5.5. Western Yar, Isle of Wight

1. Location

The Western Yar rises near the shore at Freshwater Bay on the south-west coast of the Isle of Wight and flows due north for 5 kilometres to Yarmouth, where it meets the Solent.

2. Why was the Case Study Site selected?

This case study illustrates the potential for certain highly detailed artworks to inform us of potential physical and environmental change within rivers and estuaries. The case study illustrates the level of detail that could be achieved through the medium of watercolour, particularly by the Pre-Raphaelite Brotherhood of Artists and their numerous Followers, who painted English rivers from the mid-nineteenth century until the early twentieth century.

3. Summary of the Geology, Fluvial Geomorphology and Processes

The river Western Yar emerges as a stream immediately to the north of Freshwater Bay. Over time, it has cut a northern path through the Upper Chalk and overlying Eocene and Oligocene strata over its short course. The underlying geology is masked by extensive deposits of alluvium along the whole course of this river/estuary. The Western Yar, like most of the creeks and estuaries bordering the Solent to the north, has been gradually silting up. The Solent coastlines are facing increasing challenges from sea level rise, with over 60% of the intertidal saltmarsh and mudflats expected to be lost by 2050.

The Yar Estuary is also a Site of Special Scientific Interest and a large part of the adjacent Freshwater Marshes is a Local Nature Reserve'. The headwaters of the Western Yar are protected from inundation by the Freshwater Bay seawall, which would otherwise lead to the creation of an *Island* at the western tip of the Isle of Wight.

4. How can the Art Imagery inform us of river change?

The town of Yarmouth and the Western Yar Estuary has received considerable attention from artists since as early as the 1790s. Of greatest interest, however, are some of the highly detailed watercolours, such as the view painted by Charles Robertson in 1891, which provides an almost photographic view of the lower reaches of the Yar at Low Water. The watercolour shows the extent of the saltmarshes and mudflats at that time, which, as has been explained, are becoming increasingly at risk as a result of sea level rise. Such highly detailed artworks produced by the Pre-Raphaelites and their Followers can, therefore, provide information on long-term physical and environmental change, extending back particularly since the 1850s.

There are very few environmental monitoring programmes on rivers that extend back for more than half a century and, therefore, artwork such as these, which can provide a long-term perspective of change, in full colour, can form a particularly useful additional tool for a range of scientists and practitioners who wish to understand environmental change in support wise planning and management into the future.

Figure 5.1: Contrasting landscapes with the cliff line of Upper Chalk in the foreground at Freshwater Bay and immediately to the north of the Bay the headwaters of the Western Yar, which flows north into the Solent beyond.

Figure 5.2: The Western Yar after several weeks of rainfall; the ancient town of Yarmouth appears to be almost surrounded by water. With sea level rise the designated inter-tidal saltmarshes and mudflats are likely to be increasingly at risk.

Figure 5.3: For a copperplate engraving from 1813 this early view of Yarmouth from the western side of the harbour is exceptionally detailed. The scene is taken at High Water and shows the ancient sand hut in the river where the white sand from Alum Bay used in making ceramics was stored prior to shipment. A bridge was constructed across the river in the 1850s and a harbour arm was built to shelter craft in the harbour from Solent storms.

Figure 5.4: An oil painting by William Gray showing the harbour at Yarmouth in c.1855. Courtesy: Martin Beisly Fine Art.

Figure 5.5: This detailed watercolour by Charles Robertson of Yarmouth Harbour and estuary from the west was painted in 1891. Robertson was a follower of the Pre-Raphaelite Brotherhood of Artists whose philosophy was to paint nature truthfully and accurately down to the finest detail. As a result, their works, in particular, provide an important record of past river conditions. Private Collection.

Figure 5.6: The present-day oblique aerial view shows the estuary at High Water with the extensive saltmarshes and mudflats largely obscured. A situation that is becoming increasing common across the river mouths and estuaries bordering both sides of the Solent. Courtesy: Visit IW.

Figure 5.7: The upper reaches of the Western Yar are shown in this steel plate engraving by William H Bartlett in c.1830. The engraving shows a view at The Causeway bridge from the southern side looking towards Freshwater Church. The view with the open water upstream of the bridge contrasts markedly with the present-day view in **Figure 5.8 (below)** which is covered with Ash and reedbeds, now a protected habitat.

5. What are the key issues that can be learnt from this Study Area?

Some artworks, such as the view by Robertson described above, can provide detailed, almost photographic information on the river environment at the time they were painted. Through this study a large number of such artists, who specialised in painting England's river scenery, have been ranked in terms of their topographical accuracy. This initiative saves researchers the need to undertake time-consuming investigations on the question of artistic accuracy and truthfulness, thereby enabling them to search with confidence on art websites, such as ArtUK and Watercolour World, in order to identify those art resources existing for their particular area or location of interest.

Figure 5.9: *The Causeway on the Yar at Freshwater, IW* by Myles Birket Foster. Watercolour. 1894.

Courtesy: Private Collection/Photo as Bonham's/Bridgeman's Images.

5.6. Eastern Yar, Isle of Wight

1. Location

The Eastern Yar flows from the Isle of Wight's Southern Downs on a north-easterly course, across the Vale of Arreton, before cutting through the Central Downs, to emerge in the eastern Solent at Bembridge Harbour.

2. Why was the Case Study Site selected?

The Eastern Yar is a valuable case study site on account of its rich art heritage, extending back to the late eighteenth century, together with topographical maps, written accounts and a long history of human intervention. More recently, detailed studies have been commissioned by the Environment Agency, the Royal Society of Protection of Birds and others, to improve environmental management following nature-based and other approaches.

3. Summary of the Geology, Fluvial Geomorphology and Processes

The Eastern Yar flows for 24 kilometres; the water body is composed of two tributaries and the main Eastern Yar river. The north tributary begins to the north of the village of Godshill and is joined approximately 3 kilometres downstream by a tributary beginning at the village of Arreton. The lower part of the water body flows through Brading Marshes and, together, are designated as a Site of Special Scientific Interest and numerous other designations. This area has been extensively modified over time. In the sixteenth century, the expanse of Brading and its harbour was a port of some importance served by the ancient town of Brading as a port of some importance, and was of sufficient site to accommodate part of the Armada Fleet. Over 300 hectares of Brading Haven was reclaimed in 1882, and the art record clearly shows the changes that has taken place over time.

The river now follows a meandering course across the reclaimed lands of the Yar Valley, with an interesting range of geomorphological features, although significantly modified through historic channel straightening and dredging, river bed lowering and flood plain modification, together with land use change. The acquisition of a substantial part of the marshes by the RSPB and subsequent management measures to improve the habitat for bird species, provide a marked contrast with the touristically and commercially orientated Bembridge Harbour itself, which is separated from the marshes by an embankment running between St Helens and Bembridge, which formerly carried the railway line to Bembridge. The river Yar flows out into Bembridge Harbour, depositing silt which, together with coastal processes, is, like many of the creeks and harbours of the Solent, becoming increasingly silted up.

4. How can the Art Imagery inform us of river change?

In the case of the Eastern Yar and Bembridge Harbour, it is possible to compile a detailed illustrated chronology of the river and particularly the harbour itself, drawing on a series of engravings, watercolours and oil paintings that were produced to depict the scenic beauty of the location over the last 200 years. The greatest changes occurred in the 1880s when the harbour was drained and, later, the embankment provided for improved communications to the village of Bembridge from St Helens to the east. These changes are illustrated through later artworks which bear interesting comparisons with those produced before the drainage works took place. Historical artworks have

assisted understand in both the evolution and past management practices on the Eastern Yar, highlighted in the Eastern Yar Estuary Management Plan, commissioned by the Environment Agency in 2007 (Environment Agency, 2007[1]), and in more recent studies commissioned by the Isle of Wight Council and others (Arup, 2015[2]).

This case study can highlight to users the potential of artworks to inform proposed restoration options, including catchment management and natural flood management solutions, to help reduce the amount of water and sediment delivered into the watercourses, to reconnect historic meanders, and undertake in-channel works to increase morphological diversity.

Figure 6.1: Detail of a map of the Isle of Wight by Nicholas de Fer (1762). It shows the course of the Eastern Yar from the northern side of the downs behind Ventnor, before it cuts through the central chalk downs to emerge at Bembridge Harbour. The passage of the river almost created the 'Isle de Bembridge' to its east rather as the Western Yar does also at Freshwater Bay.

Alongside artworks, topographical maps can provide useful information on historical river change. A detailed study of this topic was undertaken as part of the EU Interreg 2 Seas project 'Archmanche' (maritimearchaeologytrust.org[1]).

Figure 6.2: This map of the Isle of Wight by Sir Henry Englefield (1816) shows the extent of the Eastern Yar catchment, emerging as springs from the Gault Clay springline behind Wroxall and Whitwell, before joining to cross the Arreton Valley, and then subsequently forming a cutting through the Chalk Downs to emerge at Brading Harbour.

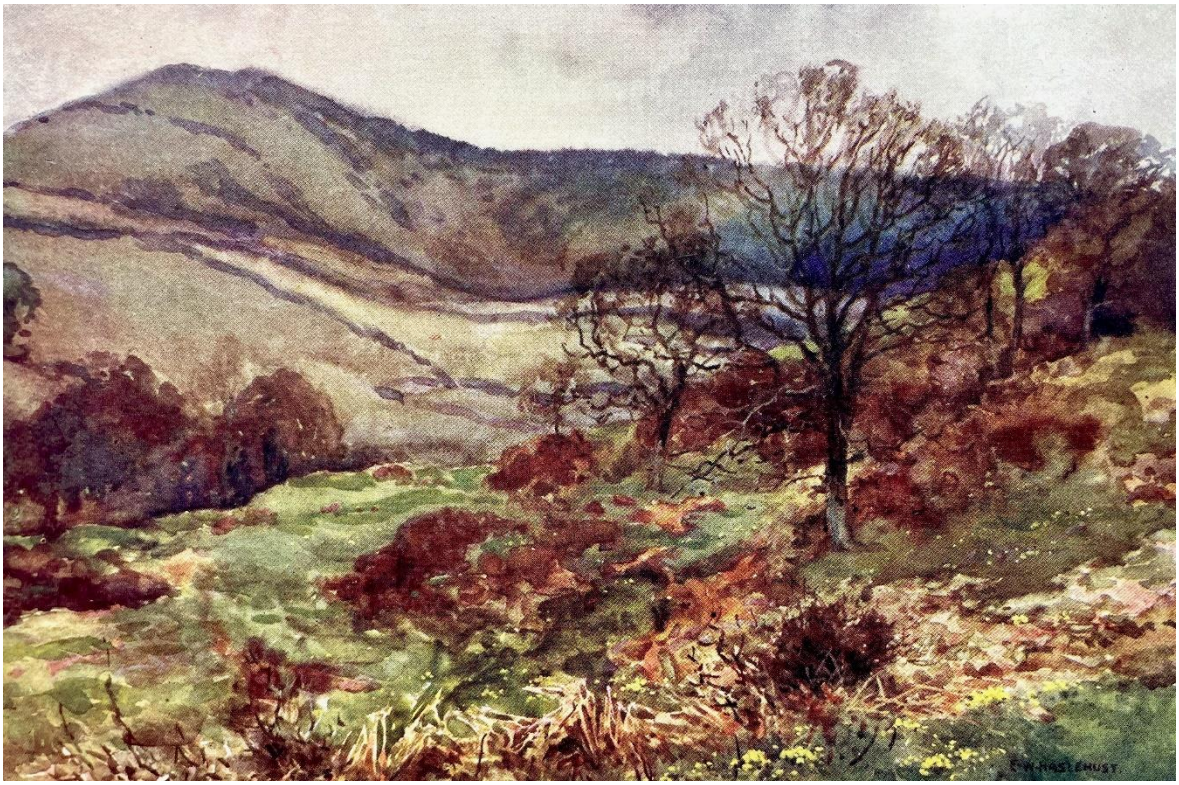


Figure 6.3: This watercolour by Ernest William Haslehust (c.1920) shows the Southern Downs from the northern side. The Downs are composed of chalk which overlies the Upper Greensand and the Gault Clay. Rainwater percolates through the permeable strata above to the Gault Clay springline, where it emerges as a stream, which forms the source of the Eastern Yar.

Figure 6.4: Flowing northwards, the Yar passes Newchurch to Alverstone. This watercolour drawing by Alfred Heaton Cooper (c.1915) shows the view from the water meadows below the village of Newchurch, looking south-eastwards**.**

Figure 6.5: A further view of the Eastern Yar in flood conditions near Alverstone, also by Alfred Heaton Cooper. Images such as this show how river systems could cope with flood events in the past, through overtopping of the banks and the creation of adjacent water meadows. In some locations increased development has encroached on water meadows and floodplains, posing a consequent risk to properties and businesses located in the vicinity.

Figure 6.6: Brading Haven and Bembridge beyond in a copper plate engraving by S. Barth and J. King in 1813. The harbour and the small port at Brading have fulfilled an important role for both commerce and the Navy over the centuries. The 320 ha. Harbour was drained for agriculture in 1882.

Figure 6.7: This fine aquatint engraving by William Daniell (1823) as part of his *Voyage Round Great Britain* (Daniell & Ayton, 1814-1825[2]) is taken from the downs to the south, and looks across Brading towards the harbour (then at its full extent before subsequent drainage). From such images it is possible to view river systems and estuaries in their natural, unaltered state. Such information proved useful when undertaking studies and investigations, such as the *Eastern Yar Estuary Management Plan* (2007[2]) and the *Eastern Yar Restoration Plan* (Arup, 2015[3]).

Figure 6.8: This watercolour drawing by John Nixon (c.1770) shows the meandering course of the Eastern Yar as it emerges to the north of the Central Downs. Some of the meanders and ox-bow features can be seen in the annotated aerial photograph as Figure 6.17 on page 97.

Courtesy: Trustees of Carisbrooke Castle Museum.

Figure 6.9: This watercolour by Charles Tomkins (1809) provides a panoramic view looking across Bembridge Harbour northwards from the spit at St Helens. The town of Brading with the church spire can be seen (centre right) and the true extent of this waterway, before drainage took place, can be fully appreciated. Extending to some 324 ha. the harbour was able to accommodate a significant number of Men O' War from the Armada Fleet. Private collection.

Figure 6.10: This fine watercolour by Clarkson Stanfield RA was painted in 1834 and provides a realistic record of what the harbour would have looked like at that time. The historic town of Brading can be seen centre left.

Courtesy: Agnew's.

Figure 6.11: A further view of Brading Haven, from the south looking northwards, with the windmill on the right and St Helens in the distance. This oil painting by Alfred Vickers (c.1842) shows the general nature of the landscape around the harbour in the mid-nineteenth century.

Figure 6.12: A detailed steel plate engraving of the *View from Nunwell Down* (behind Brading) by George Brannon in 1839 showing the full extent of the natural harbour at High Water.

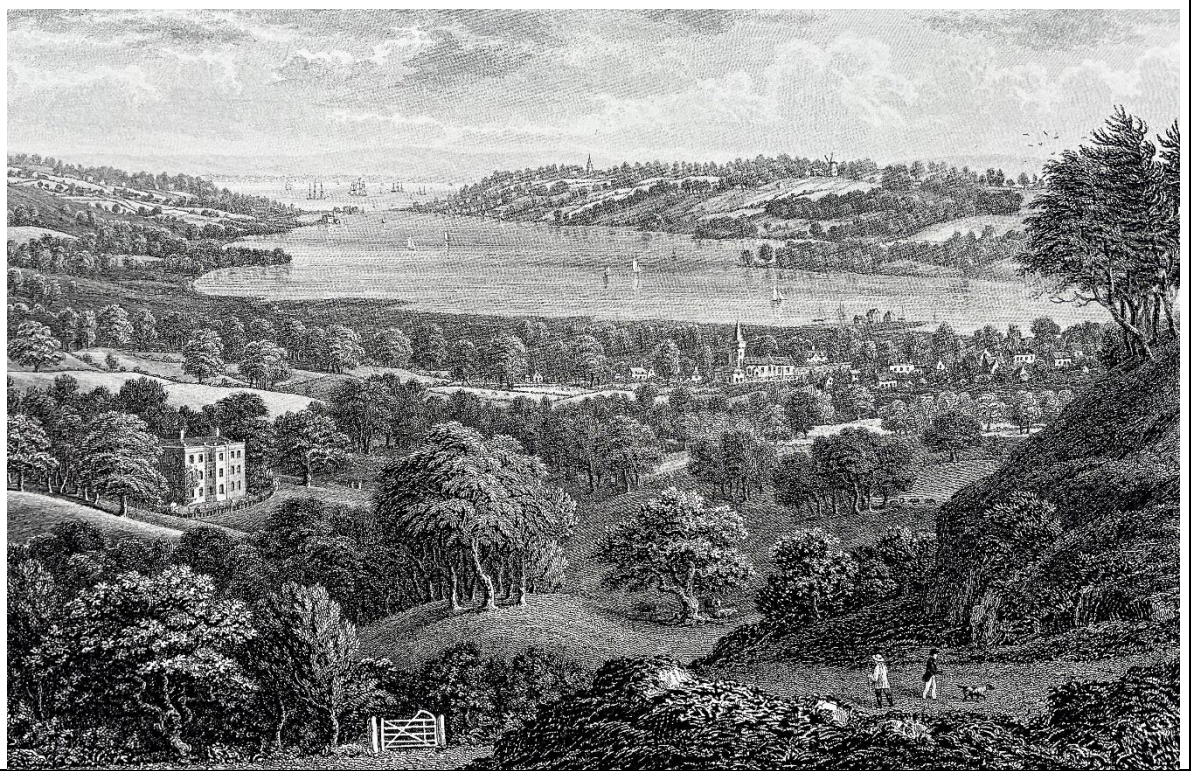


Figure 6.13: This watercolour by David Addey was painted in c.1995 as part of his *Voyage Round Great Britain* (Addey, 1995[4]). The harbour itself, now largely devoted to leisure, is partly obscured by the road embankment connecting St Helens and Bembridge. The present-day view is shown below.

Figure 6.14 shows the present-day view of Brading from the downs, looking north. Beyond the town can be seen the East Yar valley with the marshlands, which are now a RSPB Nature Reserve, with Bembridge Harbour in the distance.

Figure 6.15: This detailed engraving by George Brannon (c.1828) published in his *Vectis Scenery* (1821-1876[5]) is taken from St Helens Duver and looks eastwards, across the mouth of Bembridge Harbour, towards the developing village. The engraving shows the extent of the Duver sand dune system, and dunes on the eastern side of Bembridge Harbour at that particular time. Since then, there has been significant encroachment and sedimentation within the harbour, as well as the provision of a seawall along the St Helens Duver frontage to protect development behind.

Figure 6.16 shows the present-day view but from a more distant vantage point; the view is taken at High Water.

Figure 6.17: This aerial photograph shows some of the features of the Eastern Yar at Bembridge Marshes with the Harbour beyond. The RSPB has been actively working to improve the wildlife habitats since acquiring the site.

5. What are the key issues that can be learnt from this Study Area?

The study site illustrates how, in locations where there is a good selection of artworks, these can be arranged chronologically to inform the history of change and, in some cases, past management practices, in order to help provide solutions to current problems, particularly in the face of changing climatic conditions, sea level rise. In some locations, the consequences of removing defences for economic or environmental reasons can be better understood and explained to stakeholders through such historical art imagery. The artists ranking system developed through this field of research and refined through this study for applications to river art save time-consuming research and allow those interested to readily identify images of their particular river location of interest.

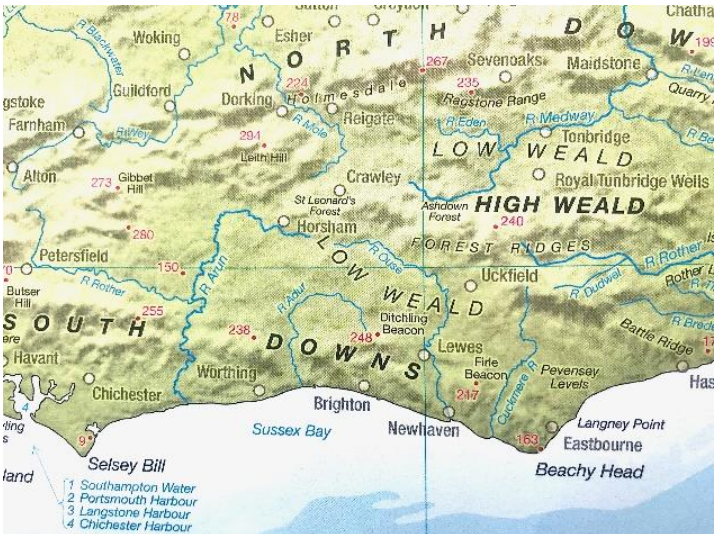
6. References

1. Momber, G., Satchell, J., Tidbury, L., Daire, M-Y., Motte, E. & McInnes, R.G. 2013. *Arch-Manche-Archaeology, Art and Coastal Heritage*. Interreg 3 Seas Programme. www.maritimearchaeologytrust.org.
2. Environment Agency, 2007. *Eastern Yar Estuary Management Plan.*
3. Arup. 2015. *Isle of Wight Council Eastern Yar River Restoration Plan.* Heritage Lottery Funded *Down to the Coast project.*
4. Addey, D. 1995. *A Voyage Round Great Britain – In the Footsteps of William Daniell*. Spellmount Press. Staplehurst, Kent.
5. Brannon, G. 1821-1876. *Vectis Scenery*. Wootton, IW.

5.7. The Sussex Rother

1. Location

The River Rother flows from Empshott in Hampshire to Stopham in West Sussex, where it joins the River Arun. At 52 kilometres in length, most of the river lies within West Sussex, except for the first 10 kilometres which lie in Hampshire. The river flows through the South Downs National Park, which is also a designated Site of Nature Conservation Importance, in recognition of its value for wildlife.



2. Why was the Case Study Site selected?

The River Rother and the Arun, into which it flows, represent typically the rivers of central southern England. Artists painted the historic buildings, mills and bridges along the course of the Rother, as well as the natural environment of the river flowing through open countryside. Most of the images for the Rother date from the late nineteenth and early twentieth centuries and, combined with present-day photographs, they depict the changes, or lack of change, along the course of the river as it flows through part of Hampshire and West Sussex.

3. Summary of the Geology, Fluvial Geomorphology and Processes

The source of the River Rother is aquifers from the chalk and from the Lower Greensand Group, which emerge as spring lines, and increase in volume as the river flows through the South Downs, an Area of Outstanding Natural Beauty since 2011, and a designated National Park. The base flow of the river consists of water from the Lower Greensand aquifer, and from springs along the bottom of the chalk scarp slope. Together, these help to maintain the flows of the river during the summer months. Over time, as navigation on the Arun was improved, so, also, the lower section of the Rother, below Midhurst, was made navigable by the construction of the Western Rother navigation in 1794. This, however, was short-lived and was closed by 1895. Various mills took advantage of the water flows along its course to the Rother and further straightening and cutting through meanders was undertaken, as was the construction of several handsome bridges over the river at Shopham, Fittleworth and Lods Bridge.

4. How can the Art Imagery inform us of river change?

The nineteenth and early twentieth centuries oil paintings and watercolours, illustrated in this case study, describe a tranquil setting along the course of the Rother, outside the immediate vicinity of the towns of Petersfield and Midhurst. The paintings such as two views of Fittleworth Mill and along the banks of the Rother, painted in the early twentieth century, show a more open environment with very little sign of human intervention. Today, for example, near Fittleworth Bridge, the scene is relatively unchanged, although flood defence embankments contain the river across the fields near the bridge and there is more tree growth along the river banks than apparent in the very open landscape painted by Harold Sutton Palmer. The striking poplar trees shown in the paintings of the river in the vicinity of the mill are not evident, although one can be seen on the down-river side of Fittleworth Bridge. Cattle continue to graze on the fields adjacent to the Rother along this frontage, much as they did in the nineteenth century.

Figure 7.1 (above): *On the River near Fittleworth, West Sussex* by W. W. Caffyn. Oil. c.1890.

Courtesy: Glasgow Museums Resource Centre.

Figure 7.2 (below): *On the Rother* by Harold Sutton Palmer. Watercolour. 1909.

Figures 7.3 (above) and 7.4 (below) provide comparative present-day views of the Rother scenery near Fittleworth. Apart from the earth flood embankments bordering the river, the scene appears to show little change over the last century.

Courtesy: Figure 7.4 Robin Webster, Creative Commons Licence.

Figure 7.5 (above) shows a distance view of Fittleworth Mill on the Rother painted in oils by James Baker Pyne in 1862. There is a wide expanse of river water suggesting greater volumes in the past with fine poplar and oaks flourishing on the river banks.

Courtesy: Fine Art Photographic Library.

Figure 7.6 (below) shows a close view of the mill by George V. Cole painted in c.1870.

Courtesy: Leicester Museum and Art Gallery.

Figure 7.7 (above) shows the nature of the river scenery at Fittleworth Bridge close to the mill today. The river is much narrower and is contained between flood banks, although a wide flood plain is clearly evident.

Figure 7.8 (below): Fittleworth Mill is now largely obscured by trees when viewed from the bridge, compared with its open aspect in the Victorian paintings.

Figures 7.9-7.12: Watercolours of the Rother painted by Wilfred Williams Ball in 1913. They show traditional rural scenes along the riverbanks and point to the peaceful rural character at that time.

Left: Bury Church from the Rother.

Left: Fittleworth Bridge.

Left: Fittleworth Mill.

Left: The Rother.

Figures 7.13-7.15 on this page show the rural character preserved along the course of the Rother at Habin to the south of Rogate (top) and at Rotherbridge (bottom).

Courtesy: Figure 7.15: Robin Webster, Creative Commons Licence.

Particularly in the narrower sections of the river there is evidence of active riverbank erosion and under-cutting, whilst the scene (bottom) shows the river close to overtopping.

5. What are the key issues that can be learnt from this Study Area?

Rural frontages of the River Rother retain much of the character that existed 150 years ago. This points to careful management and environmental protection measures being in place. The whole of the length of the Rother lies within the South Downs National Park and, clearly, the designation assists in preserving the natural character and cultural heritage of the Rother Valley. The case study illustrates the importance of river water usage and management in the past, both in terms of mill operations and rural agricultural practice.