



Area 21

Severn Shoreline and Estuary



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Key

↖11 Photograph viewpoints

Scale: not to scale

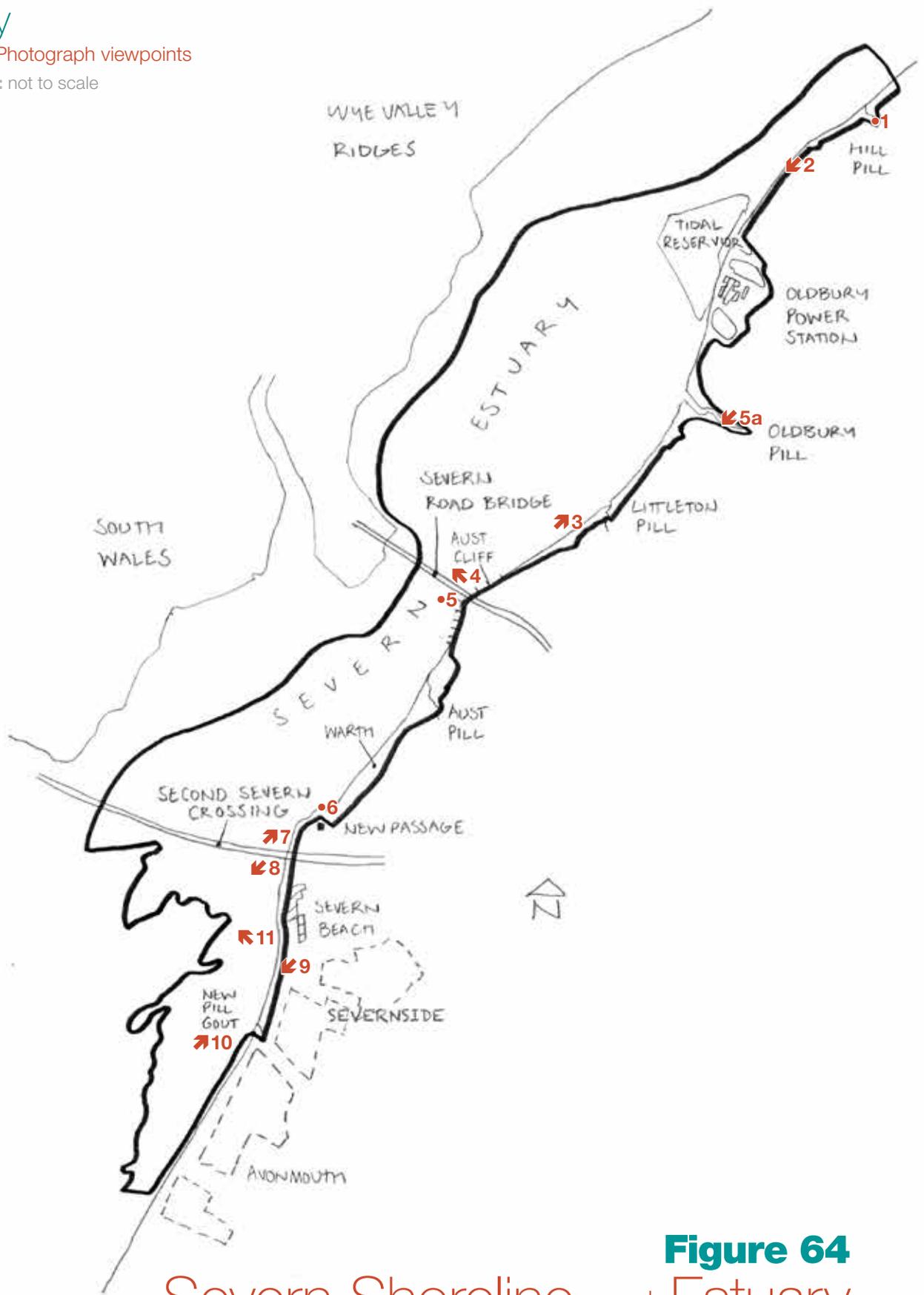
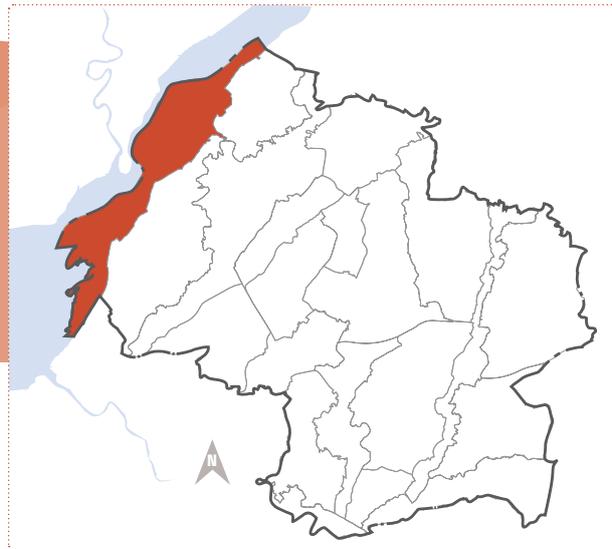


Figure 64
 Severn Shoreline and Estuary

Sketch Map

Area 21

Severn Shoreline and Estuary



The Severn Shoreline and Estuary landscape character area is a flat open exposed linear landscape of warths, tidal wetlands, mudflats and rock. The large expanse of the Estuary and changing tides, is its most dominant feature.

Key Characteristics

- Open and exposed simple landscape of tidal Severn Estuary, with textured intertidal zone of bed rock, shingle and rivulleted mudflats/ sandflats, edged by a low mud cliff, with warths (salt marshes) beyond, contained to the east by a sea wall.
- The entire Severn Estuary and shoreline is internationally designated for a range of habitats and species, including significant numbers of over-wintering wildfowl that also roost and forage in the adjacent Oldbury and Pilning Levels character areas.
- Aust Cliff, folded bed rock and fossil bed, forms a prominent landform and geological feature that is designated as a SSSI.
- Constantly changing characteristics of shoreline, resulting from the high tidal range of the Severn Estuary (second greatest in the world).
- Warths are grazed in places. A linear woodland along the low outcrop of Aust Cliff is prominent.
- Warths and mudflats are largely untouched by built features. Remnants of putcher ranks are an historical feature.
- Only a few buildings sit on the edge of the warths, but there are more landward urbanizing influences towards the south and more tranquil land and seascapes to the north.
- Tidal pills meander across the warths to the Estuary from sluice gates set within the sea wall.
- A particular lack of formal boat access to the Estuary from the shore, other than via a slipway at Thornbury Sailing Club and at Severn Beach.
- Expansive views include the Estuary and Bristol Channel and its' islands, South Wales and the Wye Valley/Forest of Dean Ridges to the west and Severn Ridges to the east. Further to the south west the Exmoor coastline is sometimes evident.

Key Characteristics

- The grade 1 listed original Severn Bridge forms a prominent landmark feature in many views, with the more recent Second Severn Crossing to the southwest.
- Oldbury Power Station, lying within this area, the and large scale industry within the southern Levels, are prominent built features.

Location

The Severn Shoreline and Estuary landscape character area is located along the western edge of South Gloucestershire, extending from the chemical works and Avonmouth to the south, to beyond Oldbury Power Station to the north and extending westwards to include a large proportion of the Estuary.

Its northern and southern limits follow the South Gloucestershire Authority boundary, although the character of the shoreline and Estuary continues beyond the limits of the Authority's area. The western limits also follow the South Gloucestershire Authority boundary, which takes the approximate centreline of the Severn's navigable river channel.

The eastern boundary follows the defined sea wall, which runs along the length of the Estuary, marking a prominent change between the unenclosed warths, tidal shoreline and Estuary and the enclosed agricultural fields or industrial areas on the adjacent Levels. The sea wall merges centrally with Aust Cliff and outlier. (See Figures 58 & 61).

Physical Influences

The geology of this area is predominantly Alluvial, with Alluvial Gley soils, peat and occasional Alluvial gravel fans, typical of the Severn Estuary floodplain and lowland Levels. Geological layers are clearly seen in transect, across the gently sloping intertidal zone, in the low mud cliffs at the edge of this zone which are between 1 to 3 metres high and in the layered sandstone and Carboniferous limestone outcrop at Aust Cliff.

These layers built up over time contain buried archaeology from prehistoric times onwards.

Aust Cliff defines a short section of the eastern boundary and forms a prominent geological exposure and fossil bed. It is designated both an SSSI and RIGS.

The low lying flat landscape has a topography generally below 10 metres a.o.d, with Aust Cliff forming a large and prominent outcrop, almost 2km long, rising in height gradually northwards up to 40 metres a.o.d. (Photo 5).

The sea wall which forms the eastern boundary, comprises a man-made grass covered earth embankment up to 2m high above the adjacent natural ground level and connects with the Binn Wall at Severn Beach. Flood defences have been a feature along the edge of the Estuary for some considerable time with evidence of land reclamation having taken place in Roman times. Map evidence indicate that the wall has been in existence since at least the mid 18th century however some sections may earlier, with one section within the Bristol Authority area dating to the Saxon period.

The sea wall forms a prominent and defining physical feature. It runs along the shoreline, protecting the largely agricultural land of the Levels to the east as well as the developed areas to the south. It merges with Aust Cliff, turns inland around Oldbury Pill and Oldbury Power Station and defines the eastern extent of the Severn Shoreline and Estuary landscape character area.

The largely linear warths to the west of the sea wall vary in width and are occasionally dissected by tidal pills, which form natural meandering channels, fed by rhines from the adjacent Levels (Photo 1). Water from the rhines is controlled by sluice gates, set within the sea wall. Oldbury Pill is a particular feature, extending some way inland to Oldbury-on-Severn. The sea wall also extends further inland here as far as Oldbury-on-Severn, in order to skirt the channel.

Land drainage and flood protection have allowed the productive agricultural use of the adjacent Levels' landscape and influence many of the characteristic features of both the Levels and warths evident today.

Land Cover

The largely linear character area has distinct and varied zones of land cover, the visibility of which is dominated by the constantly changing water levels in the Estuary, which has the second highest tidal range in the world (12m at mean spring tide).

The intertidal zone is under constant change as the tidal conditions vary, ranging from the large visual expanse of water several kilometres wide at high tide, to the exposed broad and irregular coastal strip of rivulleted mudflats and sandflats, shingle beach and exposed bed rock at low tide (Photo 3, 4 & 7).

The landward edge of the mudflats is clearly defined by an often pronounced and undercut low mud cliff, marking the height of the mean high water level. Beyond lies flat, open warths (salt marshes), in places grazed, which extend inland to the sea wall (Photo 9). This area is seasonally flooded under extreme high tides. An extensive area of scrub occupies a strip of warth to the south, adjacent to the chemical works.

To the north of Old Passage, the lower cliff section of Aust Cliff is heavily vegetated with trees. Adjacent to Oldbury Power Station is a small area of woodland and vegetation along the eastern boundary of this site.

There are no other trees along the shoreline and only very few intermittent trees within the Levels immediately adjacent to the boundary of this area.

The Estuary, intertidal zone and warths provide a nationally and internationally important habitat and feeding ground for migratory and native wildfowl, waterfowl and waders and are a designated RAMSAR, SSSI, SPA, and SAC area.

The intertidal zone, through tidal erosion and deposition cycles, has exposed a previously buried landscape, revealing archaeological remains and periods of human activity within deposited layers. Much of this remains undisturbed and unexplored. This area, together with the warth and adjacent Levels, is therefore of high archaeological potential, and the peat and waterlogged ground provide good conditions for preserving remains.

At high tide the largest drainage channels (Hill Pill and Oldbury Pill) both form meandering open channels of water with mud banks (Photo 1). Smaller pills at Littleton, Aust and New Passage, snake across the warths and into the adjacent mudflats (Photo 6).

Biodiversity

The estuary presents a range of habitats including mudflats, sand banks, rocky platforms and saltmarsh which present unique opportunities for a diverse range of species including the faunal interest present. These habitats are particularly important for the significant numbers of over wintering waterfowl that they support. The estuary is also important for the populations of invertebrates and migratory fish which utilise the resource. The estuary's overall interest depends on its large size, and on the processes and interrelationships between the intertidal and marine habitats and its fauna.

In recognition of this the Severn Shoreline and Estuary is an internationally important site and this is recognised through its many designations; Special Area of Conservation (SAC), Special Protection Area (SPA), Important Bird Area (IBA), RAMSAR, Site of Special Scientific Interest (SSSI) and a Site of Nature Conservation Interest (SNCI). In addition to the estuary itself, Aust Cliff, which borders the estuary, is also designated as a SSSI for its geological interest and the silt lagoons at Oldbury Power Station are designated as an SNCI for the wetland present.

In addition areas of the adjacent Oldbury and Piling Levels (outside the designated areas) provide important foraging and roosting habitat for overwintering Wildfowl.

Settlement and Infrastructure

There is no major settlement within this area, although there are dwellings to the north of Oldbury Power Station relatively close to the sea wall, a cluster of dwellings at Old Passage and a small number of deserted farmsteads, near to Severn Beach and in the vicinity of the site proposed for a new nuclear power station..

To the south, the settlements of New Passage and Severn Beach within the adjacent Levels are enclosed and protected by the Binn Wall, defining the eastern boundary (Photo 7 & 8). The present Binn Wall was constructed in 1815, with a much earlier sea defence originating from the early 17th century. Here, the sea defences comprise rock armature and a stone/concrete wall which merge with the shingle beach, in place of the more extensive grass embankment sea wall elsewhere.

To the north, the large scale and simple block form of Oldbury Power Station is a significant structure located above the edge of the intertidal zone (Photo 2). The power station complex comprises the large scale, tall, curved reactor buildings are light coloured (vertical blue and grey stripes), and surrounded by low adjacent grey buildings fringed to the north and south by regular shaped reservoirs. To the west, within the Estuary, lies a large tidal reservoir associated

with the power station and within the mudflat zone, the walls of which are evident at low tide. Overhead powerlines radiate out from the power station across the Levels. The small scale sealing end compound east of the cliffs at Aust is tucked in below the hill, limiting its visual prominence in views along the sea wall.

Only a few structures extend over the intertidal mudflats. These include at Old Passage (near the first Severn Bridge), an elevated pier giving access to an electricity pylon tower, and a derelict slipway, the former ferry crossing, providing a connection with South Wales before the Severn Bridge was constructed.

Putcher ranks dating from the 18th and 19th century, comprising irregular lines of timber stakes, extend over the mudflats to the north and south of Littleton Pill. Conical shaped putchers were attached to these stakes to catch salmon. This local traditional technique has now largely disappeared along the Severn. The visibility of these stakes and the slipways are determined by the tide.

Boat access to the Estuary from the shore is limited, with the strong and complex tidal conditions and currents limiting the potential for leisure access. Thornbury Sailing Club, boathouse and boatyard adjacent to Oldbury Pill, includes a cluster of sailing dinghies stored on land, as well as a slipway. Oldbury Pill forms the largest outlet into the Estuary and provides boat moorings. A slipway at Severn Beach, near the Bin Wall, also provides boat access, with public access to the shingle beach at New Passage.

A few navigational beacons are features along the shore and within the Estuary to the north of Oldbury Power Station. These include two land based, small, metal-latticed towers, water based beacons on masts and a buoy, demarcating the tidal reservoir.

The Severn Bridge and Second Severn Crossing, link Wales and England and form large scale, elevated structures carrying the M4 and M48 across the Estuary (Photo 4, 8 10 & 11).

The Severn Way recreational route runs north to south along the elevated sea wall for most of its length. This is joined by the Jubilee Way to the north of Aust and one of a series of Circular Rides to the north of Oldbury Power Station.

Landscape Character

The Severn Shoreline and Estuary landscape character area is a simple, open, expansive area, dominated and influenced by the physical and visual presence of the Severn Estuary, tidal pattern and weather conditions. Its' open and exposed character is variably affected by the two landmark Severn Bridges which cross over the Severn by industrial development within the adjacent area, and large areas of tranquil rural landscape.

Views are dominated by the large scale estuarine landscape of open water and textured, rivulleted mudflats, which continually change with each tide. The influence of the wind, tides and atmospheric weather conditions are a predominant element, which affect the mood and character of the land/ waterscape and texture of the Estuary. South Wales and the Wye Valley/ Forest of Dean ridges form a prominent backcloth and coastline to the west, with the widening Estuary and open expanse of the Bristol Channel, dotted with islands, to the south west. The distant headlands of the Exmoor coastline are sometimes evident, further south westwards.

Views from the area of warths are contained to the east by the sea wall. The lack of connection with the Levels in places creates a visually remote character. Views from the elevated sea wall however, are panoramic across and along the estuary and also extend eastwards, between the vegetation structure of the Levels, occasionally including the distant Severn Ridges, providing a wider context and appreciation of setting.

Significant numbers of migratory birds are a visually impressive seasonal feature of this area, often extending into the adjacent Levels.

The geological exposure of banded rock at Aust Cliff and heavily folded bed rock exposed at low tide, both form visually dramatic natural features. The prominent linear woodland along the southern low outcrop of the cliff merges with the field hedgerows and trees at Old Passage, to the east of the warth.

The intertidal mudflats are largely untouched by built features. Occasional putcher ranks, which are low key timber structures, have an affinity and interrelationship with their setting. In contrast, the elevated pier with pylon and adjacent slipway, at Old Passage, are more prominent built features.

The boat house and slipway of Thornbury Sailing Club form small, low key built elements, the building set behind and largely screened from the Estuary, by the sea wall. The seasonal influx of moored sailing boats and their changing position, influenced by the tides, provides some dynamic and locally colourful changes within Oldbury Pill (Photo 5a).

The numerous pills with sluice gates, set within the grassed earth bank of the sea wall, are distinctive features along the warths. North of Oldbury Power Station, the metal towered beacons and two buildings against the sea wall form prominent local features, contrasting with the horizontal landscape.

The two Severn Bridges which span this character area and the Severn Estuary, continue into the Pilning Levels and Wales (Photo 11). The original suspension bridge is a Grade 1 listed structure. They are visually significant, framing distant views and reinforcing the large scale nature and expanse of the Severn Estuary. They are nationally distinctive landmarks, giving this stretch of the Estuary a keen sense of identity.

The perception of remoteness within the area and its rural characteristics although extensive are however in places affected or eroded by the visual prominence of industrial buildings within the adjacent Levels, or by structures such as pylon lines, passing over the area.

Settlement at Severn Beach is visually prominent adjacent to the foreshore, within long views along the warths, given the close proximity of development and very limited extent of vegetation in this exposed setting (Photo 10). More recent three storey housing towards the south of Severn Beach, in the adjoining character area, is considerably taller than the adjacent sea wall and, as a result, visually impacts on the local warth. Other properties located further inland within the Levels, are either screened behind the sea wall, or better integrated within a framework of hedgerows and trees.

Oldbury Power Station to the north has a distinct large scale, light coloured industrial block structure which is visually prominent within the northern extent of this area beyond Aust, the Levels to the east and is also clearly visible from the Severn Ridges. Both the principal structures and the tidal reservoir and lagoons are also visible from the Wye Valley/Forest of Dean ridges. The associated infrastructure, of security fence and sea wall/bund, are further man-made elements influencing local character. The pale blue and grey striped finish to the reactor buildings has some effect in reducing the buildings' massing in certain local views, dependent upon weather and light conditions.

To the south of the M49, the large scale industrial and Seabank power station structures including towers and chimneys, are visually prominent, sited within the adjacent Levels to the south (Photo 9). The Avonmouth Works further south, beyond the character area, also contribute to the overriding industrial influence of the Levels and adjacent warths and Estuary. To the north these become progressively screened by intervening topography including Aust Cliff and outlier.

The Western Approach Distribution Park to the north east of Severnside, is at some distance from the shoreline and is not visible from the warth, due to the low angle of view and intervening sea wall. However, this development is evident within the middle distance from the top of the sea wall, between Severn Beach and Severnside, with the large scale warehouse

buildings visible above the adjacent vegetation framework.

All these built features are visible from along the Severn Way, in particular from the Severn Road Bridges, from adjacent character areas to the east and from South Wales to the west, interrupting the openness and expansiveness of the Estuary and shoreline.

The grass embankment of the sea wall forms a consistent, horizontal feature, defining the eastern edge of the warths and is significant in visually segregating the Severn Shoreline from the Levels and therefore maintaining the visual remoteness of much of this area. The grass cover integrates the landform with the warths, however the level top of the embankment and constant slope profiles, reinforce the man-made nature of this landform.

The Bin Wall, in contrast, is a more prominent, utilitarian structure where visible from within the warths and Estuary.

The Changing Landscape

Given the tidal nature and internationally significant ecological value of much of this character area, the potential for change is likely to be limited to pipelines or proposals associated with water transport or recreation. However changes in the adjacent landward landscape character areas may well impact on the estuary and shoreline character area.

The Severn Shoreline and Estuary landscape character area comprises a distinct and sensitive landscape, with significant areas influenced by natural processes and very limited presence of built features and man's activity.

The open and exposed tidal water-scape, landscape of intertidal zone and warths, forms part of the wider landscape of the Severn Estuary, South Wales, the Wye Valley/Forest of Dean Ridges, the Levels and Severn Ridges.

As a whole, this larger landscape is visually interrelated and much of the adjacent landscape areas is flat. Therefore any change within the Estuary, or within an adjacent area, has the potential to influence character over a much wider area. This sensitivity to change is evident through the visual influence of existing large scale built forms, including Oldbury Power Station, the Severn Bridges, pylon towers, Severnside Chemical Works, Western Approach distributor sheds and Avonmouth with its wind turbines further south.

The visual influence of the wind turbines in South Gloucestershire and in Bristol extends widely across this character area, however their impact diminishes beyond the Severn Bridges. Given the flat nature of this and adjacent landscape areas, there is limited potential to absorb vertical built forms without altering the fundamental character of the more remote and undisturbed areas of the shoreline and estuary.

The implications of physical disruption to the tidal pattern within the Estuary has become evident since the construction of the Second Severn Crossing. The bridge abutments and piers have had some effect upon the local pattern of erosion and deposition, with altered silting patterns and beach profiles.

Potential substantial future development within the adjacent Pilning Levels continues to occur in the areas covered by the 1957 planning permission and the Safeguarded Employment Area (identified in the Local Plan) and is promoted through the Local Enterprise Partnership's Enterprise Area. In areas covered by the 1957 consent there is very limited control over the way that development takes place including whether it is landscaped. There are proposals for further power station developments in this vicinity, including for new stations close to the existing Seabank Power Station. This along with further ongoing and large scale development in the area, further industrialises this locality.

The international importance of this area for bird habitat and feeding grounds is clearly indicated

by the numerous designations which apply. The area is highly sensitive to physical, visual and audible disturbance, within the adjacent Levels or Estuary which might impact upon the habitat, flight patterns or, indirectly, affect the quality of the feeding grounds.

Present recreational use of the sea wall by walkers has only a limited localised effect upon bird habitats and distribution of birds. The intensification of recreational activity, or new recreational or other development, is however likely to introduce additional physical, noise and visual disturbance, although the potential for an increase in water based activities is limited, given the significant tidal range and strong complex currents of the River Severn.

Decommissioning of Oldbury Power Station, which has now commenced is likely to result in some ongoing changes to the structures surrounding the main reactor buildings and changes in the use of the site and remaining structures. However the 150ha adjacent site is proposed in national policy for the development of a new nuclear power station. Beyond this further associated construction activities and infrastructure will be needed. The large complex of turbine halls, cooling structures and other facilities has the potential to have a significant impact on the character of the wider estuarine landscape, and the likely need for water access would result in substantial change to the foreshore, sea wall and Severn Way in this locality.

The construction operations can be expected to extend over the full site area for up to 10 years, with the final site arrangements occupying a smaller foot print. There is the potential for outlying facilities and for flood protection and transport facilities to affect areas and sites remote from the main site.

The shoreline and Estuary mudflats contain a wealth of archaeological relics, reflecting the long term human activity and association with the River Severn. These relics are largely buried within layers of silt deposits of the warths and the

tidal mudflats, but are occasionally uncovered by the scouring effects of the strong tidal currents. Although these finds are often small and subtle, with little visible influence upon landscape character, this archaeological resource remains an important reference to historical activity and is sensitive to the impacts from physical disturbance.

The Severn Estuary is also important for the migratory fish which are highly sensitive to any changes to the water quality and would be significantly impacted upon by any attempts to alter the water levels within the estuary.

The issue of the potential of the Severn Estuary to deliver renewable energy periodically comes up with various options for tidal barrages and lagoons being proposed. Such measures have the potential to result in a substantial change to the landscape character and biodiversity of this character area.

Landscape Strategy

- The particular characteristics of the undisturbed rural and remote landscapes and waterscapes should be respected.
- Any changes should seek to enhance habitat for the significant waterfowl populations, and any impact on or disturbance to these populations whether as a result of development or activity in this or adjacent character areas should be avoided. Damage to protected habitats should be avoided.
- Development proposals within the shoreline and estuary character area **and** in adjacent areas should be planned and designed to minimise their prominence in rural and open views along the Severn Shoreline, the Severn Way and the Estuary, and within the setting to the Grade 1 listed Severn Bridge.
- Any proposals for development associated with the nominated nuclear new build site at Oldbury should be designed to minimise disruption to the character of the shoreline and estuary landscape and to the Severn Way, including the consideration of temporary facilities that would be removed once the construction phase is concluded. Any loss of habitat must be compensated for.
- Minimise the height and bulk of the new nuclear build as seen within the estuarine and adjacent levels landscapes, including in combination with the existing station.
- Any proposals for a new nuclear development should incorporate a landscape and ecological framework that is commensurate with the scale of the development and which provides a visual foil in views across the surrounding landscape. Consideration should be given to advance provision of mitigation.
- Ensure that development and present and future land use practices within the shoreline and estuary character area respect and conserve the archaeological features and relics that reflect the long term human activity and association with the River Severn, and have special regard to the archaeological potential of the area.
- Flood alleviation schemes should preserve grazing marshes, pills and the distinctive character of the adjoining agricultural land.
- Protect the tranquility of the landscapes and seascapes particularly in the north of the character area.



1 Hill Pill is the main drain within the Parish of Hill, draining into the River Severn. Many rhines drain into this one.



2 Looking south, on top of the sea wall, towards White House and Oldbury Power Station.



3 Looking north over Littleton Pill at low tide, with extensive mud flats, bed rock and salt marsh - a typical feature.



4 Looking north west from Aust Service Station viewing point. Showing the Estuary, Aust Rock at low tide and the Grade 1 Listed Severn Suspension Bridge. The hills of South Wales form the horizon.



5 Aust Cliff.



5a View of Oldbury Pill (location of the Thornbury Sailing Club) with the Severn Estuary beyond.



6 The Pill at New Passage before it joins the River Severn. The flood bank on the right and the sluice gates are particular features within the area footpath.



7 Northwick Warth from New Passage.



8 The Binn Wall sea defence at New Passage looking towards the Second Severn Crossing.



9 Chittening Warth, the Estuary and industrial structures of Severnside and Avonmouth.



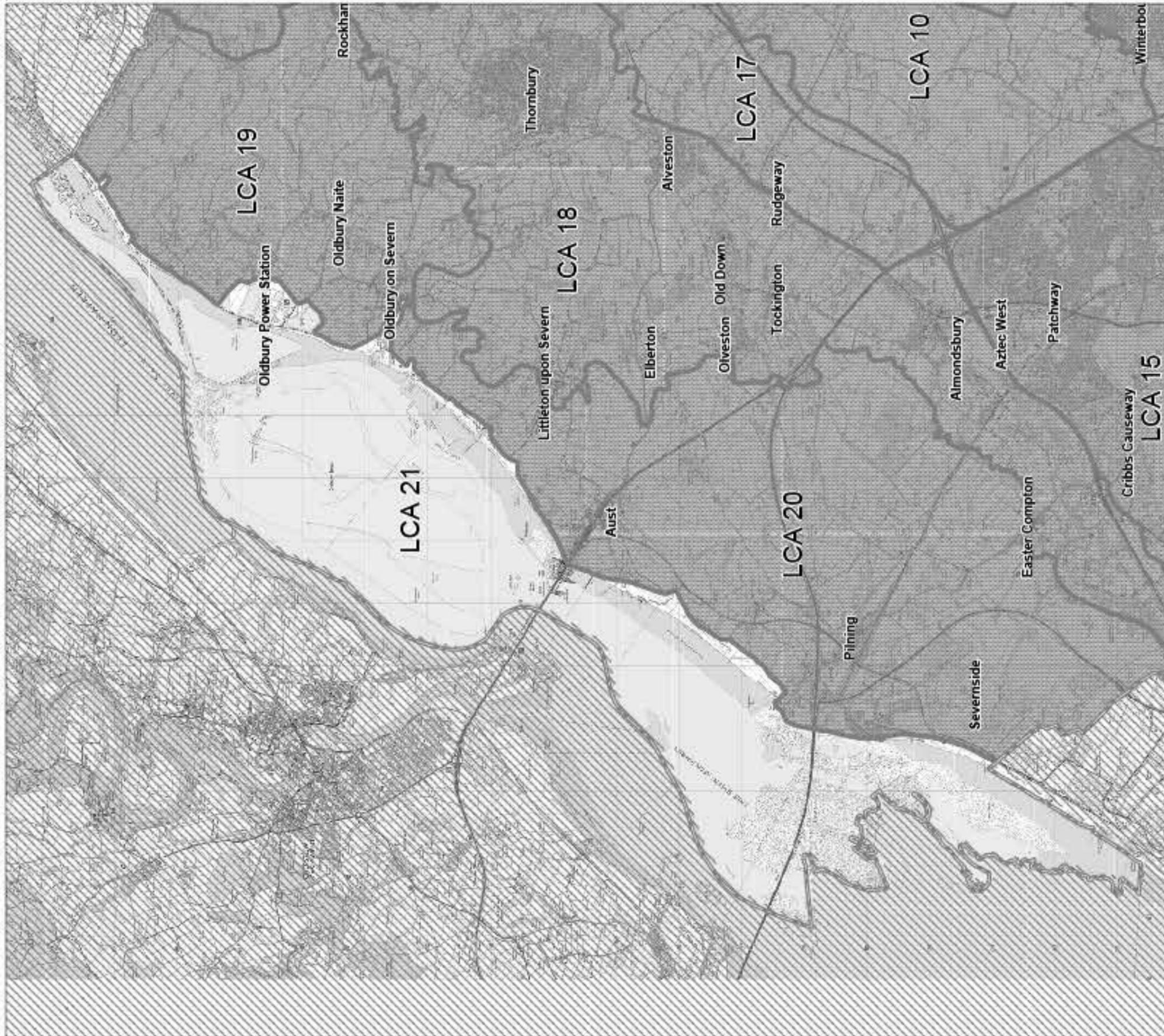
10 Foreshore and warth looking towards the prominent edge of Severn Beach and the Second Severn Crossing.



11 The Second Severn Crossing. One of the two bridges which form prominent landmarks and provide regional identity along the Severn Estuary.

Figure 65 – Area 21
Severn Shoreline and Estuary

LANDSCAPE CHARACTER AREAS



Legend

-  South Gloucestershire Boundary
-  Landscape Character Area

The Landscape Character Area boundary shown on this map is indicative, sometimes marking a distinct change, but more often representing a transition in character with adjacent areas.

Similar attributes may therefore be evident within adjacent areas. (For further information refer to Report Section 4.1)



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Figure 66
Area 21
 Severn Shoreline and Estuary