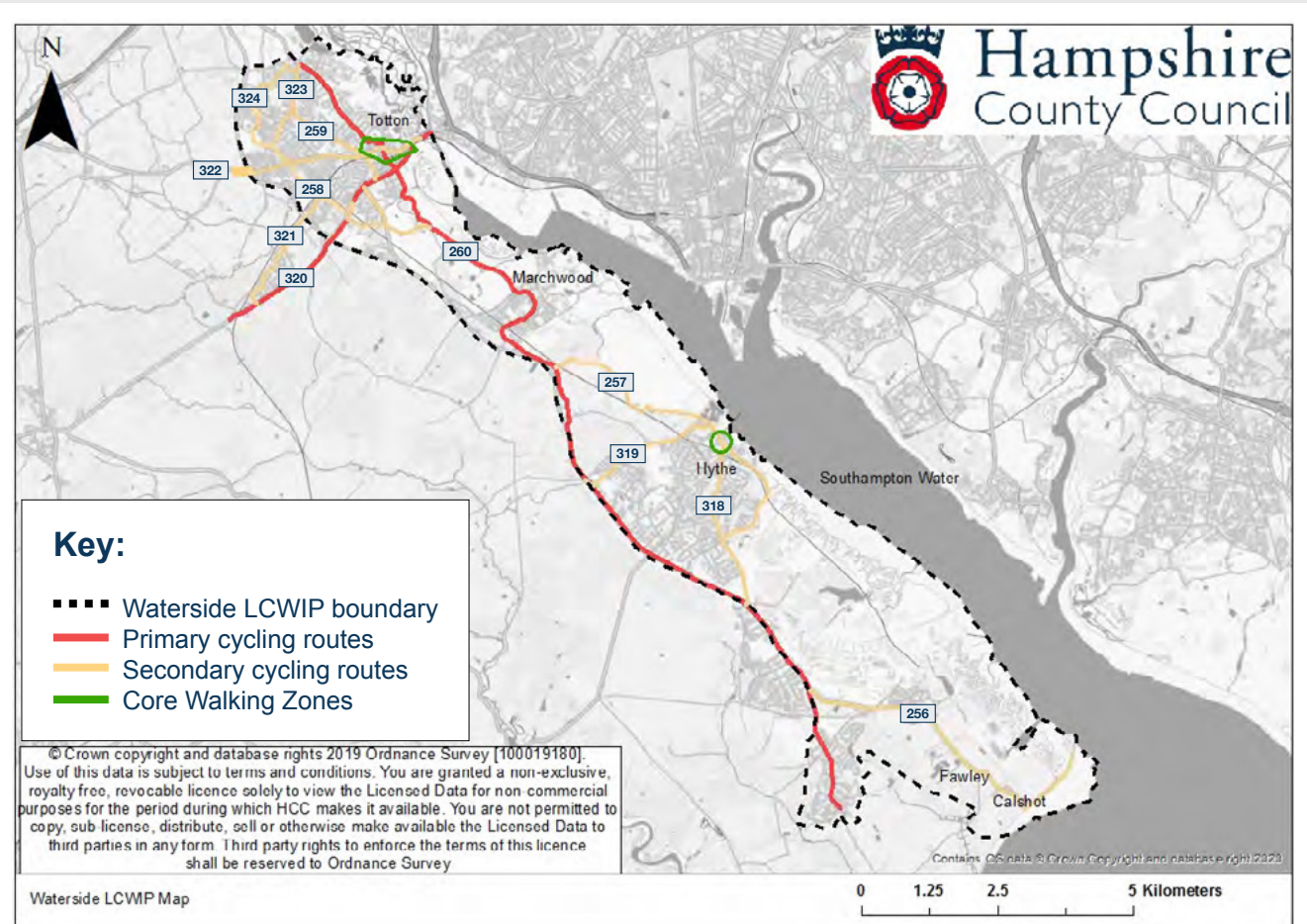
New Forest Waterside – local cycling and walking infrastructure plan

The Local Cycling and Walking Infrastructure Plan (LCWIP) was prepared and approved by Hampshire County Council on 7 November 2022. The LCWIP recommends an approach to coordinating networks of walking zones and cycling routes. The aims of the county-wide strategies are given as:

- walking: By 2025, walking will be the travel mode of choice for short trips and the most popular and accessible means of recreation;
- cycling: By 2025, cycling will be a convenient, safe, healthy, affordable and popular means of transportation and recreation within Hampshire.

It sets out routes that should be prioritised for improvements and these are concentrated within the urban area of Totton. The preceding community consultation exercise however highlighted other suggested future walking zones and top cycle routes at the following locations which should be considered.

The LCWIP has clear targets to increase walking and cycling in the Waterside area. It shows that current efforts to improve walking and cycling will be focussed on the settlement of Totton. The findings of community consultation also identified existing routes that are popular within the Waterside area.



Extract from The Local Cycling and Walking Infrastructure Plan

Waterside Transport Strategy

The Waterside Transport Strategy explores potential improvements to access and movement around the Waterside area. It builds on the Vision for the Waterside and complements the emerging Hampshire Local Transport Plan 4 which is also being developed by Hampshire County Council. The Waterside Transport Strategy is underpinned by seven core themes with associated outcomes that set the direction for transport-related solutions in the Waterside.

The Waterside Transport Strategy sets out the ambitions for highways improvements in the Waterside area. A number of the same proposed actions occur across the different themes so there are opportunities for these to be prioritised to deliver the most impact. For example, improving active travel connections across the A326 would accord with six of the seven themes.

TRANSPORT VISION

The Waterside will have a low carbon, resilient and fully integrated transport network designed around people and communities, enabling economic growth in an innovative way whilst protecting and enhancing health, quality of life and the surrounding internationally important environment.

It will provide for a prosperous community within which people can live, work and have easy access to local facilities, whilst enjoying easy, direct and affordable access to:

- The New Forest's unique environment;
- Southampton Water's unique deep-water harbour, leisure activities and habitats; and
- The city of Southampton's wide-ranging employment, leisure, health and education facilities.

THEMES	Theme A - Improve access to local settlements/ centres to support businesses, services and communities	Theme B - Provide a sustainable means of access to education, health, leisure, services and retail facilities in Southampton and surrounding areas	Theme C - Provide a reliant and efficient transport network to enable the growth of the economy	Theme D - Supporting and enabling a carbon neutral and resilient transport system designed around people, which connects thriving places, supports	Theme E - Protect and enhance the special qualities of the New Forest National Park	Theme F - Supporting healthier lifestyle choices and wellbeing	Theme G - Integrating new developments with well-planned travel choices
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Extract from The Waterside Transport Strategy

New Forest National Park Landscape Character Assessment

The New Forest National Park Landscape Character Assessment sets the ambitions for the different landscapes within the National Park and their future management. The vision for the landscape character areas that fall within the National Park and coincide with the Waterside are set out below.

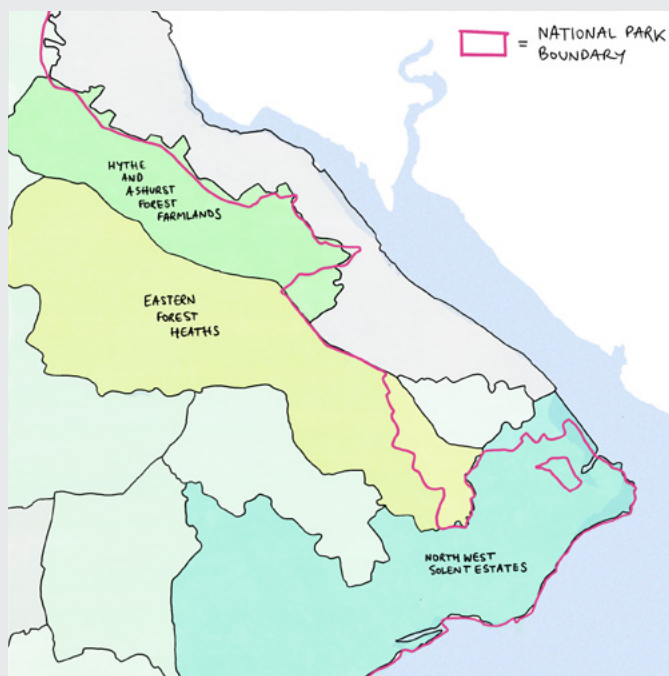


Figure 2: NPA landscape character areas adjacent to the Waterside © Arup

LCA 12: Hythe and Ashurst Forest Farmlands - Vision

A strong forest-edge landscape with a legible separation in character from the surrounding urban fringe. It is characterised by mosaic of land uses with visual and physical links to the New Forest; fields surrounded by a dense network of well-managed hedgerows and frequent hedgerow oaks, asserted semi-natural woodlands with a diverse range of species and ages of trees and well-managed historic wood pasture. Paddocks around smallholdings are used for the grazing of commoners' stock and the landscape's small hamlets and farmsteads are unified by their red brick, render and thatch local vernacular and linked by sunken tree-lined lanes. The historic character and setting of Marchwood Priory stands out in the landscape, with veteran trees forming key features. In all, this landscape remains a tranquil backwater with its wildlife and working links with the nearby Open Forest retained and strengthened.

LCA 15: North West Solent Estates - Vision

A scenic and varied coastal landscape backed by intimate woodlands and well-managed mixed agricultural land. A strong pattern of parliamentary and large wavy fields is enclosed by thick hegerows with frequent oak trees, linking to coastal pine woods and blocks of ancient woodland. These are reminders of the landscape's historic development and links to the New Forest. Historic settlements with characteristic red brick buildings are set within a quiet rural landscape including well-managed parkland estates and wayside commons in the east grazed by free-roaming livestock, linked by quiet tree-lined lanes. The area is fringed by a scenic and diverse coastal landscape linking to important wetlands stretching inland, with long views across the Solent to the Isle of Wight. Calshot Castle remains a key landmark feature on the coast at the mouth of Southampton Water. Parts of the area are amongst the most tranquil in the National Park and require careful visitor management to ensure that the sense of remoteness is retained.

LCA 27: Eastern Forest Heaths - Vision

A landscape strongly associated with large tracts of open heathland punctuated by character stands and clumps of Scots Pine and freely grazed by commoners' livestock. Rovers firnges by ancient woodland and grazed lawns wind through the landscape, giving a distinctive sense of place. The inclosure woodlands contain a mixture of predominantly broad-leaved tree species within a mosaic of restored open heathland, wetland and wood pasture habitats. The landscape retains its sparsely settled character, with red brick thatched farmsteads and forest lodges hidden within their forest clearing settings surrounded by ancient Purlieu. The area's valued prehistoric archaeology is preserved and enhanced, with barrows remaining visible in the open heathland. This is a landscape that continues to be screened by stands of Scots Pine and other woodland. Long views across the landscape, framed by woodland, are maintained as important aspects of character.

Extract from the New Forest National Park Landscape Character Assessment, 2015)

New Forest National Park Landscape Action Plan

The Landscape Action Plan was published in September 2013 and sets out the pressures facing the National Park, as well as practical advice and guidance on the maintenance of its special character. It is split into eight themes with a summary of issues and recommended actions. Given the document is over ten years old, some of the actions have been completed but the key pressures remain a threat so are still relevant in the consideration of strategic landscape interventions. These actions and pressures have been considered in the preparation of this Study.

New Forest National Park Tranquil Area Mapping

The Tranquil Area Mapping was prepared in March 2014 and sought to capture local impacts on tranquillity including the positive effects of natural land cover and negative effects of major roads. This identifies Totton, Fawley Power Station, Fawley Oil Refinery and the Oil Storage Depot as areas of greatest disturbance to tranquillity. It also shows how areas in New Forest quickly achieve relatively high levels of tranquillity away from major transport routes and urban development.

National Planning Policy Framework (December 2023)

Paragraph 182 of the current NPPF seeks to avoid and minimise adverse impacts within National Parks (and other designated landscapes) and their setting resulting from new development.

The national policy requirement that development within the setting of National Parks should be sensitively located is relevant to planning in the Waterside area. The NPPF wording is also consistent with the Levelling Up & Regeneration Act 2023, which requires ‘relevant authorities’ (including neighbouring planning authorities) to seek to further the statutory National Park purposes in making decisions that could affect them. This includes development located outside National Parks which could still impact on them.

New Forest National Park Local Plan 2016-2036

The Local Plan for the National Park Authority was adopted on 29 August 2019 and sets out the vision, spatial strategy and planning policies. The planning policies relevant to this study are noted below:

SP7 Landscape character seeks to ensure that new development avoids negative impacts on the intrinsic landscape character and its key features.

SP9 Green infrastructure seeks to secure opportunities to create or enhance green infrastructure within new development.

SP15 Tranquillity seeks to control the potential impacts of noise and light pollution.

SP17 Local Distinctiveness seeks to avoid the suburbanisation of the National Park’s character from new development.

SP55 Access seeks to ensure new and existing routes are coordinated to provide links between key settlements and public transport hubs and other amenities.

Policy SP9 highlights the importance of green infrastructure and how new development will be expected to have regard to existing assets and the wider network. SP55 also encourages more sustainable forms of transport to and from the National Park. These development policies and associated measures set the ambition for potential new Green Links could be implemented at a site level. This is particularly relevant to smaller scale highways initiatives plus the existing and future site allocations in the NPA Local Plan.

New Forest District Local Plan 2016-2036

The Development Plan for the District has undergone multiple updates and retains several saved policies from former plans. These are discussed below:

Local Plan 2016-2036 part 1: Planning Strategy

Part 1 of the Local Plan 2016-2036 was adopted on 6 July 2020 and sets out the strategic policies including additional allocated development sites.

ENV1: Mitigating the impacts of development on International Nature Conservation sites seeks to secure the appropriate measures within new development to avoid adverse impacts on International Nature Conservation sites. The supporting text for the policy identifies several existing related initiatives.

ENV3: Design quality and local distinctiveness seeks to ensure all development is of high quality design. It includes a set of design principles for new development, including one on climate change resilience.

ENV4: Landscape character and quality seeks to ensure new development is successfully integrated into the landscape and its local context.

The Local Plan Part 1: Core Strategy 2009

The majority of the Core Strategy policies have been replaced by the Local Plan 2016-2036 Part 1: Planning Strategy.

Policy CS7: Open spaces, sport and recreation seeks to ensure development avoids placing additional recreational pressures on internationally designated nature conservation sites.

Local Plan Part 2: Sites and Development Management

The Sites and Development Management document was adopted in April 2014 and sets out detailed development policies as well as the allocated sites for the District.

DM2 Nature conservation, biodiversity and geodiversity seeks to ensure new development protects and, where possible, enhance biodiversity.

DM9 Green infrastructure linkages sets out the framework for the Green Infrastructure Strategy (to be prepared), and seeks to protect the overall green infrastructure network

Hythe-Dibden Neighbourhood Plan

The Hythe-Dibden Neighbourhood Plan was formally made on 9 December 2019. It provides the planning context for the Parish of Hythe and Dibden which is located at the centre of the study area. Relevant policies are noted below:

- *ENV 2 Opportunities will be sought in new development for the provision of additional accessible natural greenspace within the Parish*
- *T2 Seek to protect the existing rail route and track to Totton and identify suitable sites for Park and Ride infrastructure, platform access, and a potential railway halt in the parish of Hythe & Dibden including access for pedestrians and motorists and parking, so that in the event that it proves economically viable and the relevant authorities agree, a rail/ tram link to Southampton could be provided.*
- *T3 Seek to ensure the protection of Hythe Pier and associated infrastructure in order to sustain the ferry link to Southampton.*

Policy ENV1 highlights the need to relieve recreational pressures on sensitive habitats and bird populations. Policy ENV4 as well as CS7, DM2 and DM9 all call for an integrated green infrastructure network. This will ensure habitat connectivity is conserved and enhanced, and recreational assets are maintained, created and/or further joined up. These development policies give an insight into how green infrastructure could be delivered alongside smaller scale highways initiatives plus the existing and future site allocations in the District Local Plan. Policy T2 also presents opportunities to reduce the dependency on car travel and support other green infrastructure interventions in the Waterside area.



SECTION 3

Baseline Analysis

SECTION 3

Baseline Analysis

Introduction

This section presents the baseline of the Waterside area in terms of landscape character, wildlife, recreation and cultural heritage. This has been informed by the ambitions of the National Park identified in Section 2.

Landscape Character

The landscape character of the Waterside has been assessed within the Hampshire Integrated Landscape Character Assessment (2010) and in the New Forest District Landscape Character Assessment (2000). The New Forest NPA also prepared a Landscape Character Assessment (2015) for the land falling within the National Park boundary which is based on the NFDC (2000) study and updated to the then current standards for LCAs.

Figure 3 provides an overview of the landscape character areas identified with the local landscape character assessments. At a high level, the land in the south east of the New Forest National Park is characterised by gently undulating plateaus of open heath, bog and woodland. The land becomes more settled and farmed along the National Park boundary with small to medium scale pastures including some wood pasture. Along the coast the character becomes more suburban, heavily influenced by high density built development and major infrastructure.

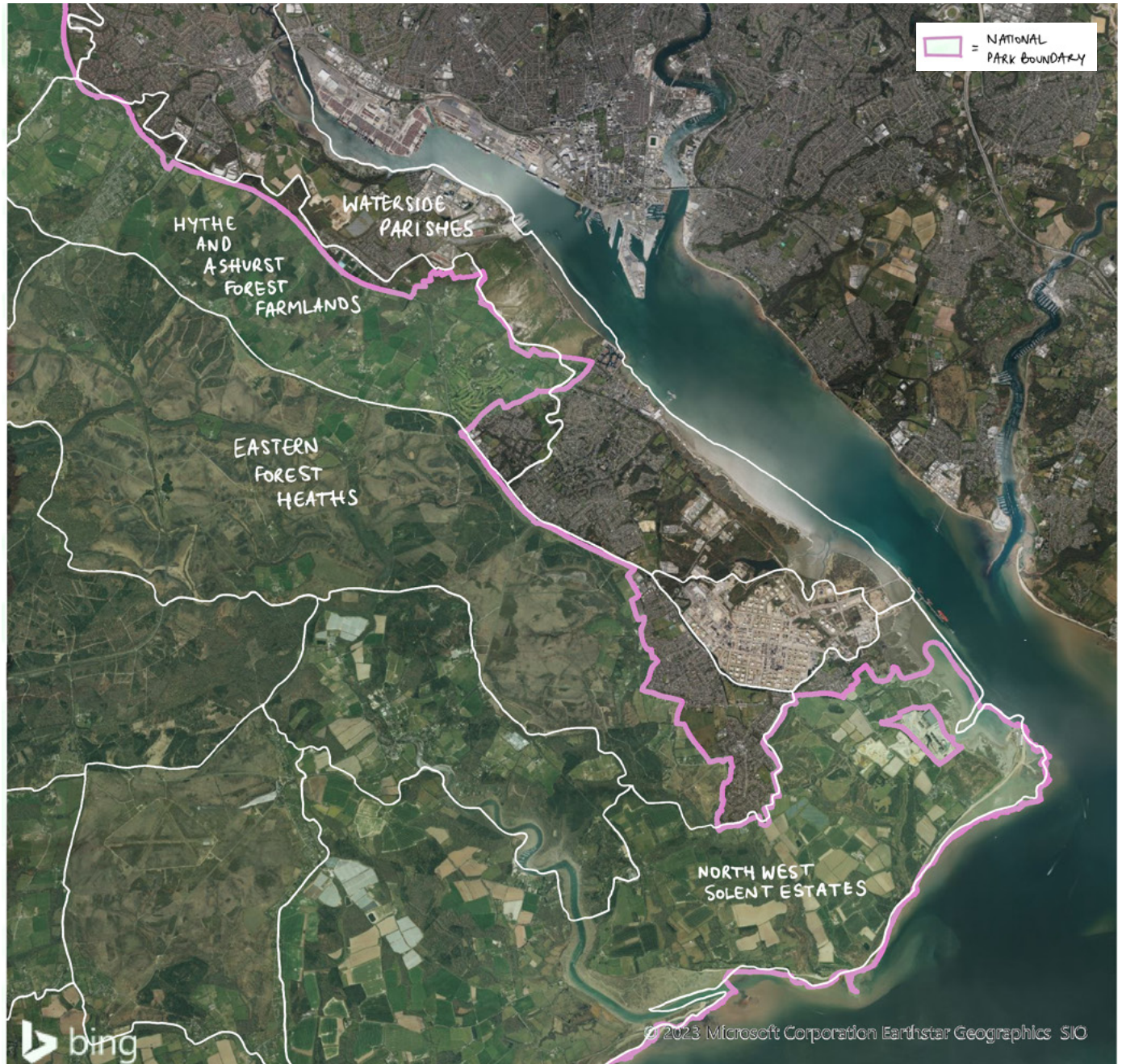


Figure 3: Local landscape character areas © Arup

LCA12 Hythe and Ashurst Forest Farmlands

LCA12 is characterised by 17th-18th century farmland on the edge of the forest heaths, with small-medium scale pastures bordered by hedgerows with hedgerow trees. Shaded leafy lanes, sometimes sunken, wind their way through wooded areas including large copses and some wood pasture. Major infrastructure, including the A326, A35, and Totton to Fawley railway line, cuts across the area. Dense linear development close to settlements exhibits a variety of modern housing styles and materials. Views are short, most usually to the next field boundary or woodland edge.

LCA13 Waterside Parishes

LCA13 is a very gently undulating, alluvial plain on the western edge of Southampton Water. It has contrasting levels of enclosure defined by large-scale, wooded areas together with salt marshes, intertidal mudflats along the coast. The area contains major infrastructure, including the A326, which runs along the western edge of the area and high density built development, including residential estates, industrial parks, military ports, and electricity infrastructure. The area also has small historic cores to settlements and remnant tide mills. There are coastal views across to Southampton and elsewhere tall vertical elements such as electricity pylons and chimney stacks are noticeable.

LCA15 North West Solent Estates

LCA15 is a gently undulating coastal plain with a heath character. The area is generally an enclosed, well-managed agricultural landscape of large regular Parliamentary fields divided by ditch and bank hedge boundaries with gaps reinforced by post and wire fencing. Coastal grazing marshes, shingle spits, and saline lagoons are habitats of national and international importance. Calshot Castle, Calshot Activities Centre, and Fawley power station are landmarks at the mouth of Southampton Water. Certain locations in the LCA are some of the most tranquil parts of the National Park.

LCA 27 Eastern Forest Heaths

LCA27 is characterised by gently undulating plateaux of open heath, bog, and woodland in the east of the National Park. The area contains meandering rivers in wide, shallow valleys defined by ancient ash-rich riverine woodland and some alder and sallow carr particularly along the Beaulieu River. Boggy hollows and open water provide drinking holes for animals as well as important wetland habitats for flora and fauna. Long views are achieved over open heaths with woodland forming the backdrop. Pylons, chimneys and flues at Fawley are visible in the distance.

The adjacent photos are included to provide a sense of the prevailing landscape character in and around the Waterside area.



Topography and Hydrology

The topography of the local landscape is generally flat and low-lying which reflects the wider plateau landform of the New Forest and its coastal location. **Figure 4** illustrates the local variation in and around the Waterside area created by the network of tidal estuaries and creeks in shallow valleys, and coastal floodplains. Beaulieu River is a tidal river and form the primary watercourse flowing through this part of New Forest into the English Channel. Other inland rivers are found in the Waterside area including Bartley Water which flows through Totton and Eling.

The prevailing topography has historically supported the free-roaming of grazing stock and the success of commoning within the New Forest. A review of historic OS mapping reveals that a large part of the coastal land in the Waterside area was drained in the 20th century but smaller watercourses still remain. This includes Bartley Water which meanders through Totton from Southampton Water to the National Park.

Field work also revealed areas subject to flooding during periods of heavy rainfall. This includes coastal areas around Calshot and Ashurst, as well as riverine areas between Hythe and Marchwood. At Totton, underpass crossings beneath the A326 were found in a boggy condition and in some instances there was evidence of regular stream of water running down footpaths.

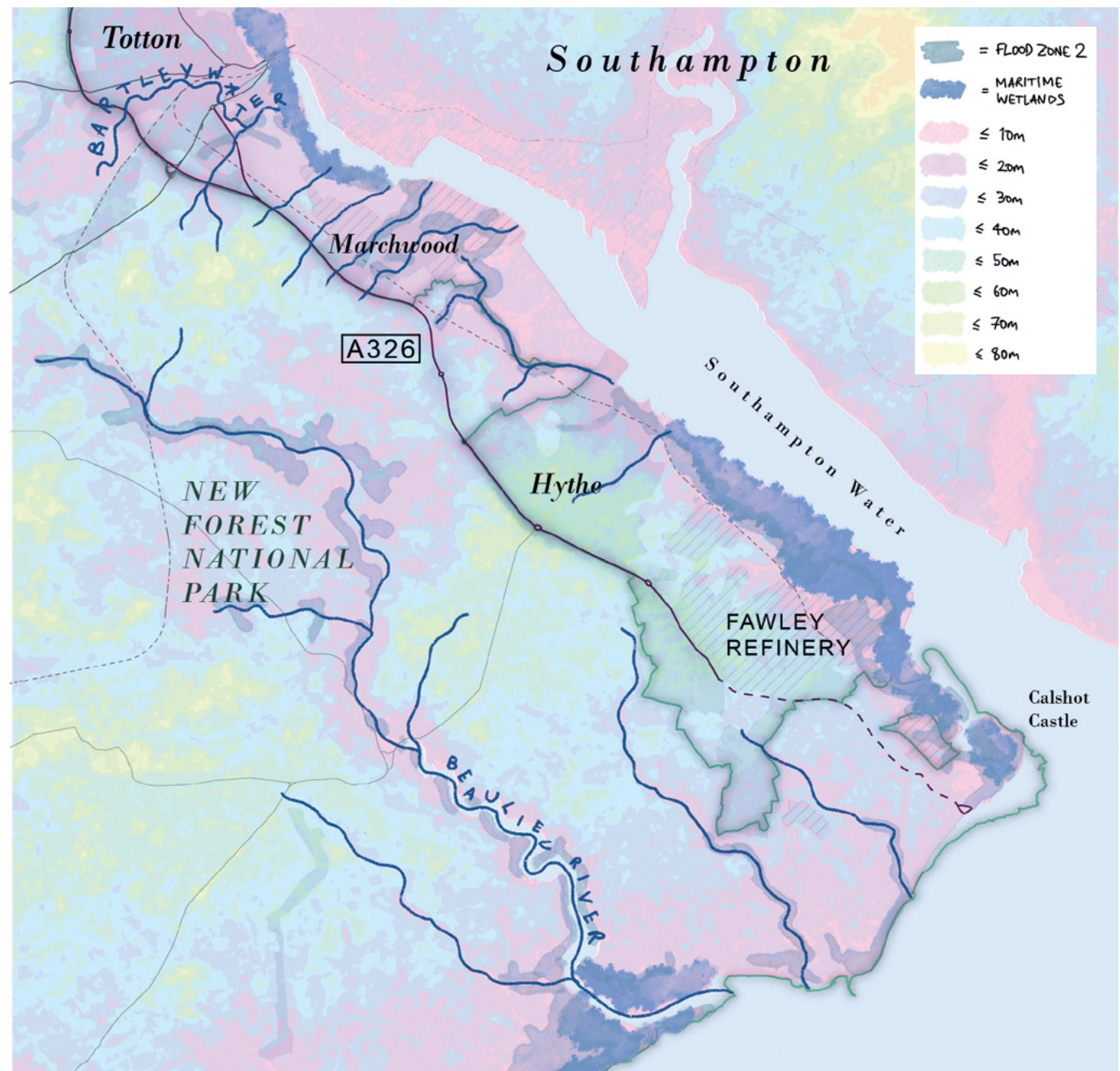


Figure 4: Topography © Arup

Woodland types

Land cover mapping on **Figure 5** shows the distribution of woodland in the study area. Within the National Park boundary, there are large continuous swathes of woodland which is typically deciduous or mixed. Coniferous woodlands are more common towards the eastern edge of the National Park along the A326 where they contain the Waterside settlement. Woodland in the Waterside area is less common which reflects the change to a more coastal character, and is limited to smaller deciduous and mixed blocks.

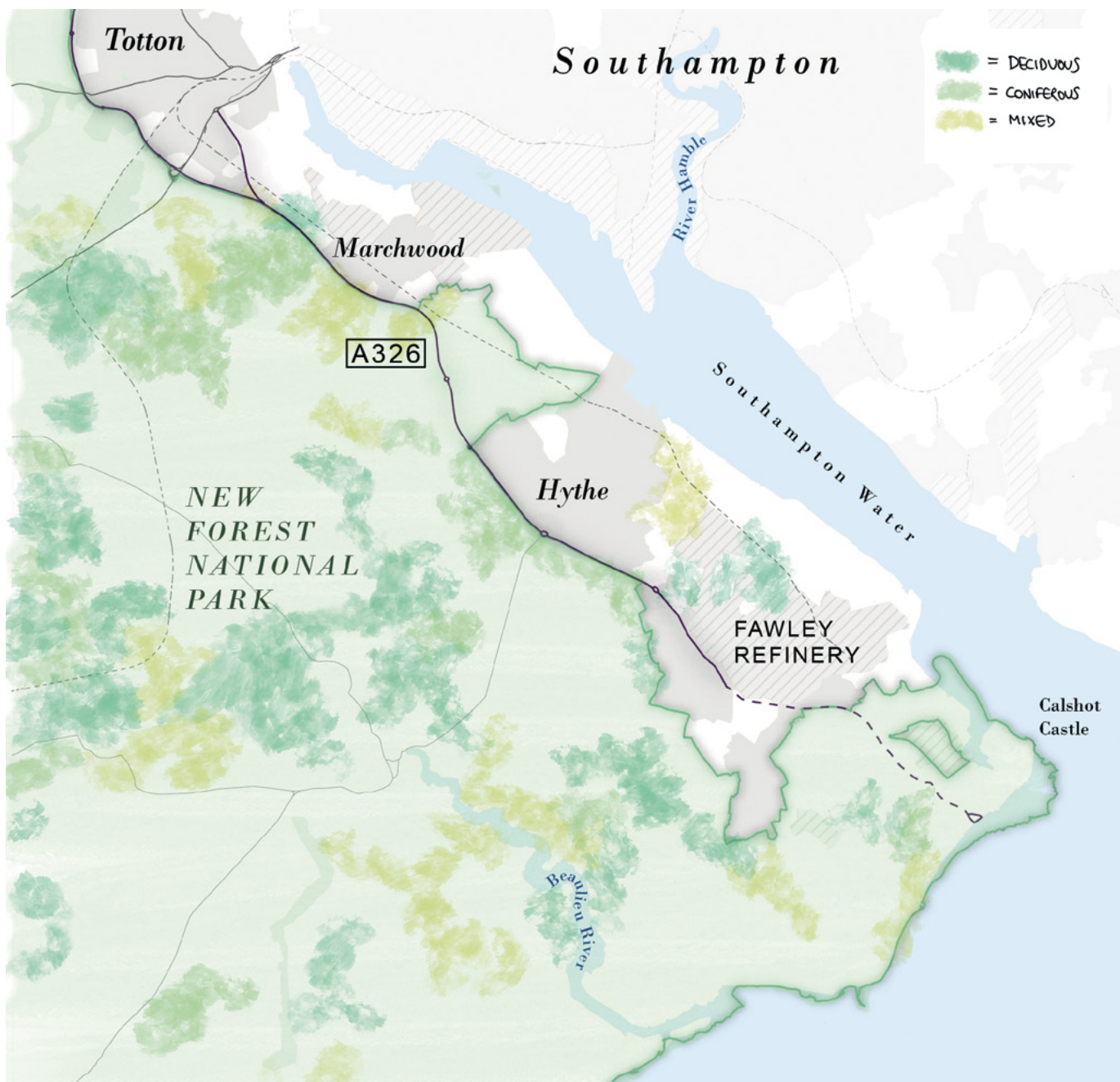


Figure 5: Woodland land cover types © Arup

Ancient woodland

Figure 6 shows the distribution of ancient woodland in and around the Waterside area. This shows that there is a concentration of ancient woodland in this part of the New Forest which reflects the natural beauty on which the National Park is founded. Large swathes of different woodland types are identified as ancient woodland within the National Park with only isolated occurrences in the more suburban Waterside area beyond.

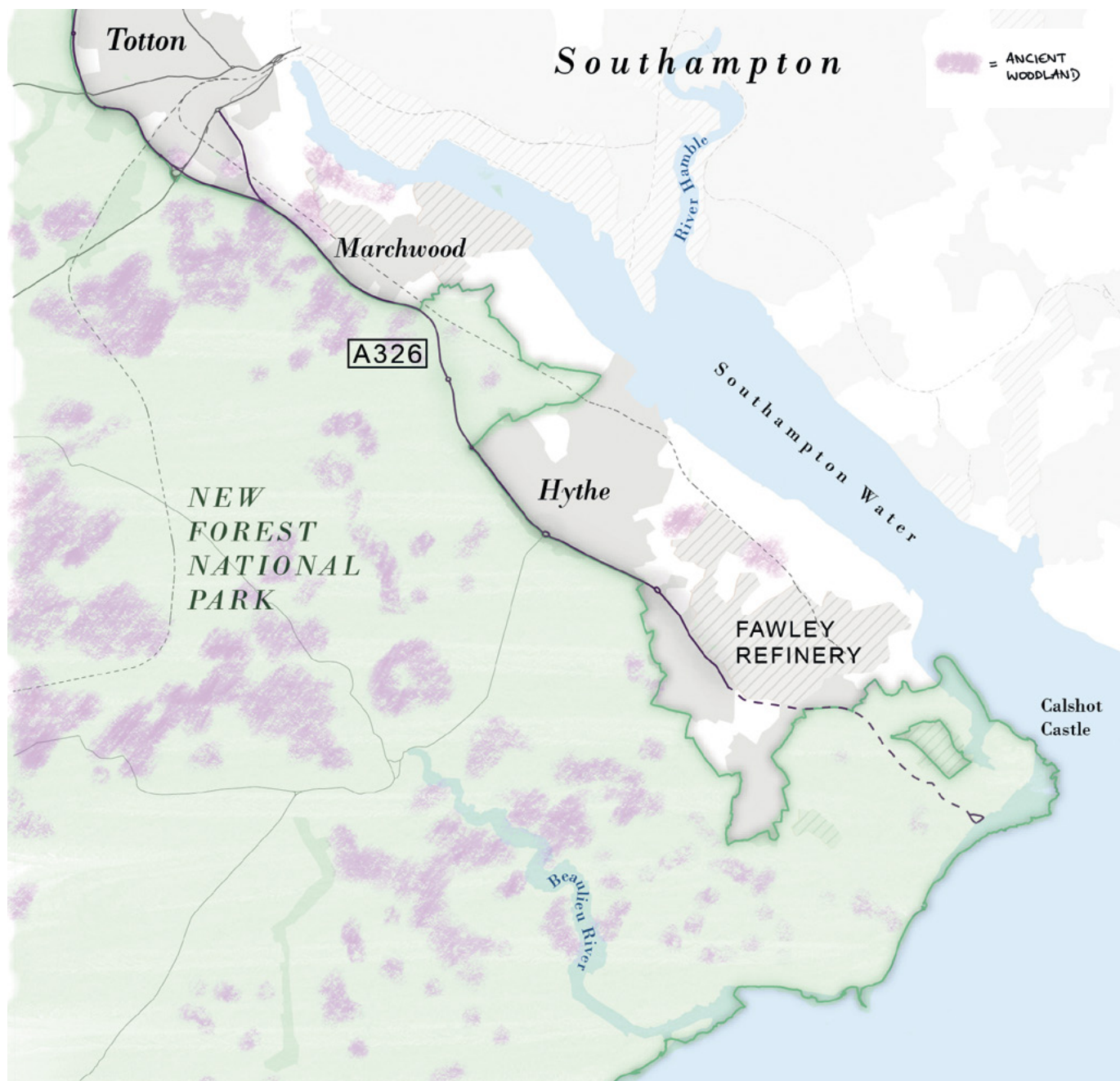


Figure 6: Ancient woodland © Arup

Other key land cover types

Figure 7 shows other common land cover types that can be found in and around the Waterside area. Besides from the woodland which is characteristic of this area, the other prevalent land cover types include heathland and pasture. Bands of heathland occur between the large swathes of woodland in the National Park turning to pasture around the Waterside settlements. **Figure 7** also shows the severance effect that the A326 has had on these pastures.

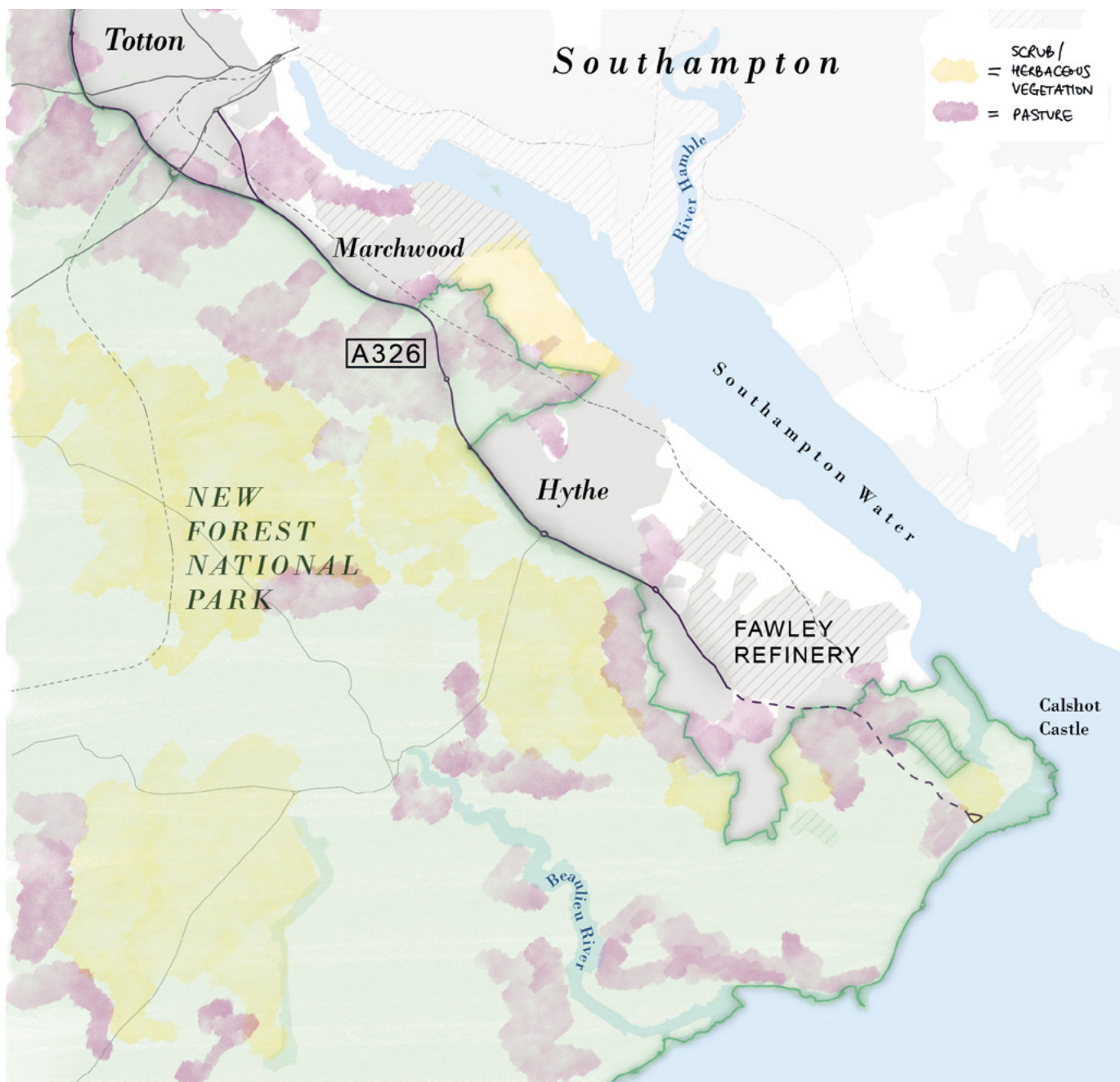


Figure 7: Other key land cover types © Arup

Priority habitat

Priority habitat mapping on **Figure 8** provides a finer grain to the land cover types. It shows the relationship between the deciduous woodland and lowland heathland within the National Park. It also demonstrates the coastal habitat types including the concentration of coastal saltmarsh around Hythe and Fawley Oil Refinery. Between Hythe and Marchwood, areas of habitat become smaller and more fragmented.



Figure 8: Priority habitats © Arup

Ecological designations

Figure 9 shows some of the key ecological designations found in and around the Waterside. Much of the New Forest National Park is afforded the highest protection through multiple ecological designations including Site of Special Scientific Interest (SSSI), Special Protection Area (SPA), Special Area of Conservation (SAC) and Ramsar. Similarly along Southampton Water, many of the recovering intertidal marshes are covered by Ramsar and SSSI designations for their assemblages of salt marsh and mudflats.

The Waterside area is largely absent of protected landscapes and habitats but its relatively large human population and extensive farming practices continue to place pressure on the neighbouring ecologically sensitive areas including the National Park.



Figure 9: Ecological designations © Arup

Strategic land allocations

The Waterside is expected to see over 5000 homes and £400m investment at Marchwood Military Port over the next 10 to 15 years. **Figure 10** illustrates the strategic allocations identified in the New Forest District and NPA Local Plans. The masterplans for these sites contained within the planning documents show how the sites could be delivered and include indicative habitat corridors and access points. This shows how these sites may be integrated into the landscape and where future pressure on recreational assets and the transport network may arise.

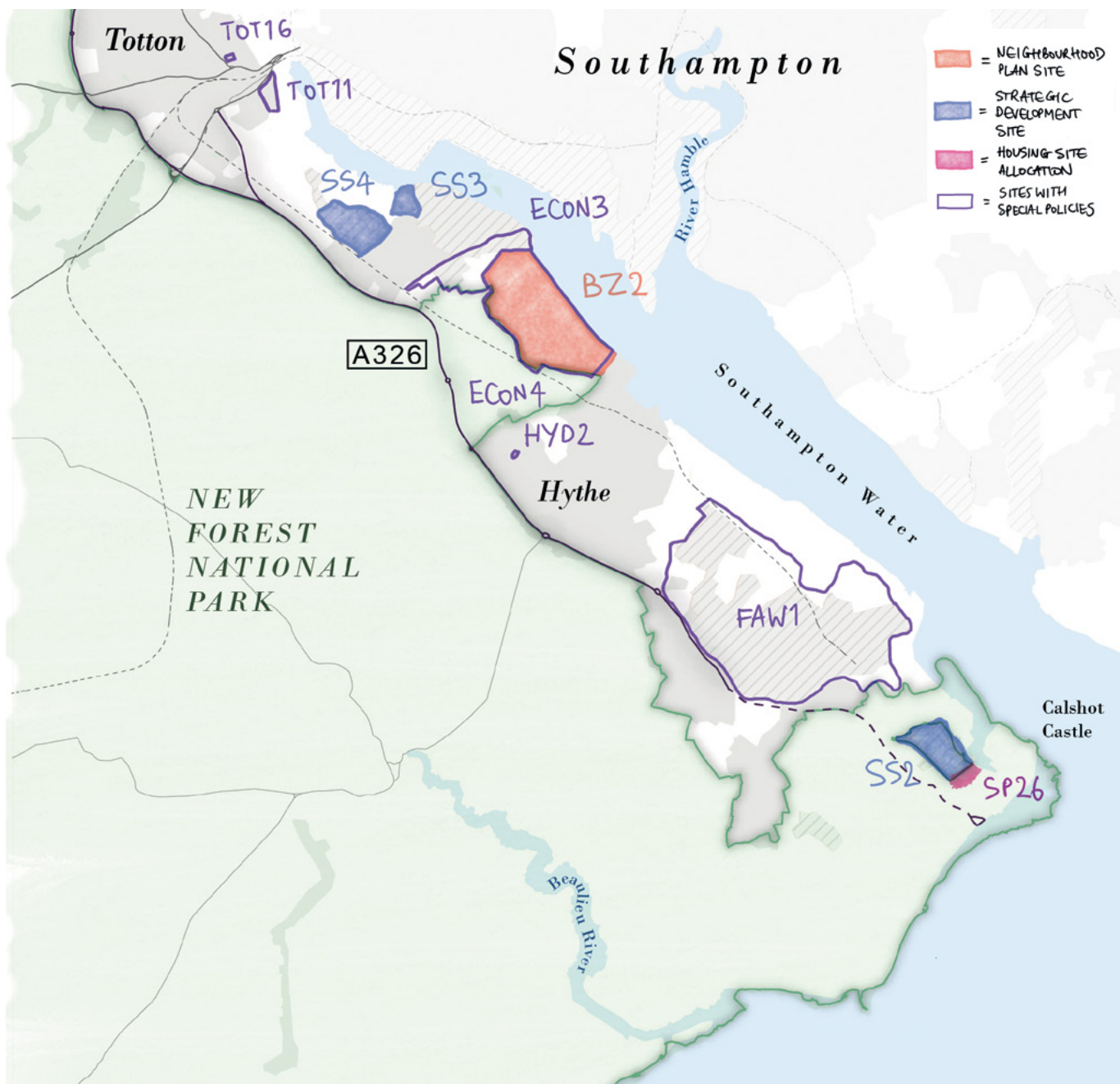


Figure 10: Strategic land allocations © Arup

Public rights of way

Figure 11 shows the existing network of public rights of way in the study area. It demonstrates that there is good connectivity around Totton in the north and Fawley in the south. Links between the Waterside settlements appear to be limited and is compounded by the Marchwood military port and Fawley oil refinery which are large barriers to movement.

Figure 11 also demonstrates the relatively few pedestrian and cycle routes across the A326 between the National Park and Waterside area. Field work has revealed some of these connections are well-used whilst others not at all. The road crossings felt unsafe due to the volume and speed of traffic and the underpasses were badly lit and uninviting.



Figure 11: Public rights of way © Arup

Heritage

Figure 12 provides an insight into how the area has evolved or remained unchanged in some places. The settlements within this part of the National Park are designated as conservation areas in recognition of their special architectural interest and are concentrated towards the coast. Within the Waterside area, development is predominantly 20th century suburban settlement and conservation areas are generally limited to surviving historic cores of now much larger towns.

There is also a scattering of Scheduled Monuments throughout the National Park including a series of highly-visible Bronze Age burial mounds across the forest heaths.



Figure 12: Heritage © Arup



SECTION 4

Constraints and Opportunities

Constraints and opportunities

The baseline analysis sets the context for the Waterside area and reveals a number of opportunities and constraints that could inform possible landscape enhancements and green corridors linking the New Forest National Park with Southampton Water. This collates objectives and issues previously noted in relevant documents together with those identified as part of this Study.

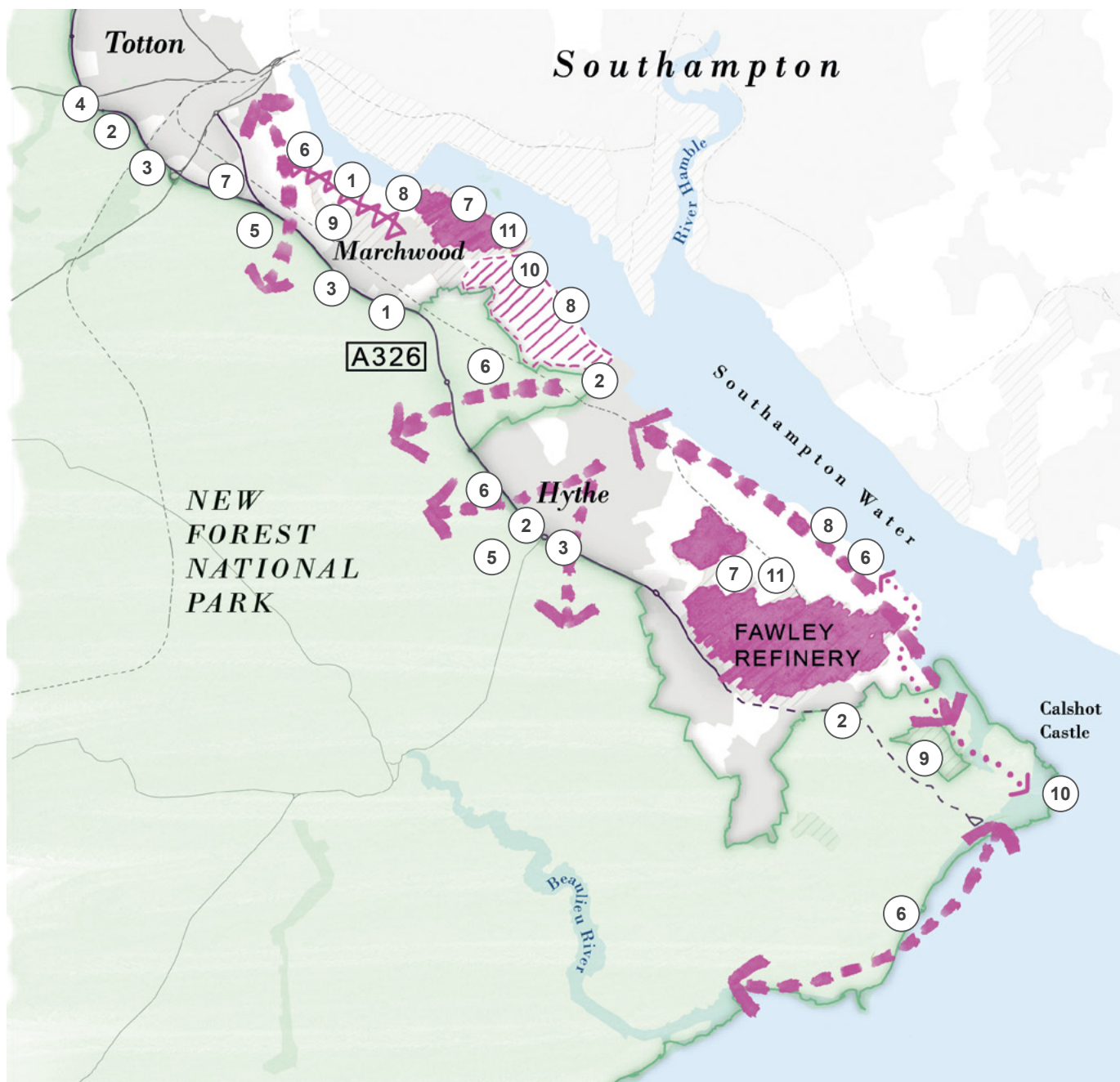


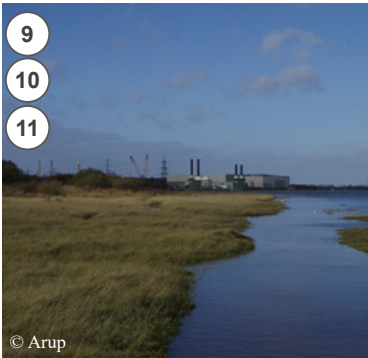
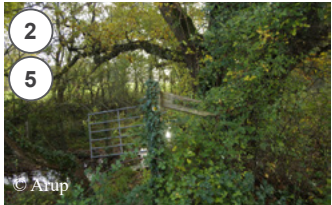
Figure 13: Key constraints © Arup

Constraints

Figure 13 illustrates the main issues set out below:

- 1 Major transport corridors create strong barriers to east-west movement through the Waterside.
- 2 Existing entry points into the National Park from the Waterside are limited and generally underwhelming.
- 3 Road noise and volumes of traffic along the A326 create unappealing level crossing points.
- 4 Poor maintenance of spaces beneath bridges create dingy and uninviting routes.
- 5 Continuous woodland belts increase the perceived separation between the National Park and the Waterside.
- 6 Public rights of way provision in the Waterside is patchy with limited active travel routes between the settlements.
- 7 Habitat connectivity has been severed by new built development and infrastructure.
- 8 Many ecologically protected sites are found in unfavourable condition.

- 9 Allocated development sites likely to increase recreational pressure on nearby protected landscapes and habitats, and increase traffic on road network.
- 10 Coastal areas were drained in the 20th century and are now subject to seasonal flooding which is likely to become more frequent with rising sea levels.
- 11 Fawley oil refinery and Marchwood power station provide major detractors on the tranquillity in this part of the National Park.



Opportunities

The key opportunities illustrated on **Figure 14** have been categorised into three themes which are set out below:

Movement and connectivity

- 1 Provide safer, more attractive crossing points across the A326 for people and wildlife.
- 2 Provide new and inviting active travel routes that respond appropriately to key desire lines in and around the Waterside area.
- 3 Provide new and improved open spaces with logical links that respond appropriately to existing and future recreational pressure.
- 4 Provide new trails that allow the natural and cultural heritage of the New Forest to be celebrated.

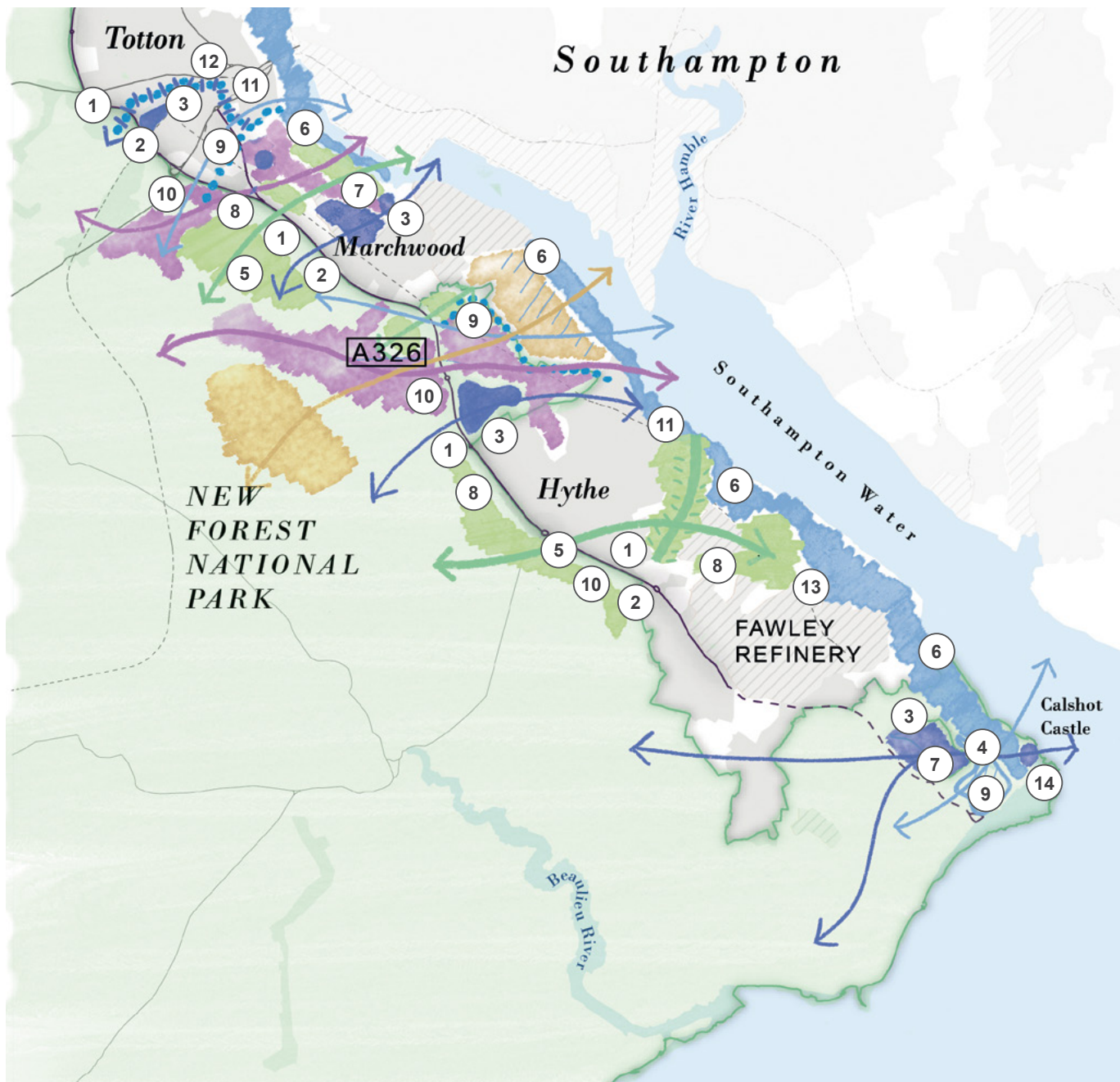


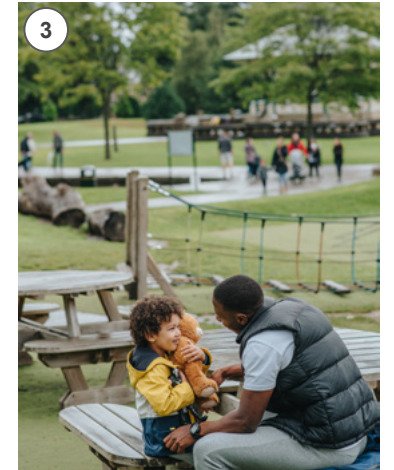
Figure 14: Key opportunities © Arup

Habitat restoration and connectivity

- 5 Remove conifer plantations and restore heathland and wooded pasture within the National Park.
- 6 Restore and enhance the condition of ecologically designated sites in and around the Waterside area, taking into account Natural England condition reports.
- 7 Introduce SUDS within new strategic urban extensions and highways improvements.
- 8 Maintain and enhance strategic woodland planting where it contributes to reducing the detracting influence of existing built development and infrastructure.
- 9 Restore and expand areas of wetland habitat along blue links.
- 10 Create physical connections between habitats and facilitate greater movement of wildlife.

Traffic reduction

- 11 Implement a rapid bus transit system close to other public transport hubs.
- 12 Develop visitor transport offers e.g. New Forest Tour, to increase connectivity and enable park and ride.
- 13 Transfer freight to the disused railway between Totton and Fawley.
- 14 Provide a new pedestrian ferry connection linking with the River Hamble across Southampton Water.





SECTION 5

Green Link Vision Plan

Green Links Vision Plan

Introduction

This section sets out the vision plan for potential green links between the New Forest National Park and the Waterside, in response to the number of constraints and opportunities, as well as the ambitions of the local planning authorities. It describes each potential green link in terms of its strategic objectives and possible actions that could help with achieving them.



Figure 15: Green Links Vision Plan © Arup

Green Link 1: Totton to Ashurst

Objectives

- To conserve and restore areas of coastal habitat.
- To improve existing gateways between the New Forest National Park and the Waterside.
- To enhance public open space provision and accessibility in and around Totton.

Potential actions

- Animate existing underpasses with lighting, planting and/or public art.
- Manage vegetation along the A326 to further soften the influence of traffic at existing gateways.
- Provide subtle signage or other appropriate way-finding aid along the boundary of the National Park.
- Provide a new and improved walking and cycle route along Bartley Water connecting with Test Way in the east and Fletchwood Road in the west.
- Create a series of new multi-functional public open spaces along Bartley Water between Eling and Ashurst, incorporating Bartley Park.
- Create new wetland habitat along Jacob's Gutter, for example at Pritchel's Copse.
- Restore and conserve Eling and Bury Marshes in a 'favourable' condition.

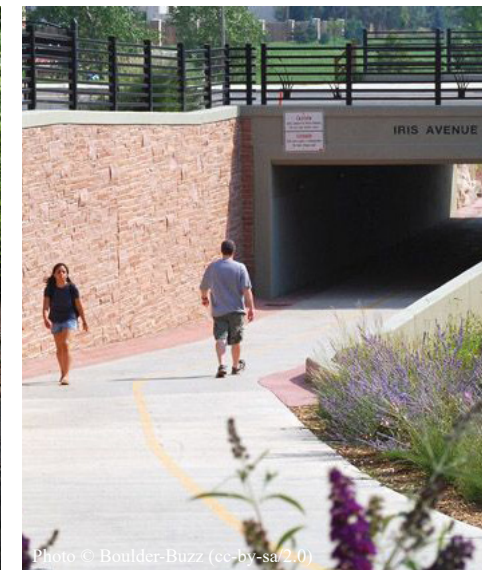
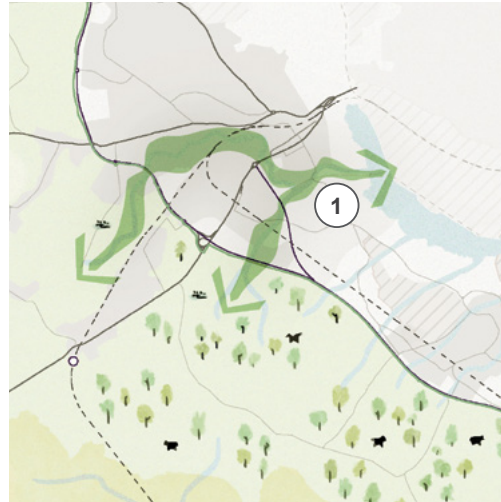
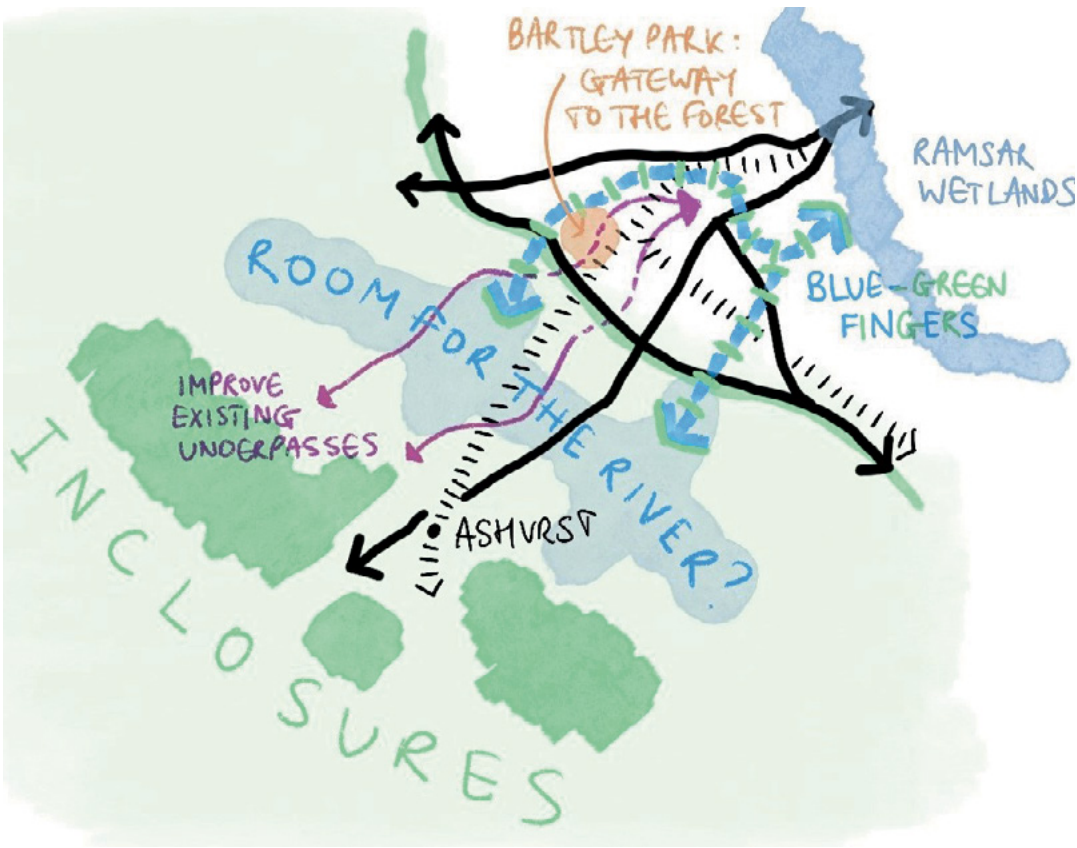
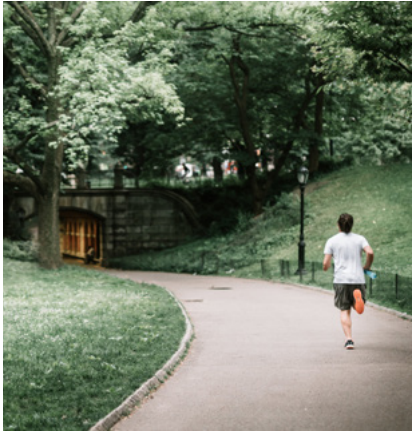
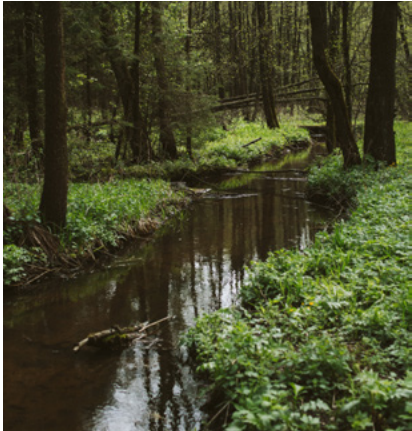




Photo © Planetware (cc-by-sa/2.0)



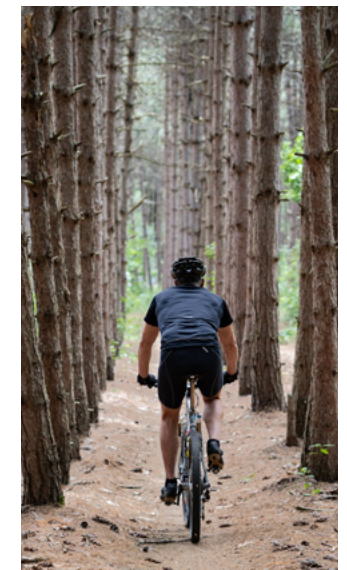
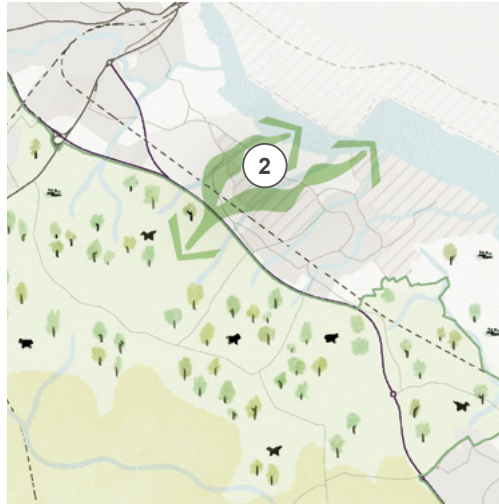
Green Link 2: Marchwood to Open Forest

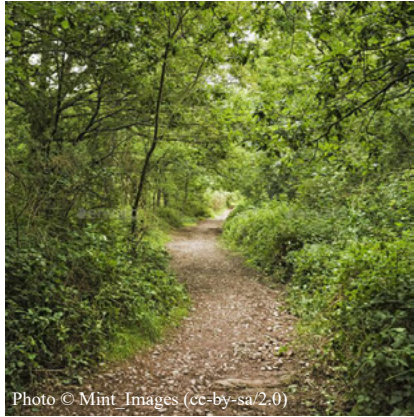
Objectives

- To improve permeability between the New Forest National Park and the Waterside.
- To reduce the perceived separation between the National Park and the Waterside.
- To minimise the pressure on the landscape of planned development at the northern edge of Marchwood.

Potential actions

- Restore the condition of the cycle route between Marchwood Road and Trotts Lane, and create a new link with the New Forest Wildlife Park and existing cycle network.
- Create a new timber bridge over the A326 around Pooksgreen that can accommodate a new active travel route and connect with existing routes.
- Use low-level, downward-facing lighting solutions where required to avoid impacts on tranquillity.
- Restore and expand heath and wooded pasture on the forest fringe where opportunities arise.
- Create new multi-functional public open spaces within the planned new housing linked by clearly marked routes.
- Integrate new SUDS as part of new built development and highways improvement schemes.
- Restore and conserve Eling and Bury Marshes in a 'favourable' condition.





Green Link 3: Dibden Bay to Beaulieu River

Objectives

- To improve permeability between the New Forest National Park and the Waterside.
- To reconnect and restore the mosaic of habitats severed by the A326.

Potential actions

- Create a new green bridge crossing over the A326 around Dibden that can accommodate commoners' livestock and active travel for pedestrians, extending commoners' grazing to the shore.
- Create new country parks and use traditional land management techniques typical of the New Forest National Park such as commoners' grazing.
- Restore off-road footpath connections between Hythe and Marchwood.
- Use low-level, downward-facing lighting solutions where required to avoid impacts on tranquillity.
- Restore and expand heath and wooded pasture on the forest fringe where opportunities arise.
- Restore and conserve Dibden Bay in a 'favourable' condition.

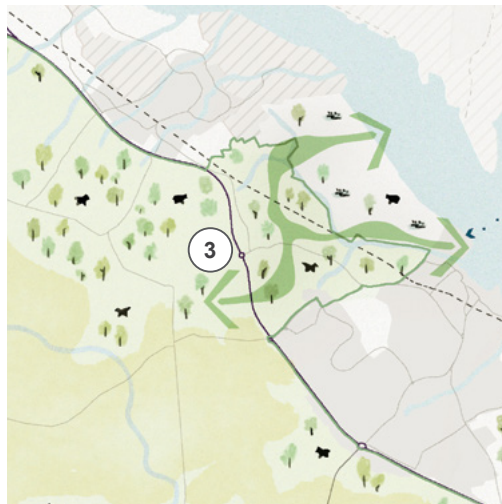


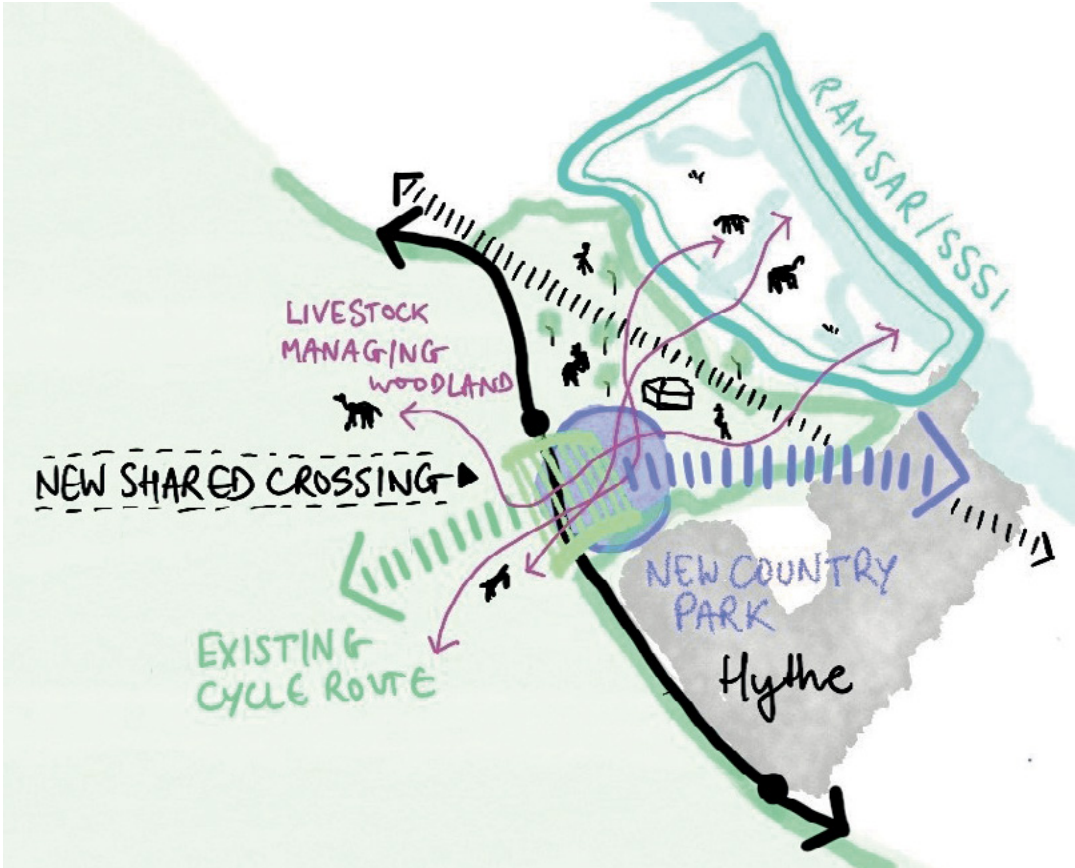
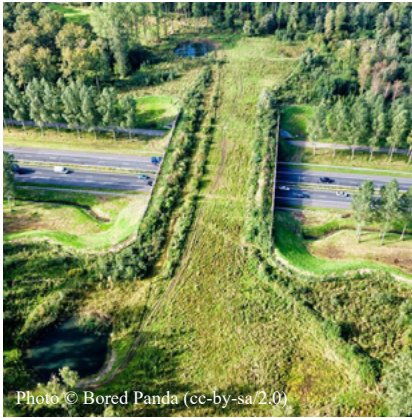
Photo © Humphrey Bolton (cc-by-sa/2.0)



Photo © ZJA Studio (cc-by-sa/2.0)



© Arup



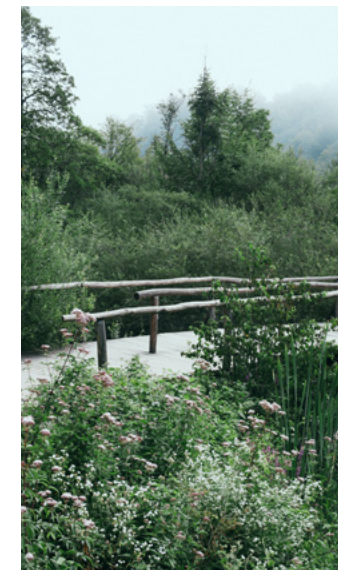
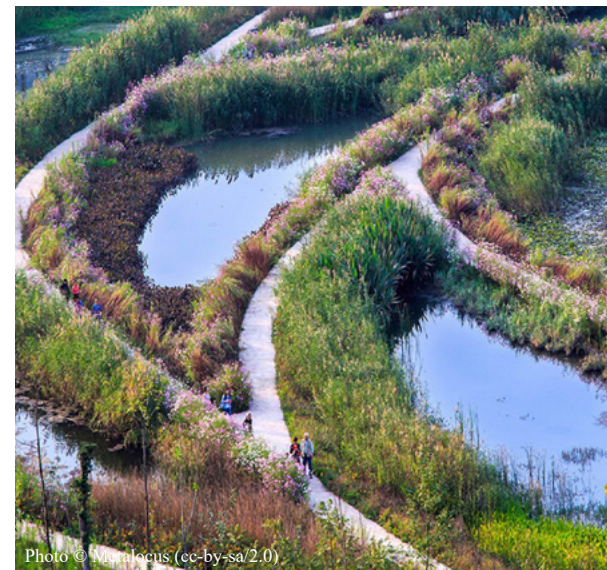
Green Link 4: Hythe to Beaulieu Heath

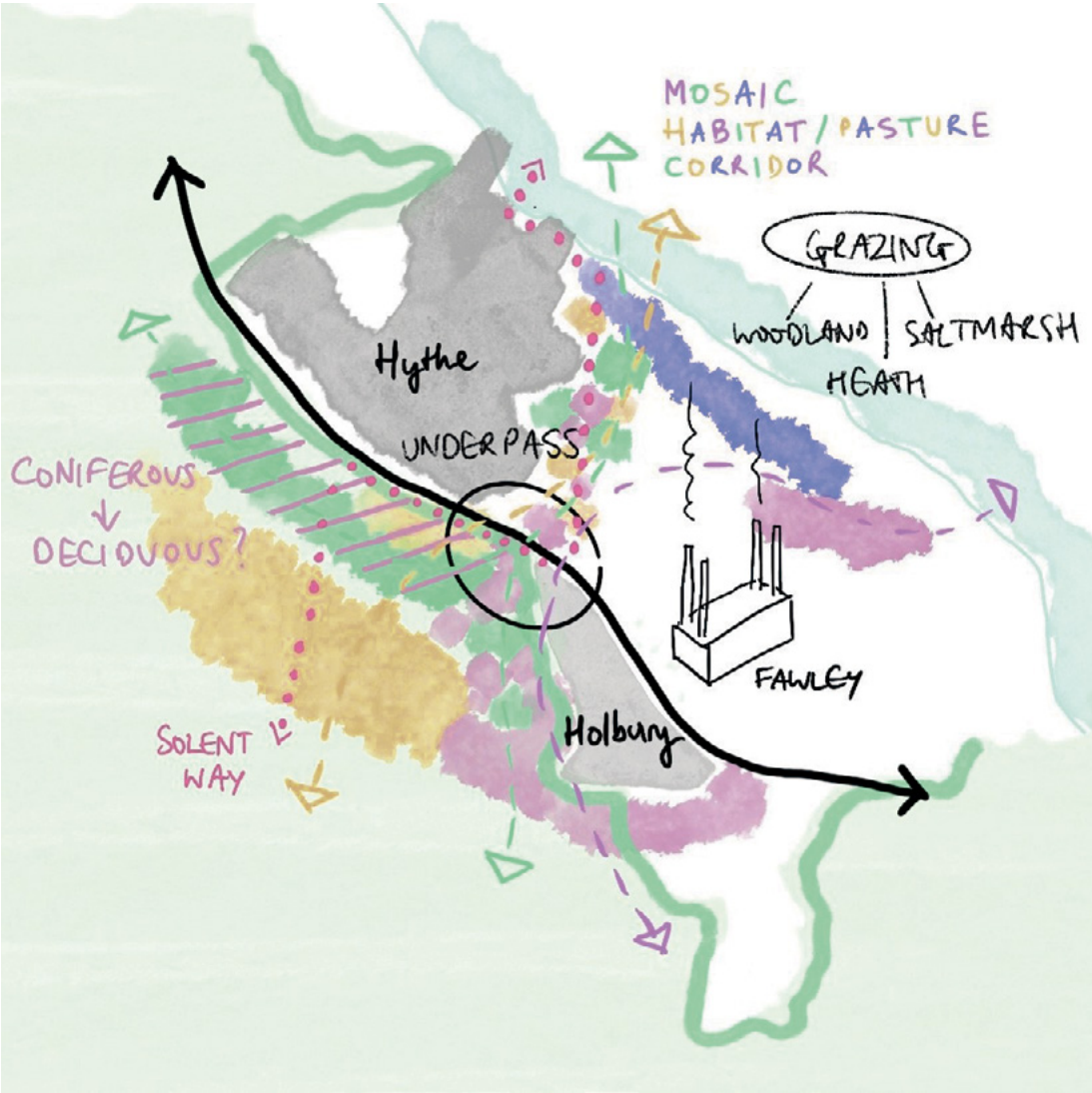
Objectives

- To improve existing gateways between the New Forest National Park and the Waterside.
- To reconnect and restore the mosaic of habitats severed by the A326.

Potential actions

- Maintain and enhance mixed woodland around oil refinery and other visually prominent development.
- Implement traffic calming measures at Fawley Road roundabout, for example surface level and/or material changes.
- Provide subtle signage or other appropriate way-finding aid along the boundary of the National Park.
- Create a new underpass crossing under the A326 around Buttsash that can accommodate livestock.
- Manage conifer plantations in the National Park to broadleaved woodland and additional areas of heathland.
- Create new heath and wooded pasture on the forest fringe, for example on land at Hardley Lane.
- Conserve and enhance wetland habitat around Frostlane and the boundary of the oil refinery.
- Restore and conserve Hythe to Calshot Marshes in a ‘favourable’ condition.





Green Link 5: Calshot to Beaulieu River

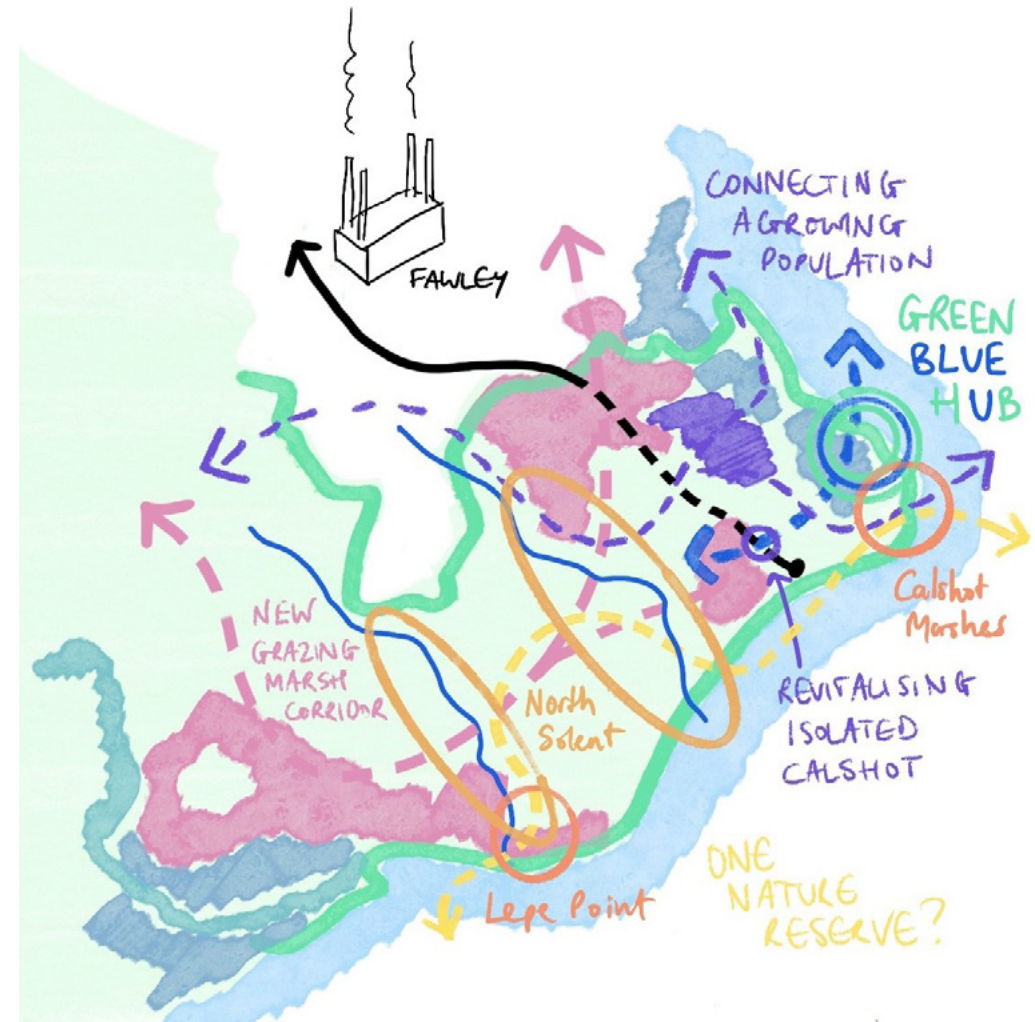
Objectives

- To reconnect and restore the mosaic of habitats severed by the B3053.
- To minimise the pressure on the landscape of planned development at Fawley Power Station.

Potential actions

- Restore and enhance areas of coastal grazing and salt marsh.
- Restore and conserve Hythe to Calshot Marshes in a 'favourable' condition.
- Enhance the coastal path and increase its resilience to flooding.
- Create a new ferry service at Calshot Activities Centre connecting with the Hamble.
- Create new multi-functional public open spaces within the planned Fawley Waterside development linked by clearly marked routes.
- Integrate new SUDS as part of new built development and highways improvement schemes.
- Utilise low-impact lighting solutions in the implementation of Fawley Waterside to avoid impacts on tranquillity.
- Conserve and incorporate post-industrial relics in the landscape that support interesting habitats, for example at Ashlett Creek.







SECTION 6

Case Studies

SECTION 6

Case Studies

Introduction

This section provides some case studies from across the world of big and bold landscape interventions that have been implemented to achieve aims and overcome constraints similar to those identified within this Study.

Weald to Waves, England

The Weald to Waves project is an ambitious initiative aimed at creating a 100-mile nature recovery corridor across Sussex, from the High Weald to the Sussex coast. The project seeks to connect fragmented landscapes to boost biodiversity, capture carbon, enhance food production, and enrich the rural economy, working in partnership with farmers, land managers, councils, researchers, wildlife charities, schools, gardeners, and community groups. The project has two principal aims:

- to promote nature as a provider of vital ecosystem services like clean water, fertile soils, pollination, carbon capture, and flood control. This includes sustainable farming along the corridor and a reduction of pollutants.
- to engage people and communities across Sussex by creating new opportunities to understand, enjoy, and protect nature along the corridor.

The project also aims to create at least 10,000 hectares of nature-friendly land in corridors running from the rolling hills of the Weald down the valleys of the Rivers Arun and Adur to boost biodiversity on land and in the sea.

More information can be found at the following website: www.wealdtowaves.co.uk/



A21 Scotney Bridge, England

The A21 Scotney Bridge is a green bridge that was built to mitigate the environmental and historical impacts of a new dual carriageway bypass around Lamberhurst village in Kent, England. The bridge is located within the High Weald Area of Natural Beauty and reconnects the historic West drive to Scotney Castle, a 14th-century moated castle and estate. The bridge also serves as a connection between two woodlands and was designed to continue the roll of the hill that was disrupted by the bypass.

The project outcomes of the A21 Scotney Bridge include:

- Preserving the cultural and landscape heritage of the area by maintaining the original entrance to Scotney Castle and blending in with the historic scenery.
- Enhancing the biodiversity and ecological connectivity of the area by providing a safe and natural corridor for wildlife to cross over the road and access different habitats.
- Increasing the accessibility and awareness of green open spaces by creating a multi-functional bridge that offers a scenic route for visitors and locals to enjoy the nature and history of the area.

More information can be found at the following website: oppla.eu/casestudy/19198

Ecoduct Borkeld, Netherlands

The Ecoduct Borkeld is a green bridge that crosses the A1 motorway near Rijssen in the Netherlands, connecting the Borkeld nature reserve with the Sallandse Heuvelrug National Park.

The aim of the Ecoduct Borkeld is to provide a safe and natural passage for a variety of wildlife species, such as red deer, roe deer, wild boar, foxes, badgers and many birds. The bridge is part of the National Ecological Network, which aims to strengthen biodiversity and genetic diversity within the animal populations. The bridge also reduces habitat fragmentation.

The Ecoduct Borkeld is designed to integrate with the landscape and is planted with trees and shrubs that match the surrounding forest and heathland environment. The bridge has a single span without support in the middle, creating a spacious and elegant arch over the road. The bridge also has high walls and bushes that create a barrier against the visual and acoustic disturbance of the traffic.

More information can be found at the following website: www.zja.nl/en/Ecoduct-De-Borkeld



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Photo © European Roads (cc-by-sa/2.0)

Eco-Link @ BKE, Singapore

The Eco-Link@BKE is an ecological bridge that spans the Bukit Timah Expressway (BKE) in Singapore, connecting the Bukit Timah Nature Reserve and the Central Catchment Nature Reserve.

The main purpose of the Eco-Link@BKE is to re-establish the ecological connections between the two nature reserves, reducing habitat fragmentation and facilitating greater movement of fauna. The Eco-Link@BKE is planted with native vegetation, including trees and shrubs, that simulates a natural forest environment. It has been effective in attracting a variety of species to use it as a safe crossing between the reserves. Around 100 species of fauna have been recorded on the bridge, including the critically endangered Sunda pangolin.

The bridge is shaped like an hourglass and at its narrowest point is 50 metres wide. There is a fence on the bridge to prevent certain large animals from crossing into Bukit Timah, which is too small and fragile to sustain them.

More information can be found at the following website: www.nparks.gov.sg/gardens-parks-and-nature/parks-and-nature-reserves/bukit-timah-nature-reserve/ecolink-bke

Banff Wildlife Crossings, Canada

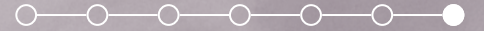
The Banff wildlife crossing project is a part of a larger initiative to improve the safety, mobility and environmental connectivity of the Trans-Canada Highway that runs through the Banff National Park in Alberta, Canada. The project involves the construction of 38 wildlife underpasses and six wildlife overpasses along an 82km stretch of the highway.

The principal objective of the Banff wildlife underpass project is to provide a safe and natural passage for species, such as bears, moose, deer, wolves, elk, that need to cross the highway to access different habitats in the park. The project also aims to reduce the habitat fragmentation and severance of the highway.

The project has been continuously monitored and evaluated since 1996, making it the longest on-going wildlife crossing research and monitoring program in the world.

More information can be found at the following website: parks.canada.ca/pn-np/ab/banff/nature/conservation/transport/tch-rtc/passages-crossings





SECTION 7

Summary

SECTION 7

Summary

This Study has been prepared by Arup on behalf of the New Forest NPA to help shape the vision for the Waterside area, and reconnecting the landscape of the New Forest across the A326.

The Waterside refers to the general area between the edge of the New Forest National Park and Southampton Water and the study has focussed specifically on the area along the A326 corridor between the settlements of Totton in the north and Calshot in the south.

The ambitions of the New Forest National Park Authority have been collated with reference to adopted policy and published strategies including the Re:New Forest Partnership Plan. The landscape character, wildlife, recreation and cultural heritage were then analysed from a baseline perspective to provide further landscape context and understand how some of the ambitions could be targeted or prioritised. A number of constraints and opportunities were then drawn up to inform possible connections between the National Park and the Waterside.

The analysis culminated in the production of a vision plan for potential green links between the New Forest National Park and the Waterside, in response to the number of constraints and opportunities, as well as the ambitions of the local planning authorities.

Each potential green link was described in terms of its strategic objectives and possible actions that could help with achieving them, supported by precedent images, hand-drawn sketches and diagrams. A number of case studies from across the world were also included to demonstrate how landscape interventions in similar contexts have been delivered and the benefits they have brought.

It is intended for this study to scope future projects as well as to support the NPA's role as consultees to proposed development in the Waterside area, including highway improvements to the A326. Some potential next steps could include the following:

- A desk-based SWOT analysis of each green link together with high-level costing to help inform a short list to explore in more detail.
- Further baseline surveys such as ecology, heritage, transport, drainage of the shortlist to develop a more detailed feasibility study.
- Engagement with stakeholders and the local community on the detailed feasibility study.
- Updated feasibility study to inform a cost-benefit analysis and outline business case to inform way forward.

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