

## Appendix F

### Landscape Character Type F: Major Chalk River Floodplains

The *Major Chalk River Floodplains* form the base of the major chalk valleys that have been carved through the chalk uplands and contain the major rivers of the Itchen, Arun, Adur, Ouse and Cuckmere.

#### Description

##### Key Characteristics

- Wide flat valley floodplains forming the base of distinctive U-shaped valleys cutting through the chalk - topographically and visually distinct from the sloping valley sides.
- The valleys have historically formed a link between the Weald, downland and sea.
- Rivers meander across the floodplains in broad loops. Some sections are embanked with artificially straightened courses. Historically the rivers were navigable.
- Extensive open valley floor, with long views, enclosed and contained by the rising valley sides. Tree and woodland cover frequently mark the edge of the floodplain where contours begin to rise.
- Land cover of rectilinear small-scale grazed pastures, reclaimed from the former marshy margins of the river from the medieval period onwards.
- Remnant areas of wetland, reedbeds, fen, floodplain grassland and marsh – of high biodiversity interest and supporting large numbers of birds.
- Fields are bound by ditches and occasional hedgerows. Groups of willows and alders occur sporadically alongside the river and drainage channels.
- The Arun and Ouse Valley widen out to include a more extensive area of drained pastures and seasonally flooded water meadows.
- Roads often mark the boundary of the flat floodplain and valley sides; railways occasionally on embankments within the floodplain.
- General absence of settlement on the floodplain, with small nucleated villages characterising the lower valley sides, with views to church spires being a distinctive feature. Occasionally larger settlements (often former ports) extend onto the valley floor, in lower reaches of the river.
- Important historic attributes include medieval bridges – and water management features including water meadows and mills.
- Away from transport corridors the valleys retain an unspoilt and tranquil pastoral character.

## Physical Landscape

**F.1** The Major River Floodplains form the valley floors of the large U-shaped valleys that cut through the eastern part of the South Downs. The landscape type also includes the extensive floodplains north of the chalk beds where the rivers have been unrestricted by landform and have formed particularly extensive floodplains.

**F.2** The valley floors are underlain by Lower, Middle and Upper Chalk formations. However, it is the alluvial drift geology which creates the distinctive characteristics of the floodplain landscapes. River alluvial deposits give rise to stoneless clayey, fine and silty soils known as alluvial gley soils. The fluctuating water levels and the low lying nature of the floodplains (under 5m) result in periodic waterlogging. Despite the generally fertile nature of alluvial soils, the fluctuations in water table and waterlogging mean the valley floors are relatively poor in terms of their agricultural land capability and are therefore retained as permanent pasture. The floodplains are criss-crossed by regular man-made drainage ditches and winding tributaries, which subdivide the valley floors into small to medium sized irregular fields, often bordered by post and wire fences, reeds, scrub, or willow/alder trees. There are many areas of marshy ground and pools of water which include some large reed beds.

**F.3** The rivers are generally tidal in their lower reaches and meander across their floodplain between artificial floodbanks which often screen the river from view. There are typically artificially straightened sections of river and isolated meanders, or marshy depressions marking abandoned earlier courses of the river, in the floodplains.

## Perceptual/Experiential Landscape

**F.4** This is a landscape of apparent large and expansive scale as a result of the flat landform, lack of vertical elements and far-reaching open views. Views are contained and channelled by the rising valley sides and wooded fringe of the floodplain. It is a simple and uniform landscape type as a result of the consistency in pasture land use.

**F.5** The artificial geometric drainage ditches and canalised sections of the rivers contrast with the naturalistic dendritic tributary streams and large sweeping meanders. Despite the artificial nature of the drainage channels and canalised, embanked courses of the rivers, the floodplains tend to have a strong sense of tranquillity as a result of the lack of settlement (and roads) leading to low noise levels and dark skies [<https://www.southdowns.gov.uk/enjoy/dark-night-skies/>].

**F.6** There are typically few roads across the floodplain although roads and car parks along the adjacent valley sides provide access to the edges of the floodplain. Public rights of

way are typically located along the top of the artificial floodbanks that border the rivers and these provide good access up and down the valley. In addition, there are opportunities for water sports on the rivers.

**F.7** John Constable (1776-1837) was drawn by the floodplain landscape – particularly in the Arun Valley where he painted Arundel Mill and Castle.

## Biodiversity

**F.8** The floodplains of these major rivers and their associated alluvial soils support a rich and varied range of wetland habitats including riverine habitat, permanent pasture, water meadows, ditch systems and wet woodland. The river channels themselves also often support fringing willow and alders.

**F.9** Of particular note are the extensive areas of floodplain grazing marsh (a BAP Priority Habitat), which together with the ecologically rich ditch systems are of great value. Important sites include the Seaford to Beachy Head SSSI, the Lewes Brooks SSSI and River Itchen SSSI. As a whole these grazing marshes and associated wetland habitats, provide a key habitat for a range of wildfowl and over-wintering birds. Other BAP Priority Habitats include good quality semi-improved grassland and deciduous woodland which are commonly found across the landscape, as well as areas of lowland fens and lowland meadows that typically exist along the Itchen floodplain in the west.

**F.10** Aside from their ornithological importance, these floodplain grasslands and marshes also support a number of notable plant species, for example cut grass *Leersia oryzoides*, a plant that is restricted to ten UK locations, and the nationally vulnerable true fox sedge *Carex vulpina*. The ditches also support an important aquatic flora and are rich in invertebrate species.

**F.11** To the south, the Cuckmere and Adur floodplains support habitats that reflect a coastal influence, with nationally important sites such as the Adur Estuary SSSI and the Seaford to Beachy Head SSSI.

Key Biodiversity Features	Importance
BAP Priority Habitats of floodplain grazing marsh, good quality semi-improved grassland, deciduous woodland, lowland fens and lowland meadows.	Grazing marsh supports internationally important bird populations, and lowland meadows support a specialist group of scarce and declining plant species and farmland birds.
Riverside trees of willow and alder	Riverside vegetation supports the banks (reducing erosion) and provides habitats for wildlife.

Key Biodiversity Features	Importance
Saltmarsh and mudflats in lower reaches close to the coast (e.g. in the Adur and Cuckmere)	Saltmarsh and mudflats support nationally important estuarine plant communities and wading birds.

**F.12** The majority of BAP Priority Habitats across the floodplains are identified as being suitable for restoration in Natural England's National Habitat Networks Mapping Project<sup>1</sup>, as they exist in a degraded or fragmented form. Some of the areas in the floodplains also form part of a Network Enhancement Zone, where green infrastructure provision can help to improve connections between habitats.

### Historic Character

**F.13** The Major River Floodplains have formed links between the Weald, downland and sea from the earliest prehistoric periods up to the present day. Numerous finds of Palaeolithic and Mesolithic artefacts have been discovered along the valleys testifying to the passage of hunting bands. The rivers would have once flowed in much larger channels and the alluvial floodplains, although very fertile, were also narrow and vulnerable to flooding, rendering them unsuitable for prehistoric and later settlement and arable agriculture. It is likely that the rich meadows may have been used for pasture by communities situated on the higher land to either side of the rivers.

**F.14** By the medieval period, the floodplains formed an integral part of a medieval agrarian landscape based on the villages located along the lower slopes of the valleys, and utilising a wide range of resources. The villages were typically surrounded by open fields, with woodland and downland pastures towards the extremities of the parishes. The rich meadowlands on the floodplains would have been an important component in this integrated mixed farming regime.

**F.15** The rivers would have been important routeways from prehistory onwards, and remained navigable until well after the medieval period. Some settlements on the valley sides remained in use as small river ports into the 20th century. Post-medieval changes, including the gradual silting up of the rivers and the competing demands of other interests such as fisheries and the creation of water meadows, reduced the ability of the rivers to support waterborne trade.

**F.16** The floodplains are now mostly occupied by a series of enclosed fields (referred to as brooks innings or salt marsh innings in the Sussex HLC<sup>2</sup> and as relic watermeadows in the Hampshire HLC<sup>3</sup>). The brooks innings are the drainage and

enclosure of fresh water marshland in river valley flood plains from the late post-medieval period onward, resulting in meadows bounded by 'wet fences' or ditches. Fields situated in the lower reaches of the river valleys are typically more regular or semi-regular dominated by straight ditches, often undertaken by the larger landowners as part of strategic flood defences. Fields in the upper reaches tend to be informal with more irregular or semi-irregular patterns of enclosure and with boundaries dominated by sinuous ditches often following the course of former streams and tributaries and associated with irregular piece-meal enclosure. In Hampshire the relic watermeadows are surviving features of former water meadows that played a crucial role in the farming economy between 1600 and 1900. They allowed for the for the artificial control of watering using a series of hatches, weirs, channels and drains to allow lush crops of grass to grow. Culverts and bridges provided access to the meadows for carts to allow harvest. Bridges, weirs and mills are also features associated with the river floodplains.

Key Features of the Historic Environment	Importance
Absence of settlement	Evidence of unsuitability of the floodplain for settlement.
Remnant features relating to water management and agricultural/industrial use of the river including brooks innings, relic watermeadows, bridges, weirs, and mills	Evidence of the importance of the river and its margins to the local economy throughout history.
Former tidal reaches, extent of navigation, former river ports	Provides evidence of past use of the river for waterborne trade

### Settlement Form and Built Character

**F.17** The major river floodplains are notable for their absence of settlement. Built structures are typically small scale and comprise individual buildings such as mills and pumping stations, and other structures such as bridges and weirs.

**F.18** However, settlements are located at strategic locations such as bridge crossing points and ports and while the historic cores of these settlements tend to be outside the floodplain, some of the settlements have extended into the floodplain, for example at Lewes and on the edge of Arundel. The City of Winchester lies within the floodplain of the River Itchen (although the urban area is just outside the National Park).

**F.19** Building materials are typically red brick, concrete, timber and clay tiles.

<sup>1</sup> Natural England. 2018. *National Habitat Networks Mapping Project*

<sup>2</sup> West Sussex County Council, East Sussex County Council, Brighton & Hove Unitary Authority and English Heritage. 2010 *Sussex Historic Landscape Characterisation*

<sup>3</sup> South Downs National Park (2017) *Historic Landscape Characterisation Report (Hampshire)* by Wyvern Heritage and Landscape

## Evaluation

### Ecosystem Services in Major Chalk River Floodplains

**F.20** Ecosystem services are the benefits people and society get from the natural environment. The *Major River Floodplains* provides:

Provisioning	<ul style="list-style-type: none"> <li>■ Food provision – grazing and fisheries</li> <li>■ Water availability – water supply</li> </ul>
Regulating	<ul style="list-style-type: none"> <li>■ Regulating water quality – the way the area is managed affects water quality. Water quality can be adversely affected by pollution from agricultural activity, urban and road run-off and sewage leakage.</li> <li>■ Regulating water flows – the flood plains of the main rivers and their tributaries provide flood protection and flood storage capacity. Winter rainfall is absorbed and stored in well structured, permeable soils, which helps to avoid accelerated water run-off and flooding.</li> <li>■ Regulating soil quality – vegetation cover such as permanent pasture found in the flood plains can result in better soil quality than areas that are intensively cultivated or over grazed.</li> <li>■ Regulating soil erosion – areas not cultivated, such as permanent pasture in the floodplain, are protected from erosion.</li> <li>■ Climate regulation - carbon sequestration and storage benefits in vegetated soils and woodland along river corridors. Fen peat soils are of particular importance to carbon storage, and although not found extensively in the National Park, can be found at Amberley Wild Brooks in the Arun valley.</li> <li>■ Air quality regulation – woodland along river corridors regulate local air quality.</li> <li>■ Pollination – unimproved and semi-improved grasslands are important nectar sources for pollinating insects.</li> </ul>
Cultural	<ul style="list-style-type: none"> <li>■ Sense of place – river floodplains have a distinct sense of place and are important transport and communication corridors through the chalk downs</li> <li>■ Tranquillity – the whole floodplain is generally tranquil, with pockets of deep tranquillity (reduced close to roads)</li> <li>■ Recreation - valuable recreation resource for walking, fishing and water based recreation</li> </ul>
Supporting	<ul style="list-style-type: none"> <li>■ Biodiversity - chalk streams and rivers are of international importance and are often designated for their high wildlife value. The Arun Valley is internationally designated as a Ramsar site and also as an SPA.</li> </ul>

### Sensitivities

**F.21** This landscape type has many sensitive physical and aesthetic/perceptual features that are vulnerable to change, as set out in the table below.

Key Landscape Sensitivities	
1.	The flat, open and undeveloped character of the valley floors, which are particularly vulnerable to introduction of built elements, particularly large scale linear/vertical developments such as transmission lines or changes/extensions to development on the valley sides.
2.	Inter-visibility with adjacent settled valley sides and downs enhances the visual sensitivity (a number of representative viewpoints are identified in the South Downs National Park: View Characterisation and Analysis report).
3.	The remnant meandering channels of the rivers and the dendritic tributary streams that provide a sense of naturalness in an otherwise regimented pattern of artificial drainage channels.
4.	The unified pastoral character of the floodplains, which are vulnerable to changes in land use and management including the introduction of horse paddocks.
5.	Riverside willows and alders which mark the courses of the rivers and contribute to the biodiversity of the floodplain landscapes.

Key Landscape Sensitivities	
6.	Semi-natural floodplain habitats such as ponds, reedbeds, meadows, and grazing marsh, which contribute to the naturalistic character of the floodplains and provide a rich biodiversity.
7.	Remnant watermeadows.
8.	The tranquillity of the floodplain arising from low noise levels, infrequent river crossing points, and absence of settlement or artificial lighting.

## Change – Key Issues and Trends

### Past Change

**F.22** Past change includes:

Past Change	
1.	Draining of the floodplains through artificial drainage channels and canalisation of sections of the river courses has reduced the naturalistic course of the rivers.
2.	Reduction in waterborne trade during the post-medieval period as a result of the gradual silting up of the river and competing demands of other interests such as fisheries has resulted in change to land uses. Siltation of the rivers has also affected their natural courses.
3.	Introduction of artificial drainage channels to enable agriculture on the floodplain and lowering of water tables has resulted in loss of wet pastures.
4.	Invasive, non-native species such as Himalayan balsam and giant hogweed have expanded along river valleys, displacing native plants and habitats.
5.	More recently the sea has begun to regularly overtop the flood banks of the lower reaches of the rivers.

### Future Landscape Change

**F.23** The likely future changes are set out in the table below with reference to the relevant guidelines relating to landscape management / integrating development into the landscape.

Future Change	
1.	Reduction in wet woodland, water meadows, and grazing marsh as a result of drier, warmer summers reducing damp conditions needed for the survival of these habitats.
2.	Drying of the floodplains in summer could result in replacement of pasture with dry grassland species (e.g. drying of fen peat soils found at Amberley Wild Brooks in the Arun valley could lead to a loss of peat stock and carbon stores) and pressure for building of more reservoirs for irrigation.
3.	Sea level rises, and increases in winter precipitation, may result in further breaching of river flood banks and increased storms and flooding events (both freshwater and saltwater near the sea), leading to an increased pressure on flood defences and the loss of small areas of saltmarsh.
4.	Increased storm and flooding events could result in planned changes to flood management that could affect the character of the floodplains including an increased pressure for tree planting to attenuate floods
5.	Increased temperatures may also result in more prolific vegetation growth within rivers and on banks, including invasive non-native species, as well as increase in pests and diseases resulting in loss of native habitats.

Future Change	
6.	Increased rainfall could result in soil erosion in adjacent downland areas, and this could have knock-on effects on water quality within the rivers.
7.	If Net Zero commitments are implemented, it is likely that there will be key change to land use. Valleys could come under pressure for growth of biomass crops. While Miscanthus and willow plantations could, in theory, blend with the character of the floodplains' reed beds and wet woodlands, it is important that crops such as these do not adversely affect the fundamentally open and pastoral character, or the wetland character, of the floodplains.
8.	Agricultural management will be driven by the changes in the world market and agricultural policy. In this floodplain landscape, where soils are seasonally waterlogged, it is possible that marginal farms may cease grazing, diversifying into other uses such as hobby-farms, camping farms, petting zoos, vineyards and tourism uses. There may also be pressure to intensify, resulting in loss of semi-natural habitats, increase in soil erosion and increase in barns or shelters.
9.	There may be further pressure for introduction of horse paddocks and associated stables, mirrors and lights, which may affect the open rural character of the floodplains and dark skies.
10.	Pollution from agriculture is likely to be an ongoing pressure, affecting wetland habitats and water quality.
11.	Recreational pressure may also have an impact on the floodplain landscape, causing erosion and altering sense of tranquillity.
12.	The floodplains are characterised by the absence of development – however, pressure for development is likely to occur everywhere, and development in adjacent areas can affect views from the floodplain as well as put more pressure on water resources.
13.	Major infrastructure projects may occur in floodplains, especially linear development which may not be able to avoid crossing valleys.

## Broad Management Objective and Landscape Guidelines

**F.24** The overall management objective should be to conserve the tranquil, pastoral, undeveloped character of the floodplains and to support opportunities to increase semi-natural floodplain habitats such as grassland, reedbeds, water meadows, and grazing marsh.

### Guidance for Landscape Management

- A.** Employ natural flood management solutions that are compatible with the character of the floodplains e.g. restoring bends in rivers, provision of flood storage, naturalisation and habitat restoration in the floodplain and creating saltmarshes on the coast to absorb wave energy near the coast. Ensure flood management is planned at the catchment level to manage the flow of water along the whole length of a river.
- B.** Increased channel maintenance and flood relief channels are preferable to building up of flood embankments and walls in these open landscapes. Look for future opportunities to remove flood embankments that interrupt the open nature of the floodplain.
- C.** Support sustainable flood risk management schemes, such as bank naturalisation, reprofiling, re-meandering, river-edge planting, reedbed creation, floodplain restoration and storm water attenuation.
- D.** Monitor saline intrusion in coastal areas and effects on habitats.
- E.** Encourage seasonal grazing to maintain the pastoral character of the floodplains and extend grasslands and wildflower meadows that support pollinators.
- F.** Be alert to potential new pests and diseases and plan for management. Continue to monitor native species to assess changes in numbers and distribution. Monitor and control the spread of invasive species which are a cause of decline in native habitats, such as Giant hogweed *Heracleum mantegazzianum* and Floating pennywort *Hydrocotyle ranunculoides*. Refer to the SDNP INNS Strategy. Freshwater ecosystems seem particularly susceptible to invasions from problem species and climate change may exacerbate this (Clarke 2009)<sup>4</sup>.
- G.** Ensure sympathetic integration of horse paddocks.
- H.** Conserve the dendritic tributary streams which provide a sense of naturalness to an otherwise regimented pattern of artificial drainage channels. Continue to manage all drainage ditches and allow buffer zones alongside the ditches to enhance biodiversity.
- I.** Conserve and extend characteristic floodplain habitats such as riverside willows and alders, reedbeds, unimproved meadows, and grazing marsh, which contribute to the naturalistic character of the floodplain. Consider using flood relief schemes to enhance landscape character by re-creating and extending areas of flood meadows.
- J.** Adopt soil, habitat and land management practices to ensure continued and enhanced carbon storage, for example by promoting areas of permanent grassland (including flood meadows), woodland and marsh/fen and avoiding excess fertilising, ploughing or compaction of soil by overgrazing.
- K.** Conserve remnant historic water meadow systems which are of historic and archaeological interest as well as ecological value.
- L.** Monitor the impact of climate change on riverside trees, wetland scrub, flood meadows, and grazing marsh. Consider planting riverside woodlands to help mitigate climate change, flooding prevent soil erosion.
- M.** Create habitats on flood storage land and along streams and rivers in agricultural landscapes to reduce diffuse pollution and run-off.
- N.** Avoid over-abstraction which could result in loss of wetland habitat.
- O.** Seek to minimise water pollution from agriculture through sensitive land management practices, including restoration of buffer strips along watercourses to minimise run-off.

<sup>4</sup> Clarke, S.J. 2009. *Adapting to climate change: implications for freshwater biodiversity and management in the UK*. Freshwater Reviews, 2, 51-64.



- P.** Ensure future pressures for biomass crops (such as Miscanthus and willow plantations) do not adversely affect the fundamentally open and pastoral character of the floodplains.

#### Guidance for Integrating Development into the Landscape

- A.** Conserve the tranquil, pastoral and undeveloped character of the floodplains and associated dark skies, taking account of the technical guidance note dark skies technical advice note: <https://www.southdowns.gov.uk/wp-content/uploads/2018/04/TLL-10-SDNPA-Dark-Skies-Technical-Advice-Note-2018.pdf>.
- B.** Conserve historic built structures associated with the river – mills, weirs, bridges etc., as well as historic ports along the rivers.
- C.** The floodplains are generally unsuitable for any built development. Any development in the floodplains could both increase flood risk and itself be at risk of flooding, and roads can produce run off into the rivers affecting water quality.
- D.** Consider views to and from the adjacent valley sides and higher downland downs in relation to any change in the flood plain. Refer to guidance in the View Characterisation and Analysis report.<sup>5</sup>

#### Woodland strategy and suitable species

**F.25** This type contains limited woodland cover, approximately 2km<sup>2</sup> covering 5% of the LCT and is limited to riverside alders and willow. The LCT is an area of grazing pasture and remnant areas of wetland habitats of high biodiversity interest. Very limited wet woodland planting would be acceptable in this open floodplain landscape.

**F.26** Avoid the introduction of non-native plant species and monitor occurrence and abundance of new pests and diseases. Appropriate plant species may be informed by the National Biodiversity Network Gateway, relevant Biodiversity Action Plans and biological records from the relevant Biological Records Centre.

**F.27** Ensure any purchased plant stock is through reputable nurseries, operating the Plant Health Assurance Scheme (once it has been trialled) to protect against the risk of *Xylella fastidiosa* and other plant health risks.

Character Areas	
There are five <i>Major Chalk River Floodplains</i> in the South Downs. Four of these are located within the valley bottoms of the large U shaped valleys that cut through the eastern half of the South Downs. The fifth is the floodplain of the River Itchen which lies at the western end of the National Park.	
<b>F1:</b>	Cuckmere Floodplain
<b>F2:</b>	Ouse Floodplain
<b>F3:</b>	Adur Floodplain
<b>F4:</b>	Arun Floodplain
<b>F5:</b>	Itchen Floodplain

<sup>5</sup> LUC. 2015 *South Downs National Park: View Characterisation and Analysis*



## F1: Cuckmere Floodplain

### Location and Boundaries

The *Cuckmere Floodplain* occupies the flat valley floor of the Cuckmere Valley, the easternmost of the wide valleys that cut through the South Downs. It extends to the National Park boundary to the north and south represented by the A27(T) in the north and the shoreline to the south. The boundaries of the floodplain are clearly defined by the break of slope between the flat floodplain and rising valley sides.

#### Key Characteristics

- Flat valley floor of the large U-shaped Cuckmere Valley.
- A landscape of apparent large and expansive scale as a result of the flat landform, consistent pasture land cover, lack of vertical elements and far-reaching views across the open floodplain. Views are contained by the valley sides.
- Contains the meandering course of the tidal Cuckmere River which flows between artificial flood banks – these flood banks provide access along the river via public rights of way.
- Periodically waterlogged silty soils support permanent pasture, within fields reclaimed from the marshy margins of the River Cuckmere, are of high biodiversity value and give the floodplain a lush, pastoral character.
- Groups of willows and alders occur sporadically alongside the river and drainage channels, which are important ecological features.
- The floodplain is etched by contrasting patterns of dendritic tributary streams and artificial geometric drainage ditches which border fields. Some fields are bounded by hedgerows.
- Extensive floodplain habitat, including grazing marsh, ponds and reedbeds. An extensive and well-preserved system of water meadows and grazing marsh survive at Cuckmere Haven.
- Notable for the absence of settlement, with built development confined to occasional bridges, weirs, mills and pumping stations.
- A well-preserved system of anti-invasion defences, including pillboxes, anti-tank walls and an anti-tank ditch exist at Cuckmere Haven.
- The absence of woodland and generally low incidence of trees results in an open landscape with extensive, open views across the floodplain. Views are contained by the rising slopes of the valley sides and the strong wooded edge to the floodplain.
- A tranquil landscape as a result of the low noise levels, few roads, infrequent crossing points, and general absence of settlement or artificial lighting.

### Specific Characteristics Unique to the Cuckmere Floodplain

**F.28** The physical characteristics of this landscape character area are generally typical of its landscape type, exhibiting a flat valley floor prone to periodic waterlogging with land predominantly in permanent pasture.

**F.29** The floodplain contains the tidal River Cuckmere which, typical of the rivers in the Major River Floodplains, meanders across the floodplain between artificial floodbanks which screens the river from view. The Cuckmere is artificially straightened south of Exceat Bridge, leaving a large isolated meander in the floodplain which is now part of the Seven Sisters Country Park. Downstream of this, the river follows its

original course through Cuckmere Haven - to the west of the river lies lowland meadow and to the east lies coastal floodplain and grazing marsh, both habitats that are typical of the landscape type albeit relatively rare. This forms part of the Seaford to Beachy Head SSSI, a nationally important site which extends outside the floodplain to the east, stretching out along the Sussex coast to Beachy Head.

**F.30** The area is characterised by a rich and varied range of wetland habitats, especially in its broader low reaches where the ecological character reflects its coastal influence. The majority of the floodplain comprises permanent pasture grassland, which together with regular ditches and drains support an interesting flora, including the critically endangered

red star-thistle *Centaurea calcitrapa*. The river channel itself is largely canalised and tidal inundation of the floodplain is not common. However, the channel has retained its meandering course and its banks together with associated ditches support a number of willows and alders.

**F.31** The *Cuckmere Floodplain* has a strong sense of tranquillity as a result of the low noise levels, pasture land use, infrequent crossing points, and absence of settlement or artificial lighting. Most notable in terms of access are the public rights of way along the top of the artificial floodbanks that border the river, extending from Alfriston in the north to Cuckmere Haven at the entrance to the sea. The South Downs Way National Trail follows the eastern floodbank of the river between Alfriston and Litlington. In addition, there are opportunities for canoeing and cycling within Seven Sisters Country Park.

**F.32** The Cuckmere River was an important routeway from prehistory onwards - Alfriston, on the valley side, is notable for its historic use as a small river port into the 20<sup>th</sup> century.

**F.33** The Cuckmere floodplain contains a particularly extensive and well-preserved system of water meadows at Cuckmere Haven. Other historic features unique to this character area are a well-preserved system of anti-invasion defences, including pillboxes, anti-tank walls and an anti-tank ditch at Cuckmere Haven, together with remains of the industrial history of the valley, including remnants of a former light railway associated with chalk quarrying.

**F.34** The floodplain is typical of its type, being notable for the absence of settlement.

#### Sensitivities Specific to the Cuckmere Floodplain

**F.35** All of the landscape and visual sensitivities listed in the landscape type evaluation apply to this character area. Specific to this character area are:

Key Landscape Sensitivities	
1.	Nationally important grazing marsh and associated habitats that form part of the Seaford to Beachy Head SSSI.
2.	Extensive and well-preserved system of water meadows at Cuckmere Haven.
3.	Well-preserved, and historically important, system of anti-invasion defences, including pillboxes, anti-tank walls and an anti-tank ditch, at Cuckmere Haven.

Key Landscape Sensitivities	
4.	Remains of the industrial history of the valley, including remnants of a former light railway associated with chalk quarrying.
5.	Views from the adjacent downs across the floodplain (including representative views identified in the South Downs National Park: View Characterisation and Analysis report). <sup>6</sup>

#### Change Specific to the Cuckmere Floodplain

**F.36** In addition to the changes listed in the landscape type evaluation, specific changes to this area are set out in the table below:

Forces for Change	
1.	Breaching of the sea defences (maintaining the defences within the Cuckmere Valley at their current height is not a long term sustainable option in the light of sea level rises and more frequent and fiercer storms as a result of climate change).

#### Landscape Management/Development Considerations Specific to the Cuckmere Floodplain

**F.37** In addition to the generic landscape management and development considerations for this landscape type, the following landscape management considerations are specific to this character area:

- a. Conserve the extensive and well-preserved system of water meadows at Cuckmere Haven and grazing marsh within the Seaford to Beachy Head SSSI.
- b. Support plans to restore and link floodplain habitats, particularly in Natural England's Network Enhancement Zones and Fragmentation Action Zones.
- c. Re-create intertidal habitats and transformation of areas of pasture into saltmarsh with creeks and areas of inter-tidal mudflat that will act as natural defences to future storm events. Responding to breaching of sea defences could provide an opportunity to re-create intertidal habitats at Cuckmere Haven.
- d. Conserve the well-preserved, and historically important, system of anti-invasion defences, including pillboxes, anti-tank walls and an anti-tank ditch, at Cuckmere Haven.

<sup>6</sup> <https://www.southdowns.gov.uk/wp-content/uploads/2015/10/Viewshed-Study-Report.pdf>, Views 6, 7, 46

- e. Celebrate the industrial history of the valley, including preserving remnants of a former light railway associated with chalk quarrying and providing interpretation.
- f. Maintain the iconic meanders of the Cuckmere River.

**F.38** The following development considerations are specific to this character area:

- a. Consider views from the adjacent downs when planning any change in this floodplain. Refer to guidance in the View Characterisation and Analysis report.

## F2: Ouse Floodplain

### Location and Boundaries

The *Ouse Floodplain* occupies the flat valley floor of the Ouse Valley, a particularly wide valley that cuts through the South Downs from Lewes to the coast of Newhaven. The eastern and western boundaries of the floodplain are clearly defined by the break of slope between the flat floodplain and rising valley sides. These boundaries also coincide with the extent of underlying river alluvium. The *Ouse Floodplain* continues beyond the boundary of the designated National Park northwards, into the Low Weald, and south east, to surround Newhaven.

#### Key Characteristics

- Flat valley floor of the large U-shaped Ouse Valley occupying the wide gap cut into the open chalk downs between Lewes and Newhaven coast. Small elevated 'islands' at Upper Rise and The Brooks.
- A landscape of apparent large and expansive scale as a result of the flat landform, consistent pasture land cover, lack of vertical elements and far-reaching views across the open floodplain. Views are contained by the valley sides.
- Contains the meandering course of the tidal River Ouse which flows between artificial flood banks. Public rights of way provide public access along the tops of the floodbanks.
- Artificially straightened sections of river associated with industrial history – including the paper industry and chalk quarrying.
- Periodically waterlogged silty soils support permanent pasture, within fields reclaimed from the floodplain, giving the floodplain a lush, pastoral character and supporting an important ecological flora.
- The floodplain is etched by a geometric grid of narrow channels ('wet fences') which divide pastures.
- Groups of willows and alders occur sporadically alongside the river and drainage channels providing important visual and ecological features.
- Lewes Brooks is a distinctive area where ditch systems and wet grasslands have a particularly rich flora and attract nationally important populations of winter birds.
- Mostly absent of settlement, with the exception of the ancient ford settlement of Cliffe, and settlement on the edge of the former port of Lewes.
- The absence of woodland and generally low incidence of trees results in a large scale, open landscape with extensive views across the floodplain.
- Tranquillity affected by proximity of built development, trains on the mainline railway and traffic on the A27 (T) that crosses the floodplain.

### Specific Characteristics Unique to the Ouse Floodplain

**F.39** The physical characteristics of this landscape character area are generally typical of its landscape type, exhibiting a flat valley floor prone to periodic waterlogging with land use predominantly permanent pasture. This character area is particularly notable for its extremely wide floodplain at the convergence of the Glynde and Ouse. During the 16<sup>th</sup> century, this area was a shallow lake for much of the year, until drainage was introduced in the 18<sup>th</sup> century. Small 'islands' at Upper Rise and The Brooks are the remnants of the eroded chalk uplands.

**F.40** The extensive low-lying floodplain contains a number of ecologically rich wetland areas, including Lewes Brooks SSSI

and Offham Marshes SSSI. These wetland sites are particularly notable for their ditch systems and wet grasslands, and have an especially rich aquatic flora, and support a number of notable invertebrate species. Beddingham Grazing Marsh and Glynde Reach provides a further example of a wetland site of particular ecological interest as reflected in its designation as a LWS.

**F.41** For many centuries the Ouse was a major transport route to the port at Lewes and there has historically been a significant amount of activity in the river floodplain. Today, the Ouse Floodplain has a generally tranquil character although this is affected on its edges by urban development (including the former port of Lewes), major roads (including the A27), the mainline railway, sewage works and transmission lines.

Nevertheless, the core (including The Brooks) remains a tranquil area with dark skies.

**F.42** Most notable in terms of access today are the public rights of way along the top of the artificial floodbanks that border the river, extending from Lewes to Newhaven. The South Downs Way National Trail crosses the valley at Southease providing access from the station to the surrounding downs.

**F.43** This character area is dominated by a series of enclosed fields that are now subject to modern farming, but a small portion of the traditional landscape of grassland meadows and wet woodland survives at the Railway Land nature reserve in Lewes. Remnant systems of watermeadows are also evident. Evidence of the industrial history of the valley survives north of Lewes, where the channels around the Papermill Cut served both the paper industry and chalk quarrying.

**F.44** The *Ouse Floodplain* is different from other *Major River Floodplains* in that it contains a number of areas of settlement – including the historic village of Cliffe, which developed as an ancient ford, and The Brooks Industrial Estate. Lewes is a former port, positioned at the junction between the Downs and Weald.

#### Sensitivities Specific to the Ouse Floodplain

**F.45** All of the landscape and visual sensitivities listed in the landscape type evaluation apply to this character area. Specific to this character area are:

Key Landscape Sensitivities	
1.	Lewes Brooks where ditch systems and wet grasslands have a particularly rich flora and attract nationally important populations of winter birds.
2.	The area of grassland meadows and wet woodland at the Railway Land nature reserve in Lewes.
3.	Remains of the industrial history of the valley, including the channels around the Papermill Cut which served both the paper industry and chalk quarrying.
4.	Views from the adjacent downs across the floodplain (including representative views identified in the South Downs National Park: View Characterisation and Analysis report). <sup>7</sup>

#### Change Specific to the Ouse Floodplain

**F.46** In addition to the generic changes listed in the landscape type evaluation, specific changes to this area include the introduction of the mainline railway in 1846. Other more recent changes include the introduction of transmission lines into the floodplain, the building of the A27 across the floodplain south

of Lewes, and new built development within the floodplain on the outskirts of Lewes (including The Brooks Industrial Estate and the Fujitsu offices).

#### Forces for Change

1. More frequent flooding, affecting the historic settlement of Cliffe as well as other more recent development in the floodplain.

#### Landscape Management/Development Considerations Specific to the Ouse Floodplain

**F.47** In addition to the generic landscape management and development considerations for this landscape type, the following landscape management considerations are specific to this character area:

- a. Conserve and enhance the tranquil character and habitats of Lewes Brooks whose ditch systems and wet grasslands which have a particularly rich flora and attract nationally important populations of winter birds.
- b. Conserve, and expand the traditional landscape of grassland meadows and wet woodland on the floodplain.
- c. Promote new habitat creation and enhancement as part of managed retreat and flood management regimes.
- d. Celebrate the industrial history of the valley, preserving the channels around the Papermill Cut which served both the paper industry and chalk quarrying, and consider providing interpretation.

**F.48** The following development considerations are specific to this character area:

- a. Ensure that solutions to flood management, particularly in relation to Cliffe, are sustainable in the long term and compatible with the character of the floodplain.
- b. Limit further development in the floodplain - any development in the floodplain could both increase flood risk and be at risk of flooding.
- c. Consider views from the adjacent downs when planning any change in this floodplain. Refer to guidance in the View Characterisation and Analysis report.

<sup>7</sup> <https://www.southdowns.gov.uk/wp-content/uploads/2015/10/Viewshed-Study-Report.pdf>, Views 49 & 51

## F3: Adur Floodplain

### Location and Boundaries

The *Adur Floodplain* occupies the flat valley floor of the Adur Valley, a deep U-shaped valley that cuts through the South Downs between Bramber and Old Shoreham. The eastern and western boundaries of the floodplain are clearly defined by the break of slope between the flat floodplain and rising valley sides. These boundaries also coincide with the extent of underlying river alluvium. The Adur Floodplain continues beyond the boundary of the National Park northwards into the Low Weald, and southwards, to Shoreham Harbour.

#### Key Characteristics

- Flat valley floor of the deep U-shaped Adur Valley between Bramber (a former port) and Old Shoreham.
- A landscape of apparent large and expansive scale as a result of the flat landform, consistent pasture land cover, lack of vertical elements and far-reaching views across the open floodplain. Views are contained by the valley sides.
- Contains the meandering course of the tidal River Adur which flows between artificial flood banks. Public rights of way provide access along the tops of the floodbanks.
- Saltern mounds provide evidence of the medieval salt-extraction industry.
- Periodically waterlogged silty soils support permanent pasture, within fields reclaimed from the floodplain, giving the floodplain a lush, pastoral character and supporting important ecological flora.
- Groups of willows and alders occur sporadically alongside the river and drainage channels providing important visual and ecological features.
- A small area of the Adur Estuary (designated as a SSSI) extends into the character area, supporting ecologically important saltmarsh and intertidal mudflats, of high value to wading birds.
- Typically absent of settlement, with the exception of the ancient settlement edge of Beeding (a medieval port) on the northern boundary of the character area.
- The absence of woodland and generally low incidence of trees results in a large scale, open landscape with extensive views across the floodplain.
- Tranquillity affected by proximity of built development on the valley sides, the A283 and A27.
- Views to the landmarks of Bramber Castle and Lancing College on the adjacent valley sides – Lancing College is a particularly distinctive building at the 'entrance' to the Adur valley.

### Specific Characteristics Unique to the Adur Floodplain

**F.49** The physical characteristics of this landscape character area are generally typical of its landscape type, exhibiting a flat valley floor prone to periodic waterlogging with land use predominantly permanent pasture. This character area is particularly notable for its salt extraction industry – this was a major industry in the valley throughout the medieval period, with salt extracted from tidal marshland, and is mentioned in the Domesday Survey. Evidence of the medieval salt-extraction industry survives in various places along the floodplain today as saltern mounds.

**F.50** The *Adur Floodplain's* tranquil character is affected by the proximity of urban development (at Steyning and Upper Beeding), a major chalk quarry and cement works (Shoreham Cement Works), major roads (including the A283 and A27),

and transmission lines. Many of these are located in adjacent character areas, but affect the perception of the landscape of the floodplain.

**F.51** Most notable in terms of access today are the public rights of way along the top of the artificial floodbanks that border the river, extending from the Low Weald to Shoreham. A Sustrans cycle route (no. 79) runs along the eastern bank of the River Adur. The South Downs Way National Trail crosses the Adur and follows the 'Downs Link' (a dismantled railway that now links the North Downs and South Downs) to Steyning.

**F.52** This character area is dominated by a series of enclosed fields that are now subject to modern farming. To the south, are small areas of saltmarsh and tidal mudflats along the bank



of the river – these habitats form part of the Adur Estuary SSSI.

**F.53** The *Adur Floodplain* is typical of the major river floodplains in that settlement is generally absent.

### Sensitivities Specific to the Adur Floodplain

**F.54** All of the landscape and visual sensitivities listed in the landscape type evaluation apply to this character area. Specific to this character area are:

Key Landscape Sensitivities	
1.	The small areas of saltmarsh and tidal mudflats along the banks of the river that form part of the Adur Estuary SSSI.
2.	Saltern mounds which provide evidence of the medieval salt-extraction industry survives.
3.	Impressive views of the landmarks of Bramber Castle and Lancing College (the later identified in the South Downs National Park: View Characterisation and Analysis report) <sup>8</sup> that would be sensitive to change.

### Change Specific to the Adur Floodplain

**F.55** In addition to the generic changes listed in the landscape type evaluation, specific changes to this area include:

Forces for Change	
1.	The saltern mounds could be at risk from ploughing, encroachment by woody scrub, or sea-level rise which could bury them beneath silt.

### Landscape Management/Development Considerations Specific to the Adur Floodplain

**F.56** In addition to the generic landscape management and development considerations for this landscape type, the following landscape management considerations are specific to this character area:

- a. Conserve, and expand the traditional landscape of grassland meadows and wet woodland on the floodplain, particularly linking to the area north of Bramber (outside of the character area).
- b. Conserve the areas of saltmarsh and tidal mudflats along the banks of the river that form part of the Adur Estuary SSSI.
- c. Celebrate the industrial history of the valley and conserve the saltern mounds and their settings which provide evidence of the medieval salt-

extraction industry. Avoid ploughing or and protect from encroachment by woody scrub to maintain them as visual features in the floodplain.

**F.57** The following development considerations are specific to this character area

- a. Ensure that solutions to flood management are sustainable in the long term and compatible with the character of the floodplain.
- b. Limit further development in the floodplain - any development in the floodplain could both increase flood risk and be at risk of flooding.
- c. Conserve views of the landmarks of Bramber Castle and Lancing College (refer to guidance in the South Downs National Park: View Characterisation and Analysis report).

<sup>8</sup> <https://www.southdowns.gov.uk/wp-content/uploads/2015/10/Viewshed-Study-Report.pdf>. View 30.



## F4: Arun Floodplain

### Location and Boundaries

The *Arun Floodplain* is located on the flat valley floor of the Arun Valley. The floodplain extends from Amberley in the north to Arundel in the south. The eastern and western boundaries of the floodplain are clearly defined by the break of slope between the flat floodplain and surrounding land - these boundaries also coincide with the extent of underlying river alluvium. The floodplain continues into the Arun (Wealden) Floodplain to the north, and southwards, to Littlehampton and the sea.

#### Key Characteristics

- Flat valley floor of the large U-shaped Arun Valley that forms a gap in the South Downs at Arundel.
- A landscape of apparent large and expansive scale as a result of the flat landform, consistent pasture land cover, lack of vertical elements and far-reaching views across the open floodplain. Views are contained by the adjacent valley sides.
- Contains the meandering course of the tidal River Arun, which flows between artificial flood banks.
- Artificially straightened sections of river associated with an industrial history.
- Periodically waterlogged silty soils support permanent pasture, within fields reclaimed from the floodplain, giving the floodplain a lush, pastoral character and supporting an important ecological flora.
- The floodplain is etched by a geometric grid of narrow channels ('wet fences') which divide pastures.
- Groups of willows and alders occur sporadically alongside the river and drainage channels providing important visual and ecological features. The rare black poplar is also a feature of the floodplain.
- General absence of settlement, with the exception of modern development on the edge of Arundel (a former port).
- The low incidence of woodland and trees results in a large scale, open landscape with extensive views across the floodplain.
- Impressive views to Arundel Castle at the 'mouth' of the valley.

### Specific Characteristics Unique to the Arun Floodplain

**F.58** The physical characteristics of this landscape character area are generally typical of its landscape type, exhibiting a flat valley floor prone to periodic waterlogging with land use predominantly permanent pasture, and the highly meandering course of the River Arun.

**F.59** The extensive areas of wetland habitat that border the River Arun are of high ecological value, supporting a range of habitat types, including grazing marsh, fen, scrub and woodland. In addition, ditches intersect grazing marsh fields and support important habitat for aquatic flora and invertebrates. This ecological interest is reflected in a number of designated sites, including the Arun Valley LWS (designated for its grassland and wetland habitats) and the Arun Banks SSSI, which is an extensive reedbed in an old (disused) meander of the Arun.

**F.60** Houghton Bridge, although built in 1875 is in the medieval tradition and is reminiscent of the older bridges further upstream.

**F.61** The tranquil character of parts of the floodplain is affected by the proximity to urban development (including the former port of Arundel which declined in the 19<sup>th</sup> century in favour of Littlehampton), major roads (including the A27), Arundel Station, and the mainline railway. However, deeply tranquil areas are still present.

**F.62** Most notable in terms of access today are the public rights of way along the top of the artificial floodbanks that border the river, extending between the crossing points of the South Downs Way National Trail at Amberley Station and the Monarch's Way at Arundel. The South Downs Way and Monarch's Way provide access to the surrounding downs. The area around Arundel Castle is a key recreation area with boating on the Arun, a popular activity on the lower reaches of the river.

**F.63** The Arun Floodplain is typical of the major river floodplains in that settlement is largely absent. The only built development is on the outskirts of Arundel where the historic Arundel Mill, as well as more recent development, is located

close to the old port of Arundel (which itself is located on the adjacent valley side).

### Sensitivities Specific to the Arun Floodplain

**F.64** All of the landscape and visual sensitivities listed in the landscape type evaluation apply to this character area. Specific sensitivities to this character area are:

Key Landscape Sensitivities	
1.	Riverside woodland, including groups of mature willow and alder, and the rare black poplar, that provides habitats, helps to regulate the climate and protect soils from erosion.
2.	Arundel Mill and the former port of Arundel which lies just outside the area, providing a sense of history and sense of place.
3.	Impressive views of Arundel Castle that creates a visual landmark and sense of history (identified in the South Downs National Park: View Characterisation and Analysis report). <sup>9</sup>
4.	Views from the adjacent downs across the floodplain (including representative views identified in the South Downs National Park: View Characterisation and Analysis report). <sup>10</sup>

### Change Specific to the Arun Floodplain

**F.65** In addition to the generic changes listed in the landscape type evaluation, changes specific to this area are:

Forces for Change	
1.	Flood risk issues associated with settlement around Arundel Mill – properties which are currently outside the flood risk area could be at risk of flooding in the future.
2.	Further pressures for built development and infrastructure close to Arundel, including upgrades to the A27 (T).

### Landscape Management / Development Considerations Specific to the Arun Floodplain

**F.66** In addition to the generic landscape management and development considerations for this landscape type, the following development considerations are specific to this character area:

a.	Limit further development and infrastructure in the floodplain - any development in the floodplain could both increase flood risk and be at risk of flooding.
b.	Conserve and manage floodplain woodland, supporting schemes to restore wet woodland which are the natural habitat of the native black

	poplars, such as the Sussex Black Poplar Partnership.
c.	Conserve views of Arundel Castle on the valley side including from key recreational routes such as the Monarch's Way Long Distance Footpath.
d.	Consider views across the floodplain when planning any change.

<sup>9</sup> <https://www.southdowns.gov.uk/wp-content/uploads/2015/10/Viewshed-Study-Report.pdf>. View 19.

<sup>10</sup> <https://www.southdowns.gov.uk/wp-content/uploads/2015/10/Viewshed-Study-Report.pdf> e.g. View 50.

## F5: Itchen Floodplain

### Location and Boundaries

This character area includes the floodplain of the River Itchen north and south of Winchester, located on the western edge of the National Park. The boundaries are defined by the extent of the flood zone.

#### Key Characteristics

- Flat valley floor of the Itchen Valley that flows through and provides a landscape setting for Winchester.
- A landscape with flat landform and predominantly pastoral.
- Contains the meandering course of the River Itchen.
- The watercourse and banks of the Itchen are designated as a SAC incorporating a diversity of habitats including the clear alkaline river, fen/marsh/swamp, neutral grassland and pockets of woodland.
- Historic features associated with the presence of the River and the Itchen Navigation are apparent today. Remnant features relating to water management and agricultural/industrial use of the river, including fragments of watermeadows, weirs and mill ponds, fish farms, trout lakes, and watercress beds.
- Downstream of Itchen Abbas the landscape is of recent enclosure, comprising regular field systems with very little woodland.
- General absence of settlement, but the area is close to Winchester and crossed by the M3 and A roads which interrupt the otherwise tranquil landscape.
- Frequent minor river crossing points are marked by stone bridges.
- One of the most renowned fly fishing rivers in the world with populations of wild brown and rainbow trout.

### Specific Characteristics Unique to the Itchen Floodplain

**F.67** The physical characteristics of the *Itchen Floodplain* are typical of its landscape type. The character area comprises a floodplain landscape of relatively recent enclosure and scattered trees along the course of the river.

**F.68** The *Itchen Floodplain* has high biodiversity interest with a large number of designated sites. Throughout this character area the watercourse and banks of the Itchen are designated as a SSSI incorporating a diversity of habitats including the clear alkaline river, fen/marsh/swamp, neutral grassland and pockets of woodland. Part of it is also designated as a SAC. Non-statutory LWS sites include the Itchen Meadows Chilland and the River Itchen Meadow at Easton. The river also supports a good otter and water vole population.

**F.69** The river itself would have been an important routeway from prehistory onwards, although probably too small to be navigable beyond its lower reaches until artificially canalised in the medieval period. The 16<sup>th</sup> and 17<sup>th</sup> centuries saw the development of water meadows, regulated systems of ditches and channels that provided a continuity of access to winter feed for the sheep flocks, but with a greater degree of control. These ceased to be used in the 19<sup>th</sup> century and the canalised stretch of the river was also abandoned at this time. Historic

features associated with the river and the Itchen Navigation are still apparent today.

**F.70** Fragmentary systems of watermeadows are evident, together with a number of archaeological features characteristic of flood plains, including bridges, weirs and mills. The route of the former canal is still evident in places where it runs parallel with the river, and is marked by a series of locks. Watercress beds are also a feature.

**F.71** Although the floodplain has an overall tranquil quality this is disrupted in place by the audible 'hum' of traffic. The character area is crossed in two locations by the M3 and in several places by A roads. Hockley viaduct (a Victorian brick built structure with a concrete core) which once linked the Didcot, Newbury and Southampton railway with the Great Western Railway is now disused but remains an important landmark feature. There is also a disused railway line between Winchester and Alresford. Stone bridges mark the points where rural lanes cross the river and there are numerous foot bridges.

**F.72** The Itchen Valley Way allows public access all along the valley and to places of interest. The river is popular for chalk stream fishing and is famous for its wild brown and rainbow trout. Avington trout fishery is one of the oldest stillwater trout fisheries in the country.

**F.73** Part of Avington Park (listed Grade II\* on the Historic England Register) extends into the floodplain from the valley side south of Itchen Abbas.

**F.74** The settlement pattern in this character area is typical of the type with a general absence of settlement in the floodplain, except for the occasional mill and Shawford House.

### Sensitivities Specific to the Itchen Floodplain

**F.75** All of the landscape and visual sensitivities listed in the landscape type evaluation apply to this character area. Specific features sensitive to change in this area are:

Key Landscape Sensitivities	
1.	The historic course of the Itchen Navigation, historic bridges and the watercress beds which are particularly distinctive cultural features
2.	The panoramic viewpoints over the valley from St Catherine's Hill which increases the sensitivity of the floodplain landscape (identified in the South Downs National Park: View Characterisation and Analysis report). <sup>11</sup>

### Change Specific to the Itchen Floodplain

**F.76** In addition to the generic changes listed in the landscape type evaluation, specific past changes to this area include: ,

Forces for Change	
1.	Built development extending from nearby Winchester and other settlements into the floodplain.
2.	Noise from aircraft flying into Southampton airport affecting tranquillity.
3.	Future road expansion and upgrades of M3, A34 and A31 further affecting the tranquillity of the floodplain
4.	Ongoing sand and gravel extraction and visual impact of fish farms.

### Landscape Management/Development Considerations Specific to the Itchen Floodplain

**F.77** In addition to the generic landscape management and development considerations for this landscape type, the following management considerations are specific to this character area:

- a. Maintain watercress beds as a distinctive cultural feature of the Itchen Valley.

- b. Restore, and improve access to, the Itchen Navigation and its banks.

**F.78** The following development considerations are specific to this character area:

- a. Conserve the historic bridges which provide river crossing points.
- b. Ensure that any future traffic regulation and road upgrades associated with the M3, A34 and A31 are integrated into the rural valley landscape and ensure any signage is sensitively detailed.
- c. Avoid development extending into the floodplain. Minimise light spill from settlements and individual buildings.
- d. Pay particular attention to the varied nature of views throughout the area and in particular the panoramic views from St Catherine's Hill (in adjacent character area) in relation to change within the Itchen Floodplain.
- e. Seek opportunities to reduce the impact of existing trout lakes, fish farms and their associated development through appropriate tree planting.
- f. Seek to minimise extraction of sand and gravel within the Itchen Valley and ensure sensitive restoration of on-going schemes.

<sup>11</sup> <https://www.southdowns.gov.uk/wp-content/uploads/2015/10/Viewshed-Study-Report.pdf>. View 15