

High Weald AONB Unit Report

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Rother & Romney Catchment Plan: Research Synthesis

Mr CWR Winchester, MA, MSc, FRGS

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Background

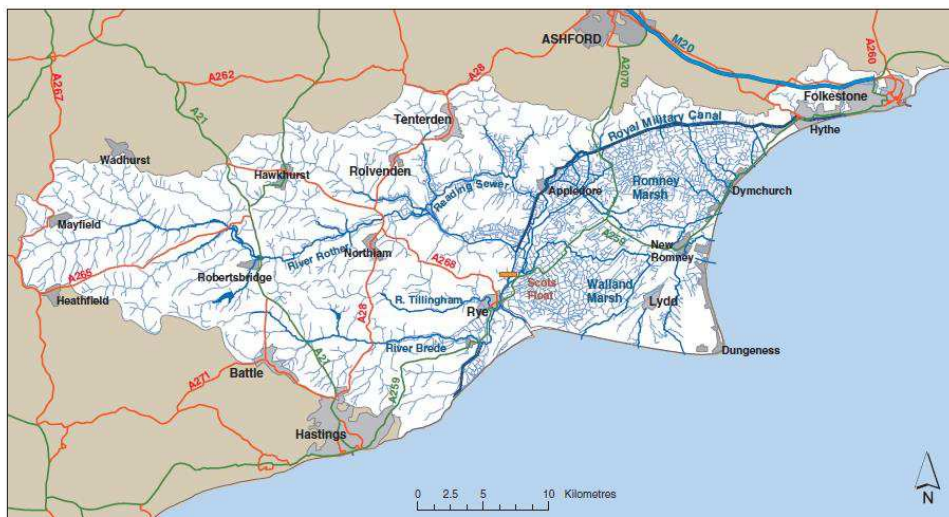
The Water Framework Directive (WFD) is one of the most ambitious and progressive pieces of water legislation to come out of Europe. Whilst great progress has been made improving our water environment over the past few decades it's been recognised that there is still a huge amount of work to be done, especially if we are to deal with the pressures of a changing climate and a growing population.

In 2013 the Government announced the roll out of the Catchment Based Approach (CaBA). This new approach to the way we manage and improve our water environments aims to help fulfil our obligations under the WFD by enabling better coordinated action at the catchment, as well as local, level through the establishment of Catchment Partnerships. A Catchment Partnership being a group formed of a wide range of key stakeholders (from local community groups and charities to councils and government agencies) who are able to work together to identify and prioritise the work needed to make a difference in their catchment.

In late autumn 2013 Kent Wildlife Trust, Sussex Wildlife Trust and the High Weald Area of Outstanding Natural Beauty (AONB) Unit took on the role of joint catchment hosts for the (Eastern) Rother catchment through the Catchment Partnership Fund 13/14. The joint catchment hosts, together with the Environment Agency, were essentially forming the bare bones of a Catchment Partnership. Since no catchment-based work had been undertaken in this area previously, it was decided that an initial catchment consultation would be run during the first quarter of 2014 in order to capture the concerns, ideas and aspirations of all those people and organisations with an interest in the catchment. It was intended that the information obtained from this initial consultation, taking the first combined with that from Environment Agency investigations to date, would prove invaluable in steps towards producing a "Catchment Plan" for the catchment, which would form the blueprint for future action to achieve good water quality status. It was anticipated that there would also be further funding available in due course to enable continued development of a Catchment Plan and potentially key actions identified to become a reality.

The Eastern Rother Catchment

The (Eastern) Rother catchment is a unique collection of river systems, man-made canals and ditches. The River Rother rises near Mayfield in East Sussex and flows into the sea at Rye Harbour. Its catchment includes the tributaries of the Brede and Tillingham, the ditches and streams of the Romney Marsh, and the 28 mile Royal Military Canal.



It is mainly rural and extends from the wooded, steep river valleys of the High Weald which contrast with the open expanse of Romney Marsh and shingle ridges of Dungeness. A significant proportion of the catchment is protected for its wildlife and landscape, including Dungeness which has international recognition. The Royal Military Canal stretches from Iden to Hythe and is a protected ancient monument. It plays an important role in the drainage, irrigation and wildlife of the surrounding agricultural land and marshes.

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Introduction

This document provides a summary of all the relevant documents relating to the Easter Rother Catchment. Summaries are organised under the following subject areas: water quality, biodiversity, history & archaeology, flood risk & climate change, and people engagement. The aim of this research synthesis is to help ensure that the Rother Catchment Partnership gathers all the evidence that it can, before working with local people, in order to produce an effective plan for the future management of the Eastern Rother Catchment.

The notation “RR” signifies primary relevance to the River Rother in the High Weald, whilst “RM” signifies primary relevance to Romney Marsh. “RR & RM” signifies relevance to both areas.

Restoration & Management

Report title: High Weald AONB Integrated Catchment Management & River Restoration Study

Author/Organisation: Land Use Consultants & The River Restoration Centre for the High Weald AONB Unit

Date: January 2003

Aim(s):

To provide an overview of the attributes (e.g. Geology, Hydrology, Rainfall, Abstraction, Water Quality, Recreation, Biodiversity and Fisheries) of the various river catchments in the High Weald (i.e. Rother, Medway, Ouse, Pevensey Levels, Cuckmere, Adur, Arun, and Mole) and to explore future options for the River Rother as a representative example for the other catchments.

Key points/description:

Riparian woodland planting and “natural” unmanaged channels are encouraged within the upper tributary reaches, as well as the replacement of intensive arable plantings with pasture to reduce flood and sediment runoff; planting of dense hedges/hedge thickening, as well as the creation of “flood fences”, buffer strips and woody debris dams, recommended for the middle reach in order to increase floodwater storage, reduce peak flow rates, enhance wildlife corridors, and reduce run off and soil loss; lowering and/or removal of embankment suggested to restore the floodplain and reduce downstream flooding in the lower reach; less intensive channel maintenance, riparian planting, and lowering of embankments put forward as a way to reduce conveyance capacity, create additional flood overspill areas, and develop valuable wetland habitat on the levels.

Notes: Useful summaries of the various river catchment attributes and issues identified by this report within the AONB are provided in tabular form in in Appendix 1. These summaries provide summary information on geology, elevation, landform average gradient, land cover and use, historic influences, recreation, hydrology, rainfall, water resources, flooding risk, water quality, biodiversity, key habitats and species, and fisheries.

Link: N/A

Relevance: RR

Report title: Floodplain Forest Concept Study

Author/Organisation: Deborah Cook (Environment Agency), Theresa Greenaway (Sussex Wildlife Trust), and Fran Southgate (South East Water)

Date: January 2005

Aim(s):

To further the objective of catchment restoration in Sussex by drawing together and collating as much information as possible relevant to floodplain forest restoration; to identify the existing

resource of floodplain woodland in East and West Sussex; to develop a strategy for targeting Sussex catchments for priority floodplain forest restoration areas and to justify these targets; to identify gaps in our current knowledge of the floodplain forest ecosystem; and to outline future research and recommended actions that would contribute to floodplain forest restoration.

Key points/description:

The study makes a range of recommendations in the following areas:

- Recommendations to improve knowledge of ecology (e.g. establish a co-ordinated and centralised floodplain woodland database to inform future restoration projects; study old estate records, pollen records and published research on Holocene environments to inform understanding on floodplain woodland ecology; reconstruct a description of floodplain forest composition by studying existing floodplain woodland by looking at fragments in Sussex and elsewhere)
- Recommendations to inform and guide restoration (e.g. study the history of Sussex floodplains by sourcing information from multiple sources and use this to estimate/inform how floodplains were affected by various changes in drainage, land use and other management practices; investigate potential recharge under a more natural system compared with actually recharge on a regulated floodplain; research design of floodplain woodland)
- Recommendations to develop public support and participation (undertake a study a establish people’s views on, and understanding of, floodplain forest restoration)
- Recommendations for cost analysis (develop a strategy for cost analysis which assesses issues like “hard” vs. “soft” flood defence approaches, changes in land use, and land acquisition)
- Recommendations for improving technical capacity (develop river management training programmes that cover both river restoration and natural processes, as well as traditional “hard” engineering)

Six sites have been identified as having restoration potential – the next stage requires the development of a strategic framework to enable an initial feasibility study of each site. This will indicate if and in which order restoration on each site should proceed. The following guidelines for floodplain forest restoration are proposed:

- Development of a scoping framework
- Development of partnerships
- Planning the restoration
- Identifying what is needed and how to achieve it
- Appraisal and evaluation of options

Notes: There are a number of useful maps showing the remaining fragments of floodplain forests in the main river catchments in Sussex (including the River Rother) on the unnumbered pages between p.112 and p.113.

Link: N/A

Relevance: RR

Report title: RIVER ROTHER (EASTERN) Etchingam, East Sussex: Options for Enhancement

Author/Organisation: Martin Janes (The River Restoration Centre)

Date: February 2005

Aim(s):

To get the River Restoration Centre to comment on the options for restoration and enhancement of the land bordering the Eastern River Rother and River Limden (a tributary), East Sussex.

Key points/description:

The report suggest a number of general restoration options for site (which is described as “a flat floodplain with grazing, some shallow ditches existing as damp depressions holding rainwater, and a number of channels with adequate flow to sustain a floodplain woodland community”):

- Re-profile the rivers and dike to create more natural bank profiles and habitat opportunities (wet ledges, marginal vegetation, shallow bank slopes, etc). Re-profiling also has a net benefit for increasing conveyance and storage capacity, so could be undertaken where other options are not applicable.
- Allow the rivers and dike to develop a more mature vegetation structure by reducing the maintenance carried out, where deemed not a flooding concern.
- Localised bed-raising to deliberately increase out-of-bank events (likely to be restricted to sections the River Limden and Hammer Dike).
- Retention of native riparian woody vegetation (as well as planting onto the floodplain), previously removed by regular maintenance.
- Retention of overhanging/trailing branches and woody debris in-channel. This need not be excessive (major log jams) but equally without flow variation (narrowing and pinch points) the channel becomes uniform and lacking in physical diversity.

Notes: Figure 1 suggests possible options for each area and highlights information required to help make decisions concerning these options – the only problem is that Figure 1 is not actually in the document!

Link: N/A

Relevance: RR

Report title: River Brede: Restoration Options for Enhancement of the River Brede and its Floodplain

Author/Organisation: Alice Hall and Dr Jenny Mant (The River Restoration Centre)

Date: June 2008

Aim(s):

To assess the river (i.e. in-channel) and wetland (i.e. floodplain) restoration options that might be appropriate for the section of the River Brede and its floodplain between the A21, upstream of Sedlescombe, down to Winchelsea

Key points/description:

The River was divided into five sections according to current characteristics and appropriate restoration options.

1. Section 1 (from the A21 to just upstream of Sedlescombe Mill) is described as “relatively natural”, with a gently meandering planform and good connectivity with the floodplain. This section is thought to provide a “useful idea” of what the natural form of the Brede should be in its upper reaches. No restoration or enhancement works are deemed necessary for this section.
2. Section 2 (the reach of the Brede where Sedlescombe Mill is located) is not described. Restoration options are thought to be limited; although one option that should be “seriously considered” is the instillation of a fish pass (estimated to cost £50,000) to connect sections downstream of the Mill with the relatively natural and valuable habitat found in Section 1.
3. Section 3 (from downstream of Sedlescombe Mill to downstream of the Brede Valley Waterworks) is described as “very incised” – resulting in no floodplain connectivity – with very little in-channel vegetation or flow diversity, as well as suffering from bank instability and poaching due to sheep grazing. The field drains are noted as having more natural characteristics than the main river but poorly connected to it due to siltation and vegetation, and the woodland opposite the Brede Valley Waterworks is said to have a large amount of Himalayan Balsam. Suggested restoration options include: in-channel enhancement through the introduction of large wood and gravels to raise the bed level and enhance substrate;

reconnection of the river and floodplain through blocking field drains and lowering the floodplain thus creating wet areas. Management of the Himalayan Balsam is also advised.

4. Section 4 (from downstream of the Brede Valley Waterworks to where the railway line crosses over the river upstream of Winchelsea) is described as “heavily embanked” throughout, “heavily straightened” in some reaches, and with virtually no connection to the floodplain. Little in-channel vegetation, low-diversity grassland, a lack of bank-top trees, poaching and bank instability, and low water quality at the upstream limit of this section are also highlighted. Some restoration (blocked field drains and pod creation) has already occurred, but re-connection to the floodplain, improving floodplain features, restoring the natural planform of the river, and creating greater in-channel diversity are all recommended as future restoration options.
5. Section 5 (from downstream of where the railway line crosses the river to where the river meets Station Road in Winchelsea) is described as “completely unnatural” due to the prevention of saline intrusion by a sluice just upstream of the Brede’s confluence with the Tillingham. The river in this section is also straight, devoid of any in-channel vegetation, cut off from the floodplain by embankments, and surrounded by a dry floodplain used for sheep grazing. Restoration is not thought to be worthwhile as it is “no longer representative of a natural inter-tidal section”. Implementation of appropriate restoration measures would require alteration of the operation of the sluice, as well as issues around the immediate downstream location of Winchelsea to be overcome.

Notes: A more comprehensive survey (estimated to cost £10,000-12,000) of the river is recommended before undertaking any restoration work, in addition to flood risk modelling (c. £15,000) – the results of which are presented in the report below (“River Brede: Modelling of Restoration Options”). Maps and photos are referenced throughout the report but are not present in the report itself; however, they should be available on an accompanying CD.

Link: N/A

Relevance: RR

Report title: River Brede: Modelling of Restoration Options

Author/Organisation: Karen Fisher (KRFisher Consultancy Ltd) and Andy Pepper (ATPEC River Engineering Consultancy)

Date: December 2009

Aim(s):

To establish a baseline flood risk model for the River Brede catchment from the A21 near Sedlescombe through to Rye (although the only part of the river being considered for restoration in this report is from the A21 road bridge near Sedlescombe to Ferry Bridge just upstream of Winchelsea, the impacts of restoration need to be considered on Sedlescombe and Rye), as well as to explore how various floodplain and river restoration options alter flood risk in the valley thus giving an indication of habitat creation opportunities.

Key points/description:

The modelling produced the following impacts for the various proposed restoration options:

- When the embankments are removed all the way down the catchment more water passes on the floodplain earlier; water levels are reduced down the catchment because more water flows along or is stored on the floodplain; and there are slight rises in water levels at the higher flood flows upstream and downstream of the embankment removal (due to water coming back off the floodplain and back running into the channel)
- When bed level is raised from the gauging station to Sedlescombe Bridge then water levels are raised for all flood flow considered (i.e. 1 in 2, 1 in 10, 1 in 20, and 1 in 100)
- When embankments are removed locally and a new channel is cut across the floodplain water moves onto the floodplain earlier; water levels are locally reduced in flood flows; and

water levels are reduced down the catchment (except in 1 in 100 year and 1 in 2 year flows – something which may be due to flood peaks coinciding with tidal peaks).

- When bed levels are raised a rise in water levels occurs locally, as well as up and downstream of the site. Rises in water level are less at higher flows when water is being stored on the floodplain, whereas at lower flows the rise in water level is relatively much higher.

Link: N/A

Relevance: RR

Water Quality

Report title: Water Body Summary Sheets

Author/Organisation: Environment Agency

Date: 2009-2014

Aim(s):

To assess changes in water quality over time for all the various water bodies in the Rother and Romney catchment.

Key points/description:

These summary sheets (of which there are a total of 30 for the Rother and Romney catchment, including for Marsham and Pannel Sewer (2011) and the Brede, between Battle and Winchelsea (2012)) present a range of chemical and biological information and data. This includes, for example, changing levels of phosphate, ammonia, fish and invertebrates over time.

Notes: These are fairly technical documents and consequently they require a certain level of background knowledge to interpret. The findings presented in all of these summary sheets are discussed in the catchment-wide document below (“The Rother Management Catchment: A summary of information about the water environment in the Rother management catchment”).

Link: <http://environment.data.gov.uk/catchment-planning/>

Relevance: RR & RM

Report title: The Rother Management Catchment: A summary of information about the water environment in the Rother management catchment

Author/Organisation: Environment Agency

Date: 2014

Aim(s):

This catchment summary is a support document for the consultation on the draft update to the river basin management plan and for the catchment partnerships. It is designed to help people and partners understand progress with the river basin management planning process so far, at a more local scale.

Key points/description:

This document provides the main synthesis of water quality issues in the Rother Catchment. Information is available for both the entire Rother Catchment as well as smaller divisions within this catchment – known as “Operational Catchments”. Measures to improve the water environment/status of water bodies are also listed along with cost/benefit analyses of the implementation these measures.

Notes: N/A

Link: https://consult.environment-agency.gov.uk/portal/ho/wfd/draft_plans/consult?pointId=s1406201401809#section-s1406201401809

Relevance: RR & RM

Report title: Environment Agency Interaction Maps

Author/Organisation: Environment Agency

Date: 2014

Aim(s):

To provide access to environmental data for England and Wales at a local level and to help the public better understand and appreciate their local environment.

Key points/description:

This website allows access to a range of data held by the Environment Agency on a broad range of topics, such as historic water quality, as well as:

- [Risk of Flooding from Rivers and the Sea](#)
- [Risk of Flooding from Reservoirs](#)
- [Risk of Flooding from Surface Water](#)
- [Flood Map for Planning \(Rivers and Sea\)](#)
- [Live Flood Warnings](#)
- [Flood Warning Areas](#)
- [River and Sea Levels](#)
- [Coastal Erosion](#)
- [Flood and Coastal Risk Management Activities](#)
- [Flood and Coastal Erosion Risk Maintenance Activities](#)
- [What's In Your Back Yard \(WIYBY\) for farmers](#)
- [Nitrate Vulnerable Zones](#)
- [Water Abstraction Licences](#)
- [Groundwater](#)
- [Drinking Water Safeguard Zones](#)
- [Landfill](#)
- [Pollution](#)
- [Air Pollution](#)
- [Bathing Water Quality](#)
- [Environment Agency Offices](#)
- [River Basin Management Plans - Rivers](#)
- [River Basin Management Plans - Lakes](#)
- [River Basin Management Plans - Estuarine](#)
- [River Basin Management Plans - Coastal Waters](#)
- [River Basin Management Plans - Groundwater](#)
- [Historic River Quality](#)
- [Yellow Fish Locations](#) (a project that raises awareness about sources of water pollution that can affect your local rivers, streams and ponds)

Notes: The maps and data available on this website are not just relevant to water quality, but also to biodiversity, flooding, climate change etc. The bullet point list of data topics are also hyperlinks and can be used (when holding down Ctrl on the keyboard) to click through to the Environment Agency website where the relevant data is displayed on an Ordnance Survey base map.

Link: http://maps.environment-agency.gov.uk/wiyby/wiybyController?ep=maptopics&lang=_e

Relevance: RR & RM

Water Availability & Management

Report title: Rother Abstraction licensing strategy: A licensing strategy to manage water resources sustainably

Author/Organisation: Environment Agency

Date: February 2013

Aim(s):

The aims of the document are to:

- Make information on water resource availability and the catchment licensing strategy more readily available
- Provide a consistent and structured approach to local water resource management
- Recognise both the abstractor's reasonable need for water and environmental needs
- Provide mechanisms to assess water resources availability
- Provide results which ensure the relevant Water Framework Directive objectives are met
- Provide tools to aid licensing decisions – particularly the management of time limited licences.

Key points/description:

The Licensing Strategy sets out how water resources are managed in the Rother catchment. It provides information about where water is available for further abstraction and an indication of how reliable a new abstraction licence may be.

Notes: This document has quite a bit of background information on water availability and risk.

Link: <https://www.gov.uk/government/publications/rother-catchment-abstraction-licensing-strategy>

Relevance: RR & RM

Report title: Brief to write a Report of Recommendations and to produce a Brief for a Grazing Marsh and Ditch Network Enhancement Project Feasibility Study

Author/Organisation: Kent Wildlife Trust

Date: February 2015

Aim(s):

Kent Wildlife Trust wishes to engage an experienced hydrological consultant to assist us in preparing a Report of Recommendations and to develop a brief for the Grazing Marsh and Ditch Network Enhancement Feasibility Study which will be robust enough to inform the Wildlife and Water Conservation Advice Project. The Report of Recommendations and Brief for the Grazing Marsh Project Feasibility Study will enable Kent Wildlife Trust to take the first steps in planning a coordinated approach to understanding the hydrological processes and positively influence the ditch management and grazing marsh enhancement programme on Romney Marsh.

Key points/description:

This document is a contract specification for work to write a Report of Recommendations and to develop a Brief for a Grazing Marsh and Ditch Network Enhancement Feasibility Study, as part of the wider 18 month Development Phase work for a Landscape Partnership Scheme (called the "Fifth Continent") recently started on the Romney Marshes in Kent. The work on the report is due to begin on 25th of February 2015, with the aim of having it completed by 15th March 2015.

Notes: This document is not evidence or research; rather, it represents notification of relevant research – including its likely content – to be produced in the near future.

Link: N/A

Relevance: RM

Biodiversity

Report title: Designated sites management condition

Author/Organisation: Simon Aguss

Date: Date unknown

Aim(s):

To provide a list – and summary of management status/condition – of all the designated natural (i.e. SPAs, SACs, SSSIs, LGSs, Country Parks, LNRs, and SNCIs) and heritage sites (i.e. Historic Parks and Gardens, Scheduled Monuments, Protected Wreck Sites, Battlefields, and Listed Buildings) in the Brede Valley.

Key points/description:

The spreadsheet lists all natural and heritage sites in the Brede Valley organising them according to whether their designation is local, national or European, and also provides a description of the site and a summary of the site's condition.

Notes: This spreadsheet was produced for the Battle and Brede Valley HLF bid and there is no context information on how it was compiled. It nevertheless provides a useful reference list of designated sites – both natural and heritage – in the Brede Valley.

Link: N/A

Relevance: RR

Report title: SSSI Citation Hastings Cliffs to Pett Beach

Author/Organisation: Natural England

Date: 1990

Aim(s):

To describe the sites and reasons for notification, as well as outline the special features for which it was designated a SSSI.

Key points/description:

The site is described as being “of great geological and biological importance. Its palaeobotanical and vertebrate palaeontological fossils are some of the best examples of their type in the world, while two sections of the cliffs show a complex pattern of faults. A number of habitats are represented including woodland (much of it ancient), scrub, maritime grassland and a vegetated shingle beach. These support a number of rare bryophytes (mosses and liverworts), lichens, flowering plants and beetles (Coleoptera).” The citation goes on to describe in much greater detail the site's geological and biological features.

Notes:

There is also a condition assessment, which was conducted in 2014 and can be accessed using the link below, which outlines the current condition of various parts of the site.

Link: http://www.sssi.naturalengland.org.uk/Special/sssi/sssi_details.cfm?sssi_id=1002885

Relevance: RR

Report title: Ditch monitoring at Walland Marsh SSSI (ENRR132)

Author/Organisation: English Nature

Date: 1993/4

Aim(s):

The purpose of this survey was to:

1. Assess whether all of the site still qualifies as a SSSI on botanical grounds
2. Identify problems with the management of the site
3. Provide a baseline for future monitoring
4. Enable assessment of the effectiveness of Management Agreements on the SSSI.

Key points/description:

The report presents the findings of biological surveys undertaken between 1993 and 1994, during which a total of 534 ditches on Walland Marsh were sampled. The results provide information on the distribution and abundance of ditch flora in different blocks of grazing marsh and across the site as whole, establishing a baseline for future monitoring. This is necessary to ensure that the conservation interest for which the site was notified continues to be maintained.

Notes: Although this survey is rather old, it could provide a useful baseline for any future improvement work.

Link: <http://publications.naturalengland.org.uk/publication/61055?map=true>

Relevance: RM

Report title: The Brede Valley Entomological Assessment: A Survey of Insects within The River Brede Flood Plain between Westfield and Rye

Author/Organisation: Peter J. Hodge (English Nature)

Date: March 1997

Aim(s):

To amalgamate and analyse the 1996 entomological surveys (undertaken by English Nature in response to plans to construct a Guestling Thorn and Icklesham bypass and a Winchelsea and Rye bypass), as well as other entomological surveys carried out in the Brede Valley since 1989, in order to help assess the valley's overall wildlife interest.

Key points/description:

The report provides an overview of the Brede Valley's wetland habitat, as well as a summary description of the aquatic wetland habitats (i.e. ponds and ditches that contain permanent water) and terrestrial habitats (i.e. marshy or boggy fields, the bans or watercourses where vegetation is not growing, and wet woodland), and the species that these habitats support. Habitat quality scores for aquatic habitat in the valley are then assessed on the basis of the species presents, and the Brede Valley is subsequently compared with other grazing marshes in East Sussex. General management recommendations are subsequently put forward. This process is then repeated for each individual recording area in the Brede Valley (of which there 13), with a brief introduction to the area, a description of the various sample sites and their location within these areas, a summary of the survey results, an entomological assessment, a habitat quality assessment, management recommendations, a summary of the red data book and national scarce species that were recorded, a collection of tables organised by order and listing all the species recorded, and a map showing the location of the recording area and its constituent sample sites.

Notes: This report contains some useful appendices, in particular the comprehensive lists of aquatic insects terrestrial insects recorded in the Brede Valley in each recording area.

Link: N/A

Relevance: RR

Report title: Brede Valley (brochure produced by The Friends of Brede Valley)

Author/Organisation: Friends of the Brede Valley

Date: Unknown (post-2005)

Aim(s):

To provide information about the Brede Valley, its wildlife and some other points of interest.

Key points/description:

This leaflet provides a brief overview of the history of the Brede Valley – from the last Ice Age to the 20th century – as well as a description of the habitats (e.g. coastal grazing marsh and reedbeds), their importance and some of the key species they support (e.g. marsh marigold, banded demoiselle, yellow wagtail and otter), and some historical features of interest. There is also information on the

landscape and wildlife designations affecting the area, ongoing habitat restoration and management work, the aims of The Friends of the Brede Valley group, and some references for further reading.

Link: http://www.bredevalley.info/the_brede_valley/download_booklet.php

Relevance: RR & RM

Report title: SSSI Citation for Dungeness, Romney Marsh and Rye Bay

Author/Organisation: Natural England

Date: August 2006

Aim(s):

To describe the site and reasons for notification, as well as outline the special features for which it was designated a SSSI.

Key points/description:

The site is described as: “a nationally important site by reason of a diverse range of biological and geological features, specifically the coastal geomorphology of Dungeness and Rye Harbour and the following nationally important habitats: saltmarsh, sand dunes, vegetated shingle, saline lagoons, standing waters, lowland ditch systems, and basin fens. These habitats and others within the site support the following nationally important species interests: populations of four vascular plant species listed in Schedule 8 of the Wildlife and Countryside Act 1981 (as amended); an assemblage of Schedule 8, nationally rare and nationally scarce vascular plants; populations of the vulnerable Warne’s thread-moss *Bryum warneum*; populations of water voles *Arvicola terrestris*; an assemblage of breeding birds associated with shingle beaches and saltmarsh, lowland damp grasslands, lowland open waters and their margins, and scrub; breeding numbers of 16 species of bird; assemblage of over 20,000 waterfowl in the non-breeding season; wintering numbers of 17 species of bird and three species during passage periods; metapopulations of great crested newts *Triturus cristatus*; endemic species and subspecies of invertebrates; populations of two invertebrate species listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); populations of ten endangered, vulnerable and rare invertebrate species; assemblages of invertebrates occurring on ‘dry’ coastal habitats; and assemblages of wetland invertebrates.” The citation goes on to describe in much greater detail the site’s geological and biological features.

Link:

<http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S2000533&SiteName=romney&countyCode=&responsiblePerson=>

Relevance: RR & RM

Report title: Eastern River Rother and Tributaries Otter Habitat Survey

Author/Organisation: Kate Ryland (Dolphin Ecological Surveys)

Date: February 2007

Aim(s):

This report is a continuation of similar studies carried out by the South-East Otters and Rivers Project on rivers in Hampshire and Sussex and is part of the strategic overview of all the rivers in Sussex that is being undertaken by the Sussex Otters and Rivers Partnership. The strategic overview is intended as a mechanism to ensure that the most effective use is made of resources allocated to deliver relevant elements of the Species Action Plan for Otters as part of the Sussex BAP process. The current phase of the overview comprises a survey of the eastern River Rother and its tributaries in East Sussex and Kent as a prelude to implementing otter habitat management. The survey is intended as a vital tool in identifying where provision of advice and management would be most efficient and effective.

Key points/description:

- Much of the Rother has good continuity of riparian, wetland, woodland, scrub and grassland habitat that otters could use as corridors during dispersal or for temporary resting sites,

though the western headwaters of the catchment in the High Weald tend to have a more wooded character and better habitat continuity than the eastern parts of the catchment.

- There are few serious habitat discontinuities in the catchment that could hinder colonisation of parts of the river and the hazard posed to otters crossing roads within the catchment is relatively low. The links between the Rother headwaters and those of adjoining catchments in the west, south and north (the Ouse, Cuckmere, Pevensey Levels, Brede and Teise/Medway) are good, though the connection between the Rother catchment and Romney Marsh may be weaker due to greater levels of exposure and fewer secluded corridors for migration.
- Suitable breeding habitat is present at a few locations in the central part of the catchment, both on the main river and on the tributaries.
- There is a moderate observed incidence of non-native, invasive plant species in the catchment with Indian balsam along lengthy parts of the river and other invasive plant species recorded at just a few locations. Alder disease is also found at numerous locations throughout the catchment.
- Levels of disturbance are likely to be locally quite high at times along the main river and along some of the major tributaries though there are extensive undisturbed areas close by that could act as refuges and parts of the upper catchment in particular are secluded and quiet.
- Availability of food is not likely to be a limiting factor for otters attempting to colonise the Rother, but the lack of cover along some stretches of the main river, especially in the east, could hinder colonisation.
- The eastern Rother catchment is ranked as being of overall moderate-high otter habitat value with some areas of both higher and lower value habitat present. There is a core area within the central part of catchment where there is quite extensive and continuous habitat that appears to be suitable for otters to become established. There is some potential to increase the overall habitat value of the catchment with quite achievable management activities and the co-operation of the landowners in the area.
- Whilst no signs of otter presence were found during this survey, the Rother does have areas of high value habitat that are linked by suitable habitat for use as corridors by otters. The river thus already has the potential to support breeding otters though it would benefit from some targeted habitat enhancement work to increase its overall potential value to otters. Work to increase levels of cover along the most open parts of the river and wetland habitat creation including floodplain woodland should be a priority. There may have been one or more individual otters making forays into the catchment over recent years according to Sussex Otters and Rivers Partnership and Sussex Biodiversity Record Centre records.
- Creating areas of wet woodland in some of the more open parts of the floodplain to link into drier woodland on the floodplain edges, without adversely affecting areas of good water vole habitat, would be extremely valuable in the long term to increase the suitability of the catchment for breeding otters. A programme of pro-active corridor consolidation and habitat creation and management including fencing, coppicing, planting, bank re-profiling and erosion protection, water level controls etc. would add further value to otter and water vole habitats, as well as providing an enhanced habitat mosaic that would bring broader biodiversity benefits.
- The level of interest in the otter survey (and nature conservation in general) by landowners encountered during the Rother survey was fairly high. However, the response to the initial contact letter sent out by the EA and SORP was more limited than on other catchments surveyed. There are several very keen landowners within the eastern Rother catchment, many of them are eager to receive management suggestions or are already undertaking habitat enhancement work (either independently or via agri-environment schemes), some of it large-scale and potentially highly beneficial to otters and other wildlife.

Notes: There are useful maps and individual habitat assessment forms for specific sites that accompany the report but are saved separately (NB: some information relating to otter presence/absence is confidential due to its protected species status; therefore, if required, this data will need to be requested separately).

Link: N/A

Relevance: RR

Report title: Brede Valley Phase 1 habitat and ditch survey: Report for Friends of Brede Valley

Author/Organisation: The Ecology Consultancy

Date: 2009(?)

Aim(s):

To provide information for the conservation and management of habitats in the valley.

Key points/description:

- The area covered by the survey was approximately 540 ha and included 116 ditches
- The survey area is designated as a non-statutory site of nature conservation importance principally for the quality of ditch habitat and the diversity of wildlife they support. Sites of national, European and international importance for nature conservation are situated immediately to the east of the survey area
- The main habitats recorded in the survey were improved, species-poor semi-improved and marshy grassland, swamp, ditches, ponds, reedbed, inundation vegetation, hedges scrub and woodland. The majority of the area surveyed, in the valley bottom, comprised the complex swamp, ditch and grassland habitats that form the UK Biodiversity Action Plan habitat - Coastal and Floodplain Grazing Marsh
- Ditches and wet grassland were found to support a number of plant species of conservation concern at the national or regional level. These include blunt-leaved pondweed and hairlike pondweed, rootless duckweed, annual beard grass, frogbit and tubular water dropwort. Earlier surveys (e.g. Sussex Wildlife Trust, 1994) also recorded marshmallow and creeping marsh wort that we recorded in the current survey. Overall the ditches are clearly important for their vascular plant assemblage and many contain a community dominated by frogbit and large duckweed that has a restricted distribution in the UK and is decreasing in range due to declining water quality
- An assessment of ditch quality was carried out using criteria based on those in the monitoring protocol for ditches within SSSI's. The majority of ditches were favourable in terms of water quality, water levels, and the presence of valued and distinctive plant communities, but were unfavourable in other respects, particularly their late successional stage and associated shading of open water habitat, and the steepness and uniformity of bank profiles
- The report also makes the following outline management recommendations, focusing on water level management, grazing and ditch management. It states that:
 - It would be beneficial to extend re-wetting within the valley. If suitable grazing and ditch management were also implemented this could restore the valley to more wildlife rich conditions
 - It is recommended that a proportion of ditches are re-profiled to provide stepped or shallow V shaped profiles. It may then be possible to remove fencing along ditches to allow livestock to graze marginal vegetation. This would provide varied vegetation structure for invertebrates and could result in the formation of more extensive areas of species-rich wet grassland
 - Rather than clearing large parts of the ditch system at the same time with both banks being scraped, clearance should be carried out rotationally and consideration should be given to leaving uncleared sections at intervals along

the ditch and meandering the cleared channel along the ditch to provide habitat diversity and reduce the risk of entirely removing populations of uncommon species

- It is recommended that the water vole populations, and extent and severity of poaching are monitored if fencing along ditches can be removed
- In areas where rushes (*Juncus sp.*) dominate, the sward should be cut to ground level twice per year for two years, with the first cut in July. After two years a sward should have developed which will be resistant to *Juncus* invasion and efforts can then be made to encourage a natural flora
- The flatter, upper slopes could probably recover their floral interest if they are managed as non-fertilised hay meadows (cutting in late summer), preferably with aftermath grazing. Owing to the curious mix of acid and calcareous species it is not appropriate to recommend supplementing the remnant natural grassland flora with a seed mix

Notes: This document provides a useful and relatively up-to-date (2009) overview of the habitats and species present in the Brede Valley. It also provides some useful descriptions and condition assessments of over 100 ditches and other water bodies (pp.46-69).

Link: N/A

Relevance: RR

Report title: ROMNEY MARSHES AREA INTERNAL DRAINAGE BOARD BIODIVERSITY ACTION PLAN

Author/Organisation: Romney Marsh Countryside Partnership for Romney Marsh Area Internal Drainage Board

Date: March 2010

Aim(s):

The action plan will help to safeguard the biodiversity of the drainage district now and for future generations. In particular, it is hoped that implementing the plan will contribute to the achievement of local and national targets for UK BAP priority species and habitats. Species and habitats which are not listed in the UK BAP but may be locally significant for a variety of reasons have also been considered.

Key points/description:

This plan will help:

- Ensure that habitat and species targets from the UK Biodiversity Action Plan and the local LBAP are translated into effective action within the drainage district
- Identify targets for other habitats and species of local importance within the drainage district
- Develop effective local partnerships to ensure that programs for biodiversity conservation are maintained in the long term
- Raise awareness within the IDB and locally of the need for biodiversity conservation, and to provide guidance to landowners, occupiers and their representatives on biodiversity and inland water management
- Ensure that opportunities for conservation and enhancement of biodiversity are fully considered throughout the IDB's operations
- Monitor and report on progress in biodiversity conservation

Notes: This document includes a range of useful information, including species lists, habitat lists and a list of nature conservation sites.

Link: <http://www.rmaidb.co.uk/biodiversity.html>

Relevance: RM

Report title: A SURVEY OF THE WETLAND HABITATS IN THE MAXFIELD NATURE CONSERVATION TRUST RESERVE

Author/Organisation: Peter J. Hodge

Date: 2011

Aim(s):

To undertake an entomological survey of the Maxfield Nature Conservation Trust Reserve.

Key points/description:

Five aquatic samples were taken from sites perceived to be both richly diverse and different from each other, as well as from a flowery meadow in order to demonstrate that important terrestrial habitats are also present. The following is a summary of the findings from the survey:

- Much of this reserve is the result of recent habitat creation from former arable farmland.
- The ditches contain clear unpolluted water with varied vegetation structure and the sites chosen for survey proved to be very rich in aquatic insects.
- Water beetles were the main target and both the species diversity and the number of individuals was considered to be high. In particular a number of rare species were recorded, including large impressive diving beetle *Dytiscus dimidiatus* (only recorded once previously from the Brede levels) and the aquatic weevil *Bagous puncticollis* (apparently with no previous records). Further survey and monitoring should result in many more species being added to the reserve list.
- In terms of species found in the flowery meadow, the survey identified a range of Coleoptera (e.g. *Meligethes aeneus*), Diptera (e.g. *Urophora cardui*), Hemiptera (e.g. *Leptopterna dolabrata*), Lepidoptera (e.g. *Thymelicus sylvestris*), and Orthoptera (e.g. *Chorthippus parallelus*), as well as *Forficula auricularia* (i.e. common earwig of the order Dermaptera) and *Agrion splendens* (i.e. The Banded Demoiselle of the order Odonata).
- It is also recommended as important that a survey is carried out in the dry meadow and woodland habitats so that their relative nature conservation significance can be assessed.

Notes: The report contains comprehensive species lists, useful information on Red Data Book and Nationally scarce species, and a habitat quality assessment generated using water beetle records. The data collected from this survey should be available from the Sussex Biodiversity Record Centre.

Link: N/A

Relevance: RR

Report title: Great Maxfield botanical survey

Author/Organisation: Peter J. Hodge

Date: 2013

Aim(s):

To record missing species of ditches, ponds and damp meadows in TQ81H, I and N, but also to provide an opportunity to see just what can be achieved when a landowner interested in conservation attempts it on a landscape scale.

Key points/description:

The results from the three tetrads were as follows:

- In tetrad TQ81H an area of damp meadow and ponds had been established on previously arable land after all the topsoil had been removed. Here some meadow species had been introduced by spreading seed collected from plants growing nearby, including *Oenanthe pimpinelloides* which was found to be present in relative abundance. The area had already been quite well recorded but nonetheless eight new records (including *Typha angustifolia*, *Carex ovalis* and *Phragmites australis*) were added to the tetrad list.
- The ditches and damp pastures of TQ81I and TQ81N were also surveyed, having been restored by raising water levels and using sheep, highland cattle and a small herd of Konik ponies for managed grazing. Tetrad TQ81N, containing more recently restored areas,

provided 24 new records, including *Potamogeton obtusifolius*, *Sparganium emersum* and *Hippuris vulgaris*. Fewer new species (eight, including *Oenanthe lachenalii*, *Epilobium obscurum* and *Tanacetum parthenium*) were spotted in TQ811, but this area had already been quite well recorded.

Notes: The data collected from this survey should be available from the Sussex Biodiversity Record Centre.

Link: N/A

Relevance: RR

Book title: The Birds of Sussex

Author/Organisation: Sussex Ornithological Society

Date: January 2014

Aim(s):

To describe the distribution, status and changing fortunes of all the wild birds of Sussex

Key points/description:

Covering each of the 397 species of wild bird in Sussex the book describes:

- What birds are found where
- The reasons why they are there
- The “Winners and losers” – those birds doing well, and those in trouble
- And the threats and outlook are for each species

The book includes photographs for over 250 species – all taken in Sussex – as well as distribution maps with interpretation text for key species. There are also chapters on habitats, climate, bird conservation, bird ringing and migration in the county.

Link: <http://www.sos.org.uk/the-birds-of-sussex.html>

Relevance: RR & RM

Website title: Wild Rye: Discover our Wetland Wildlife

Author/Organisation: Various (see author attributions below)

Date: Information/material produced at various times up to 2014

Aim(s):

To provide a range of information – including webpages and pdf downloads – on the Rye Harbour Nature Reserve, focusing particularly on its flora and fauna, the recreational opportunities available, and the area’s archaeological heritage.

Key points/description:

The website has a range of pdf downloads on the following topics:

- Booklets on the reserve, its wildlife and Camber Castle (Rye Harbour Nature Reserve, Friends of Rye Harbour Nature Reserve, English Nature, English Heritage and others)
- Leaflets on Camber Castle, little terns and circular walks (Rye Harbour Nature Reserve, East Sussex County Council, English Heritage)
- Checklists on the species of Rye Harbour SSSI, the birds of Rye Harbour, the flowers of Rye Harbour, the spiders of Rye Harbour, the dragonflies and grasshoppers of Rye Harbour, and the butterflies and moths of Rye Harbour (Barry Yates)
- Wildlife reports on The Flowering Plants of Rye Harbour (Barry Yates), The Birds and other vertebrates of Rye Harbour (Chris Bentley and Barry Yates), The Grasshoppers and Crickets of Rye Harbour (Chris Bentley), The Dragonflies and Damselflies of Rye Harbour (Chris Bentley), The Rare Moths of Rye Harbour (Chris Bentley), Turns of Rye Bay (Barry Yates), and Mediterranean Gulls of Rye Bay (Barry Yates and Phil Jones)
- The management plan for the reserve (Barry Yates), reserve management reports for a number years (unknown), and a project report on the “Rye Harbour: A Shingle Community”

which was designed to enhance the landscape and wildlife, and gather information on local history and heritage, including the aggregate industry (Barry Yates)

- Reports from the “Two Bays” project (an Interreg wildlife project that aims to study and enhance the habitats and species in the Rye Bay area and across the Channel in the Baie de Somme, Picardy, France (Barry Yates, Colin Pratt, Patrick Triplet, and unknown). The project has four main objectives: 1) identify the main habitats present and the potential for habitat enhancement; 2) study and record the wildlife and maintain a wildlife database (already more than 6000 species); 3) encourage farmers and landowners to manage areas for wildlife and apply for suitable grants, to fund the work; 4) promote understanding of the environmental importance of the Two Bays. The project reports cover subjects including, for example: changes in Rye Bay (encompassing events between 270 million years ago up to the present day), the Coleoptera of Rye Bay, the Lepidoptera of Rye Bay, the saltmarsh habitat of both Rye Bay and Baie de Somme, and the shingle habitat of both Rye Bay and Baie de Somme
- A report on “Introductory Biogeography to Bees of the Eastern Mediterranean and near East” (Andrew Grace).

Notes: These booklets, leaflets, checklists, reports, and management plans provide a wealth of information on a range of topics – primarily wildlife – in and around the Rye Harbour Nature Reserve.

Link: <http://wildrye.info/media/publications/>

Relevance: RR & RM

Report title: Desktop Biodiversity Report Land at Fox Lodge, Udimore + 1km radius ESD/15/25

Author/Organisation: Fran Southgate

Date: 19th January 2015

Aim(s): To give the recipient a clear indication of what biological recording has taken place within the area of their enquiry, as well as provide a useful tool for making an assessment of the site

Key points/description:

The report provides information on – and maps displaying – designated sites, habitats and natural features, and ownership and management. Lists of species are also included, as well as information highlighting their conservation status and rarity.

Notes: All landowners are able to request a free biodiversity report for their land. Visit:

<http://sxbrc.org.uk/data-requests/> to find out more.

Link: N/A

Relevance: RR

Website title: The Sussex Ornithological Society: Sightings

Author/Organisation: Various contributors

Date: Constantly being updated with new sightings

Aim(s):

To provide a range of information on birds in Sussex

Key points/description:

Includes a chronological list of bird sightings submitted by the public from all over Sussex

Link: <http://www.sos.org.uk/>

Relevance: RR & RM

Website title: Kent Ornithological Society

Author/Organisation: Unknown

Date: Constantly being updated with new sightings

Aim(s):

To provide a range of information on birds in Sussex

Key points/description:

Includes chronological list of bird sightings submitted by the public from all over Sussex

Link: <http://www.kentos.org.uk/>

Relevance: RR & RM

Website title: Dungeness Bird Observatory – UK

Author/Organisation: Unknown

Date: Constantly being updated with new sightings

Aim(s):

To provide a range of information on the flora and fauna – particularly birds – in the Dungeness area

Key points/description:

Includes chronological list of bird sightings in the Dungeness area submitted by the public

Link: <http://www.dungenessbirdobs.org.uk/index.html>

Relevance: RM

NB: Numerous botanical and water vole surveys were carried out throughout the Brede valley and Pett levels between 2005 and 2006. All of these records are held at: www.sxbrc.org.uk

Geology

Report title: SSSI Citation Hastings Cliffs to Pett Beach

Author/Organisation: Natural England

Date: 1990

Aim(s):

To describe the site and reasons for notification, as well as outline the special features for which it was designated a SSSI.

Key points/description:

The site is described as being “of great geological and biological importance. Its palaeobotanical and vertebrate palaeontological fossils are some of the best examples of their type in the world, while two sections of the cliffs show a complex pattern of faults. A number of habitats are represented including woodland (much of it ancient), scrub, maritime grassland and a vegetated shingle beach. These support a number of rare bryophytes (mosses and liverworts), lichens, flowering plants and beetles (Coleoptera).” The citation goes on to describe in much greater detail the site’s geological and biological features.

Notes:

There is also a condition assessment, which was conducted in 2014 and can be accessed using the link below, which outlines the current condition of various parts of the site.

Link: http://www.sssi.naturalengland.org.uk/Special/sssi/sssi_details.cfm?sssi_id=1002885

Relevance: RR

Website title: Sussex Local Geological Sites with public access

Author/Organisation: Sussex Geodiversity Partnership

Date: 2015

Aim(s):

To provide a map of Local Geological Sites in Sussex which are publicly accessible, as well as a description of the sites themselves

Key points/description:

Includes chronological list of bird sightings submitted by the public from all over Sussex

Link: <http://www.geodiversitysussex.org.uk/geology/riggs.php>

Relevance: RR

History & Archaeology

Report title: Icklesham Parish Council: Do it on Foot!

Author/Organisation: Sussex Wildlife Trust, Environment Agency, Rother Voluntary Action, British Trust for Conservation Volunteers, Friends of Rye Harbour Nature Reserve

Date: Date unknown

Aim(s):

To highlight walking routes and points of interest around Rye Harbour and Winchelsea Beach

Key points/description:

This leaflet provides a map of the area with the various walking routes marked, as well as a number of points of interest you may encounter along the way. There are also descriptions of these points of interest, namely: Camber Castle, Mary Stanford Lifeboat House, Rye Harbour Church, Ternery Pool gravel pit, and the Martello Tower.

Notes: This document contains information relevant to subjects other than history and archaeology, primarily biodiversity (for example on Ternery Pool gravel pit and on the map displaying the location of nature reserves) and people engagement (due to the fact it is promoting walking routes for visitors).

Link: N/A

Relevance: RR

Report title: Designated sites management condition

Author/Organisation: Simon Aguss

Date: Date unknown

Aim(s): To provide a list – and summary of management status/condition – of all the designated natural (i.e. SPAs, SACs, SSSIs, LGSs, Country Parks, LNRs, and SNCl) and heritage sites (i.e. Historic Parks and Gardens, Scheduled Monuments, Protected Wreck Sites, Battlefields, and Listed Buildings) in the Brede Valley.

Key points/description: The spreadsheet lists all natural and heritage sites in the Brede Valley organising them according to whether their designation is local, national or European, and also provides a description of the site and a summary of the site's condition.

Notes: This spreadsheet was produced for the Battle and Brede Valley HLF bid and there is no context information on how it was compiled. It nevertheless provides a useful reference list of designated sites – both natural and heritage – in the Brede Valley.

Link: N/A

Relevance: RR

Report title: The History and Topographical Survey of the County of Kent: Volume 8

Author/Organisation: Edward Halstead (on the website "British History Online")

Date: 1799

Aim(s): To describe, and provide a historical account, of the parishes and towns of the lath of Shepway in the south-east of the county, and the hundred of Whitstable on the north coast. The volume includes an account of the town of Folkestone.

Key points/description:

This volume contains sections including : "The town and parish of Lydd", "The liberty of New Romney – Old Romney", "The town and port of New Romney", "Romney Marsh", "Walland Marsh", and "The island and hundred of Oxney".

Notes: The history sections contained in other volumes – particularly volume 1 – of this publication may also be of some use.

Link: <http://www.british-history.ac.uk/source.aspx?pubid=423&page=2&sort=1>

Relevance: RM (as well as some RR)

Report title: Medieval Farming and Flooding in the Brede Valley

Author/Organisation: Mark Gardiner

Date: 1995

Aim(s):

This paper attempts to identify the main events during the medieval period in the reclamation of the marshland within and immediately to the east of the Brede valley, and to consider how the land, which was recovered with considerable effort, was used.

Key points/description:

Gardiner identifies five key periods in the development of the Brede Valley:

1. Late 12th to early 13th century when large areas of the Brede Valley were reclaimed based on Old Winchelsea being one of the most important ports on the south coast at this time – indeed, the merchants of the town may have provided the investment for the reclamation
2. C.1250 when an increase in the number of storms occurred resulting in a threat to the marshes at the east end of the valley. These storms culminated in 1287-8 when the town of Old Winchelsea, already severely damaged, was overwhelmed and there was widespread flooding in Walland Marsh. The area would have been particularly vulnerable after the River Rother formed a new estuary to the south of Rye, apparently before 1258 when the river reached the sea in the “parts of Winchelsea”
3. Early 14th century when the land lost to the sea was partially recovered and the sea wall known as Damme may have been constructed across the Brede Valley along with a second wall, perhaps called Sloughdam, further downstream
4. Mid-14th century when the incidence of flooding increased in the Romney and Rye area. According to Brandon this was a period of frequent storms and flooding along the Kent and Sussex coasts. The land in the Brede Valley appears to have been largely immune unlike Battle Abbey’s land on Denge Marsh which was inundated in the 1360s.
5. 1360s-1370s when there was a period of agricultural prosperity in the Brede Valley. This phase ended with the cessation of demesne agriculture on Icklesham manor and the floods of 1376.

Link: http://www.academia.edu/1750663/Medieval_Farming_and_Flooding_in_the_Brede_Valley

Relevance: RR & RM

Report title: Romney Marsh: Evolution, Occupation, Reclamation

Author/Organisation: Various (see author attributions below)

Date: 1988

Aim(s):

To chart the history of human occupation of a very specialized and difficult environment over the last 2000 years, and concludes with the challenges facing the 21st century.

Key points/description:

This report/monograph has a total of 18 chapters on the following topics:

- Flandrian Sedimentation and Palaeoenvironments in Pett Level, the Brede and Lower Rother Valleys and Walland Marsh Martyn Waller (Paul J. Burrin and Andrew Marlow)
- The Holocene Floodplain and Alluvial Fill Deposits of the Rother Valley and their bearing on the Evolution of Romney Marsh (Paul J. Burrin)
- Water level changes and sedimentation during the Flandrian Age in the Romney Marsh area (Michael Tooley and V. Roy Switsur)
- Archaeological and Palaeoenvironmental Investigations at Pannel Bridge, near Pett Level, East Sussex (Robin Holgate and Andrew Woodcock)
- A Group of Early Bronze Age Axes from Lydd (Stuart Needham)

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- Romney Marsh in the Roman Period (Barry Cunliffe)
 - Recent Geotechnical, Geomorphological and Archaeological Investigations of the Abandoned Cliff backing Romney Marsh at Lympe, Kent (John Hutchinson)
 - Romney Marsh in the Early Middle Ages (Nicholas Brooks)
 - The Topography of the Walland Marsh area between the Eleventh and Thirteenth Centuries (Tim Tatton-Brown)
 - Medieval Settlement and Society in the Broomhill area and Excavations at Broomhill Church (Mark Gardiner)
 - New Romney and the 'river of Newenden' in the later Middle Ages Eleanor Vollans
 - 'Drowned Lands': Changes in the Course of the Rother and its Estuary and Associated Drainage Problems, 1635-1737 (Jill Eddison)
 - Sea Defence and Land Drainage of Romney Marsh (Geoffrey Robinson)
 - Palaeogeography of marine inlets in the Romney Marsh area (Christopher Green)
 - Conclusion: The Research Potential of Romney Marsh (Jill Eddison, Christopher Green and Andrew Woodcock)
 - Gazetteer of Prehistoric, Roman and Saxon Sites in Romney Marsh and the surrounding area (Andrew Woodcock)
 - Early Maps of the Romney Marsh area (Jill Eddison)
 - Aerial Photography of the Romney Marsh area (Jill Eddison)

Notes: All these monographs may be downloaded from the Romney Marsh Research Trust website (see address below), or purchased in the form of the "Romney Marsh: Evolution, Occupation, Reclamation" book.

Link: <http://rmrt.org.uk/monographs/>

Relevance: RR & RM

Report title: Romney Marsh: the Debatable Ground

Author/Organisation: Various (see author attributions below)

Date: June 1995

Aim(s): To present a collection of papers that chart the evolution, occupation and reclamation of perhaps the least known of England's southern wetlands including Denge Beach and Denge Marsh, Brede valley and the tidal marshes at Belgar, Lydd.

Key points/description: This report/monograph has a total of 13 chapters on the following topics:

- Romney Marsh: The Debatable Ground (introduction by Michael Tooley)
- The Morphology and Evolution of Denge Beach and Denge Marsh (Andrew Plater and Antony Long)
- A Palaeoenvironmental Investigation of the 'Midley Sand' and Associated Deposits at the Midley Church Bank, Romney Marsh (Antony Long and Jim Innes)
- Proposed Northern Course of the Rother: A Sedimentological and Microfaunal Investigation (Martin Wass)
- Romney Marsh: The Fieldwalking Evidence (Anne Reeves)
- The Medieval Houses of the Marsh: the Missing Evidence (Sarah Pearson)
- Hope All Saints: A Survey and Discussion of the Ruins and Earthworks (Maureen Bennell)
- Adaptation and Investment in the Age of the Great Storms: Agricultural Policy on the Manors of the Principal Lords of the Romney Marshes and the Marshland Fringe, c.1250-1320 (Anthony Gross and Andrew Butcher)
- Medieval Salt-Making and the Inning of Tidal Marshes at Belgar, Lydd (Eleanor Vollans)
- Medieval Farming and Flooding in the Brede Valley (Mark Gardiner)
- The Impact of Marshland Drainage on Rye Harbour, 1550-1650 (Stephen Hipkin)
- Attempts to clear the Rother Channel, 1613-1624 (Jill Eddison)

-
- Drainage of Romney Marsh and Maintenance of the Dymchurch Wall in the early 17th century (Dorothy Beck)

Notes: Not all the monographs in the series seem to be available for download from the Romney Marsh Research Trust website; however, they may be requested or downloaded elsewhere, or purchased in the form of the “Romney Marsh: the Debatable Ground” book.

Link: <http://rmrt.org.uk/monographs/>

Relevance: RR & RM

Report title: Romney Marsh: Environmental Change and Human Occupation in a Coastal Lowland

Author/Organisation: Various (see author attributions below)

Date: September 1998

Aim(s):

To explore the development of Romney Marsh – from the physical evolution and sediment layers to landscape transformation in late medieval and early modern times, and malarial trends.

Key points/description:

This report/monograph contains four papers on geomorphological developments, one about field archaeology and seven historical entries:

- The Evolution of Rye Bay and Dungeness Foreland: New Evidence from the Offshore Seismic Record (Justin Dix, Antony Long and Richard Cooke)
- Holocene Barrier Estuary Evolution: The Sedimentary Record of the Walland Marsh Region (Christopher Spencec Andrew Plater and Antony Long)
- The Vegetation History of the Lower Rother Valley: Stratigraphy and Pollen Data for the Shirley Moor Region (Deborah Long, Martyn Waller and Pat McCarthy)
- The Holocene Depositional History of Romney Marsh Proper (Antony Long, Martyn Wallel: Paul Hughes and Christopher Spencer)
- Catastrophic Changes: A Multidisciplinary Study of the Evolution of the Barrier Beaches of Rye Bay (Jill Eddison)
- Medieval Rural Settlement and Economy at Lydd: Preliminary Results from the Excavations at Lydd Quarry (Luke Barber)
- The Farmers of Canterbury Cathedral Priory and All Souls College on Romney Marsh c. 1443-1545 (Gillian Draper)
- Death and Disease in the Romney Marsh Area in the 17th to 19th Centuries (Mary J. Dobson)
- White Kemp Gutt c. 1700: A Time of Change? (Gail Smith)
- Sheep-Keeping and Lookers' Huts on Romney Marsh (Anne Reeves and David Eve)

Notes: Not all the monographs in the series seem to be available for download from the Romney Marsh Research Trust website; however, they may be requested or downloaded elsewhere, or purchased in the form of the “Romney Marsh: Environmental Change and Human Occupation in a Coastal Lowland” book.

Link: <http://rmrt.org.uk/monographs/>

Relevance: RR & RM

Report title: Romney Marsh: Survival on a Frontier

Author/Organisation: Jill Eddison

Date: 2000

Aim(s):

To bring together the recent work of archaeologists, historians and geographers, and present an up-to-date interpretation of the area.

Key points/description:

To chart the history of human occupation of the region over the last 2000 years, as well as consider the challenges facing area the 21st century.

Notes: This book is essentially a less technical and more readable distillation of “Romney Marsh: the Debatable Ground” and “Romney Marsh: Environmental Change and Human Occupation in a Coastal Lowland”.

Link:

<http://books.google.co.uk/books?id=1x8XAQAIAAJ&q=Romyney+Marsh:+Survival+on+a+Frontier&q=Romyney+Marsh:+Survival+on+a+Frontier&hl=en&sa=X&ei=Oxt3VLPbDNDgaOCpgOgJ&ved=0CCAQ6AEwAA>

Relevance: RR & RM

Report title: Archaeological and Historic Landscape Survey: Land South of Bodiam Castle, East Sussex (Part One and Part Two)

Author/Organisation: Casper Johnson, David Martin and Christopher Whittick from Archaeology South East (Commissioned by the National Trust)

Date: November 2000

Aim(s):

To collect together the very wide range of evidence available for the interpretation of the National Trust’s property at Bodiam and present it in a way that is clear and can easily be used for future research and management. The report does not discuss in detail the structure of the castle itself, but within the Sites and Monuments Record the framework has been created for future recording.

Key points/description:

Part One of the report contains sections covering:

- A description of the property
- The geology and soils
- Statutory and non-statutory designations
- A summary of previous historical and archaeological research
- A summary of archaeological significance, potential and vulnerability
- A summary of management recommendations
- A Summary of archaeology and land use history

Part Two of the report contains:

- An inventory of the Sites and Monuments Record (SMR) for the area within – and immediately adjacent to – the National Trust’s Bodiam Castle property

Notes: The archaeological summary and land use history in Part One provides a useful overview from prehistory to the present day (pp.25-47). The SMR inventory in Part Two provides descriptions and information on the history of the various sites and monuments, as well as condition descriptions and management recommendations for these sites and monuments.

Link: N/A

Relevance: RR

Report title: Romney Marsh: Coastal and Landscape Change through the Ages

Author/Organisation: Various (see author attributions below)

Date: 2002

Aim(s):

To explore the history of Romney Marsh, its environment and the people who have occupied it.

Key points/description:

This is the fourth volume in the Romney Marsh monograph series, and its thirteen papers range across environmental, archaeological and historical themes. The authors demonstrate the dynamism of the Romney Marsh landscape over many thousands of years, focusing on the period between AD

200 and AD 1700, which takes in the end of peat formation and the cessation of major land reclamation. Contents include:

- The Holocene Vegetation History of the Romney Marsh Region (Martyn Waller)
- Late Pleistocene/Early Holocene Environmental Change in the Romney Marsh Region: New Evidence from Tilling Green, Rye (Martyn Waller and Jason Kirby)
- The Evidence for Late Holocene Foreland Progradation and Rapid Tidal Sedimentation from the Barrier and Marsh Sediments of Romney Marsh and Dungeness: A Geomorphological Perspective (Andy Plater, Paul Stupples, Helen Roberts and Caroline Owen)
- Palaeoenvironmental changes during the last 4000 years at Scotney Marsh, Romney Marsh (C Spencer and W Woodland)
- Reconstructing late Holocene intertidal environments and channel networks: A review of the role of Benthic Foraminifera biostratigraphy on Romney Marsh (J Evans and J Kirby)
- Romney Marsh: Evolution of the Historic Landscape and its Wider Significance (Stephen Rippon)
- The Late Medieval 'Antediluvian' Landscape of Walland Marsh (Mark Gardiner)
- The Rumenesea Wall, Romney and Walland Marshes: A Commentary (J.R.L. Allen)
- The Purpose, Construction and Operation of a 13th Century Watercourse: The Rhee, Romney Marsh, Kent (Jill Eddison)
- Land Holding and the Land Market in a 15th Century Peasant Community: Appledore, 1400-1470 (Sheila Sweetinburgh)
- "To fasten itt upon his successors, heirs and owners of that howse ... so longe as the world standeth": Family Identity and Romney Marshlands in Early Modern Kent (Mark Merry and Catherine Richardson)
- The Worlds of Daniel Langdon: Public Office and Private Enterprise in the Romney Marsh Region in the Early-18th Century (Stephen Hipkin)
- A 'Particularly Convenient and Useful' Arrangement: The Symbiotic Relationship between the Agrarian Economy of Romney Marsh and the Surrounding Region in the 18th Century' (Anne Davison)
- The evidence for late Holocene foreland progradation and rapid tidal sedimentation from the barrier and marsh sediments of Romney Marsh and Dungeness: A geomorphological approach (A Plater, P Stupples, H Roberts and C Owen)
- Romney Marsh: Evolution of the historic landscape and its wider setting (S Rippon)
- The symbiotic relationship between the agrarian economy of Romney Marsh and the surrounding region in the 18th Century (A Davison)

Notes: Not all the monographs in the series seem to be available for download from the Romney Marsh Research Trust website; however, they may be requested or downloaded elsewhere, or purchased in the form of the "Romney Marsh: Environmental Change and Human Occupation in a Coastal Lowland" book.

Link: <http://rmrt.org.uk/monographs/>

Relevance: RR & RM

Report title: Dungeness before 1960: the landscape and the people (ENRR571)

Author/Organisation: English Nature

Date: 2004

Aim(s):

To investigate whether disturbance levels on the Dungeness shingle may have been greater or different in the past, perhaps providing a more suitable environment for the Stinking Hawk's-beard. The study aims to address the need for more precise detail and timing, especially on factors likely to directly produce shingle disturbance.

Key points/description:

Stinking Hawks-beard *Crepis foetida* declined at Dungeness during the 1900s, to apparent extinction in 1981. Attempts to re-establish the plant during the 1990s at some of its previous sites met with limited success, possibly because of changes at Dungeness relating to the changing human population and its activities since the Second World War. This survey was set up to identify any such changes using 1960 as a cut-off point. At the same time, the area of survey was broadened beyond specific sites where the plant had been recorded to include other areas of human occupation and activity, e.g. the Denge Marsh Road. Some 26 individuals and couples with knowledge of the Dungeness scene before the 1960s kindly completed an interview based on a detailed questionnaire designed to address the above points.

It is concluded that there have been substantial changes in the nature and level of human activity at Dungeness since the Second World War. A general overall reduction in day-to-day presence of people on the shingle in the Village area is considered to have been a significant change. The more widespread cessation of grazing by goats and sheep would likewise have been of significance in the Ballast Hole and perhaps the Open and Fossil Pits. It is also concluded that vegetation cover has greatly increased in the Village area, the Ballast Hole and in the Open and Fossil Pits. In all areas, natural succession would have contributed to these vegetation changes, but changes in human activity are considered to have been especially significant in the Village area. It is believed that reduced shingle disturbance and greatly increased vegetation cover in the Village area, and probably elsewhere, may have excluded Stinking Hawk's-beard from its previous sites.

Notes: A fascinating report collating the local peoples' pre-1960 thoughts and memories of Dungeness.

Link: <http://publications.naturalengland.org.uk/publication/59053?map=true>

Relevance: RM

Report title: Accounts and Records of the Manor of Mote in Iden 1442-1551, 1673

Author/Organisation: Mark Gardiner and Christopher Whittick

Date: 2008

Aim(s):

To provide a fairly comprehensive record of the local business of the Scott household, as well as to discuss these accounts, the manor and its lords from the 13th to the 20th century, and examine feudal tenure in the Weald of Sussex more broadly.

Key points/description:

The accounts record the local business of the Scott household in the broader context of the struggles of the Yorkists and Lancastrians. The Mote accounts are complemented by near-contemporary coin rolls and rentals of 1478 and 1673, the latter supported by maps. The context of these records is explained by a detailed introduction which discusses the accounts, the manor and its lords from the 13th to the 20th century, including its tenure by the Catholic Scotts and Puritan Powells. It concludes with a wider study, supported by appendix, of feudal tenure in the Weald of Sussex.

Notes: The published accounts include a comprehensive introduction to the Scott estate, the construction of the buildings, and the agrarian economy of Mote.

Link: <http://www.sussexrecordsociety.org/listbooksdetail.asp?Id=SRS092> and http://books.google.co.uk/books/about/Accounts_and_Records_of_the_Manor_of_Mot.html?id=VlpfXwAACAAJ&redir_esc=y

Relevance: RR

Report title: Archaeological and Historic Landscape Survey: Land South of Bodiam Castle, East Sussex

Author/Organisation: Archaeology South East (Commissioned by the National Trust)

Date: January 2008

Aim(s):

To produce a definitive and up-to-date review of the archaeological and historical development of some newly acquired land at Bodiam Castle in East Sussex. The study is also intended to inform future management plans and produce information for use in educational and interpretative formats.

Key points/description:

The study includes a comprehensive review of existing primary and secondary historical and archaeological sources, with a particular emphasis on palaeoenvironmental sources, and a landscape survey to identify and record features of archaeological significance. The data is presented in text, gazetteer and map form. Each archaeological feature is described along with photographs, and a statement of its current condition is also included. Management recommendations are made where appropriate. Five main categories of archaeological site are identified in the study (archaeological significance ratings are included in brackets):

- Palaeoenvironmental deposits of at least regional significance (Major)
- Romano-British settlement/industrial site (Major)
- Site of Medieval building and associated croft (Major)
- Post-medieval water management features (Minor)
- Post-medieval boundaries (Minor)

The study concluded that the Site contains significant palaeoenvironmental deposits relating to the development of the Rother valley and the wider Romney Marsh area, and possible stratified Roman archaeological deposits of national importance.

Notes: The study provides a useful overview of the archaeological and historical development of the Bodiam area from Prehistory to the present day (pp.13-19). Appendix 1 is also useful, as it provides a list (including locations, descriptions and dates) of all the Sites and Monuments Record (SMRs) within a 1km radius of the Bodiam site. However, perhaps the most useful/interesting part of the report is Appendix 2 (pp.53-68) "An Assessment of Geoarchaeological and Palaeoenvironmental Potential for Sediments of the Flood Plain at Bodiam Castle, East Sussex". Appendix 2 concludes that: "[palaeoenvironmental] work at the Bodiam site could significantly build on earlier research in providing the first fully comprehensive account of the sedimentary and environmental history of the eastern Weald" (p.68), and that the sediments are of crucial importance for understanding the development of the eastern Weald AND Romney Marsh.

Link: N/A

Relevance: RR & RM

Report title: Romney Marsh: Persistence and Change in a Coastal Lowland

Author/Organisation: Various (see author attributions below)

Date: 2010

Aim(s):

To help disseminate research into the historical, social, economic and physical development of Romney and Walland Marshes and their immediate hinterlands.

Key points/description:

The report/monograph has a total of nine chapters (plus a foreword) on the following topics:

- The Holocene Coastal Deposits of Sussex: a Re-evaluation (Martyn Waller and Antony Long)
- The Mid-Late Holocene Evolution of Southern Walland Marsh and the Origin of the 'Midley Sand' (Jason Kirby, David Clarke, Tim Shaw and Emma Toole)
- Holocene Fire Histories from the Edge of Romney Marsh (Michael Grant and Martyn Waller)
- Adapting to PPG16: Planning-led Archaeology on the Walland, Denge and Romney Marshes of Kent and East Sussex, 1990–2010 (Casper Johnson)
- The Romney Marsh Archaeological Gazetteer: its Creation and Use (Alan Tyler)
- Overcoming disaster? Farming Practices on Christ Church Priory's Marshland Manors in the Early 14th Century (Sheila Sweetinburgh)

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- ‘My boddye shall lye with my name Engraven on it’: Remembering the Godfrey family of Lydd, Kent (Terreena Bellinger and Gillian Draper)
 - Aspects of Corporate Landownership and the Fortunes of Livestock Farmers on Walland Marsh and Denge Marsh, c. 1730–90 (Anne Davison)
 - Boom, Slump and Intervention: Changing Agricultural Landscapes on Romney Marsh, 1790 to 1990 (Hadrian Cook)

Notes: The chapters in this publication provide a wealth of information on Romney Marsh – its history, development, management, and archaeology. Chapter 3 – “Holocene Fire Histories from the Edge of Romney Marsh”, by Michael Grant and Martyn Waller – focuses primarily on the Pannel and Brede Valleys, rather than Romney Marsh itself, and provides an account of the Holocene fire history of these valleys using records of microscopic charcoal from five sites that had previously been studied using pollen analysis. The sites range in age from c. 9700 cal. yr BC to cal. yr AD 400.

Link: <http://rmrt.org.uk/monographs/>

Relevance: RR & RM

Report title: Sussex River Valleys Brede River Valley HLC Analysis

Author/Organisation: Nicola R. Bannister

Date: March 2010

Aim(s):

To document the history of changing land use within target floodplain areas in Sussex, along with ditch and river channel morphology changes within river valleys. The historic information gathered during this project will also be used to target future restoration and rehabilitation of wetland habitats within river flood plains, as well as to deepen and enhance the Sussex Historic Landscape Characterisation [HLC] by the more detailed study of historic maps – in particular those which were not used during the Sussex HLC process.

Key points:

- The Brede Valley shows considerable time-depth with most of the flood plain HLC polygons having undergone at least one period of landscape change
- There is an apparent gradual trend of enclosures of a later date downstream, towards Rye and Romney Marsh
- The main part of the Brede Levels and upper reaches of the valley were probably enclosed by the end of the medieval period; by the early post-medieval period the innings had taken place in the lower reaches of the Levels and extended around to Pett
- By the late post-medieval period the shingle banks around Camber had been enclosed and drained, possibly in part related to the construction of the Royal Military Canal
- The medieval “innings” appear to be related in part with the development of Old Winchelsea as a part of the subsequent foundation of New Winchelsea with its post on the River Brede
- During the building of the roof of the Lady Chapel at Battle Abbey lead was brought from London by water as far as Brede Bridge. Wood and timber was also exported from woods located upstream in the Weald. This was taken along the river from the Brede Bridge to Rye and Winchelsea to be used for fuel and building material for sea defences
- The lower part of the Brede Valley lay within the now lost medieval manor of Rameslie, which belonged to the priory of Fécamp in Normandy and which included Rye, Winchelsea and part of Hastings. In addition some of the marshes in the Brede Valley were granted to Robertsbridge Valley
- Wet valley woodland (apart from in upstream gills) is rare in the Brede Valley because land in the valleys historically had a higher value than land on the ridges, due to the fact it is deep, rich, highly fertile and could therefore produce good crops. Therefore woodland was likely cleared fairly early before the Conquest, particularly in the upper reaches.

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- This woodland clearance contributed to siltation of the Brede; indeed, by the medieval period much of the valley had silted up with alluvium and peat, with similar problems occurring at the mouth of the river. This resulted in the cutting of the Brede Channel (in the first half of the 15th century) to facilitate faster flow of water past New Winchelsea in order to scour the riverbed near the port
 - Essentially the Brede Valley is medieval landscape (older enclosures tended to make use of existing channels thus creating a more irregular pattern), but with later enclosures indicated by the more regular shapes bounded by straight ditches – with later straightening of smaller channels generally occurring in the Lower Levels towards Rye and Romney Marsh.

Notes: This document contains various maps displaying HLC data for the Brede Valley which may be of use. Essentially these provide time slices of landscape change from AD 410 to AD 1945. There is also an outline historic summary/timeline for the Brede Valley on p.18 covering the period AD 1066 to AD 2000.

Link: N/A

Relevance: RR

Report title: Sussex River Valleys Eastern Rother River HLC Analysis

Author/Organisation: Nicola R. Bannister

Date: October 2010

Aim(s):

To document the history of changing land use within target floodplain areas in Sussex, along with ditch and river channel morphology changes within river valleys. The historic information gathered during this project will also be used to target future restoration and rehabilitation of wetland habitats within river flood plains, as well as to deepen and enhance the Sussex Historic Landscape Characterisation [HLC] by the more detailed study of historic maps – in particular those which were not used during the Sussex HLC process.

Key points:

- In the medieval period, and subsequently, land in the valleys had a higher value than that on the ridges. The valley soils were deep, rich and highly fertile, and once the water had been controlled could produce good crops – both cereal and hay. Thus the incidence of wet valley woodlands (away from the steep gills further upstream), are rare in the Eastern Rother and Tillingham Valleys.
- Historically, the key to utilising land within the valley was twofold. Firstly the fresh water flowing out of the Weald had to be managed and controlled downstream, especially during winter months; and secondly sea water had to be kept out of the valley, especially during storm surges and high tides.
- The other key issue is the rate of silting of these valleys, with material brought down by the fast flowing Wealden streams in the catchment headwaters. This was exacerbated with woodland clearance in the upper valleys and ridges, and the land cultivated, combined with rising sea levels. Further silting of the river mouths leading to flooding upstream was exacerbated by rising sea levels.
- The valley is essentially a post-medieval landscape, but with earlier enclosures as indicated by the morphology of the field boundaries. Later enclosures tended to be far more regular in shape with straight ditches, and a straightening of the smaller channels in the Lower Levels, whereas older enclosures tended to make use of existing channels creating a more irregular pattern.

Notes: This document contains various maps displaying HLC data for the Brede Valley which may be of use. Amongst these are maps showing time slices of landscape change (between AD 1066 and AD 1945), as well as maps displaying the periods of origin for present day landscape features. There is

also an outline historic summary/timeline for the Eastern Rother and Tillingham Valleys on pp.19-20 covering the period 9000 BP to AD 1561.

Link: N/A

Relevance: RR

Report title: Heritage at Risk

Author/Organisation: English Heritage

Date: November 2011

Aim(s):

To provide a list of all heritage sites in the Brede Valley that are considered to be “at risk” by English Heritage.

Key points/description:

The document lists all the heritage sites in the Brede Valley currently considered by English Heritage to be at risk.

Notes: This document was originally produced to inform the Battle and Brede Valley HLF bid, but nevertheless provides a useful reference for the Brede Valley area.

Link: <http://risk.english-heritage.org.uk/register.aspx?rs=1&rt=0&pn=1&st=a&co=East+Sussex&ctype=exact&crit>

Relevance: RR

Website title: Hastings Chronicle: the Who, What, Why, When & Where of Hastings

Author/Organisation: Unknown

Date: 2012

Aim(s):

To provide a chronology of important historical events in and around Hastings between 1771 and 1990.

Key points/description:

Significant events in the history of the area are listed chronologically – typically involving a short descriptive paragraph – including:

- The Battle of Hastings in 1066
- Jack Cade’s Rebellion in 1450
- The Spanish Armada and the launch of the 70 ton Bonaventure in 1588
- The 1690 Battle of Beachy Head
- The railway arriving in the Hastings area in 1846
- The invention of television by John Logie Baird in 1923

Notes: Provides a useful quick-reference guide to some of the significant historical events that occurred in Hastings and the surrounding area.

Link: <http://www.hastingschronicle.net/771-1699.html>

Relevance: RR

Report title: Report on the Geophysical Survey at Bodiam Castle, East Sussex

Author/Organisation: Dominic Barker, Penny Copeland, Timothy Sly and Kristian Strutt

Date: August 2012

Aim(s):

To locate and map the remains of sub-surface archaeological deposits in the vicinity of Bodiam Castle, and on land surrounding the medieval and later palace. The study hoped that a number of structures at the site may be discovered, possibly relating to the earliest phases of the palace’s development, as well as to the Roman deposits located through excavation in different parts of the site.

Key points/description:

This report presents the results of a geophysical survey undertaken at Bodiam Castle. It specifies the survey methodology and provides an interpretation and discussion of the survey results. The survey was carried out within and around the extant remains of the castle, and across the floodplain of the River Rother. The results indicate the remains of structures associated with the medieval castle (including the tenement boundaries of the medieval village, and associated features relating to the building of the castle), as well as the Iron Age and Roman settlement of the area (such as features linked to iron smelting and industrial activity in the area from the Roman period onwards). The possible line of a Roman road was also located, as was the presence of features relating to a Romano-British settlement close to the river floodplain.

Notes: The report contains a series of interesting images and diagrams relating to the topographic survey, the standing building survey, the magnetometer survey, the resistivity survey, the Ground Penetrating Radar Survey Results, the Electrical Resistivity Tomography survey

Link: N/A

Relevance: RR

Website title: Rye Castle Museum

Author/Organisation: Unknown

Date: 2014

Aim(s):

To provide a range of information about Rye Castle Museum, but, most relevantly here, to provide historical information about the town of Rye and the surrounding area.

Key points/description:

The website provides a range of information on the History of Rye and the surrounding area from the pre-Roman period through to the medieval period and up to the present day. There are also sections of the website which of specific relevance to Romney Marsh.

Notes:

Link: <http://www.ryemuseum.co.uk/>

Relevance: RR & RM

NB: Sussex Wildlife Trust also has some GIS analysis of the Tithe maps showing floodplain land use, tithe watercourse and ditch locations, and Tithe ponds for the Brede valley.

Flood Risk & Climate Change

Report title: South Foreland to Beachy Head Shoreline Management Plan

Author/Organisation:

Date: April 2006

Aim(s):

The Shoreline Management Plan (SMP) aims to provide a large-scale assessment of the risks associated with coastal evolution and present a policy framework to address these risks to people and the developed, historic and natural environment in a sustainable manner. In doing so, an SMP is a high-level document that forms an important part of the Department for Environment, Food and Rural Affairs (Defra) strategy for flood and coastal defence (as articulated by Defra in 2001).

Specifically, the objectives of the SMP are:

- to define, in general terms, the flooding and erosion risks to people and the developed, historic and natural environment within the SMP area over the next century
- to identify the preferred policies for managing those risks
- to identify the consequences of implementing the preferred policies
- to set out procedures for monitoring the effectiveness of the SMP policies
- to inform planners, developers and others of the risks identified within the SMP and preferred SMP policies when considering future development of the shoreline and land use changes
- to comply with international and national nature conservation legislation and biodiversity obligations
- to highlight areas where knowledge gaps exist

Key points/description: This document provides the first revision to the original 1996 South Foreland to Beachy Head SMP. It provides the management plan for the next 100 years and the policies required for it to be implemented. The plan is presented in five parts:

- Section 1 gives details on the principles, aims, structure and background to its development.
- Section 2 provides details of how the SMP meets the requirements of a Strategic Environmental Assessment (SEA).
- Section 3 presents the basis for development of the Plan, describing the concepts of sustainable policy and providing an understanding of the constraints and limitations on adopting certain policies.
- Section 4 presents the preferred Plan at high level for the SMP as a whole, discussing the rationale, implications, and requirements to manage change. The coastline is considered in four broad sections.
- Section 5 provides a series of statements for each of the 30 coastal policy units that detail the location-specific policies proposed to implement the preferred Plan and the local implications of these policies.
- Section 6 presents the Action Plan, which sets out the process for the implementation of SMP recommendations.

Notes: Although the plan covers parts of the coast not relevant to the Rother Catchment (e.g. from South Foreland to Sandgate, pp.19-20), it also covers the highly relevant Sandgate to Cliff End section of coastline (pp.20-23). The plan also contains a series of statements (pp.32-140) presenting the preferred policy and implications for individual locations – many of which are of relevance to the Rother Catchment (e.g. Romney Sands to Dungeness, Camber Sands, and River Rother). These statements provide local detail to support the SMP-wide preferred plan, presented in Section 4, and consider locally-specific issues and objectives.

Link: <http://www.se-coastalgroup.org.uk/sf-to-bh-2006/>

Relevance: RR & RM

Report title: Level 2 Strategic Flood Risk Assessment
Author/Organisation: Scott Wilson for Rother District Council
Date: June 2008

Aim(s):

The purpose of both a Level 1 and Level 2 Strategic Flood Risk Assessment (SFRA) is to provide the Local Planning Authority with a tool that will assist in identifying the level of flood risk in the District, to better inform planning decisions. This should help prevent development in unsuitable locations by assisting the LPA in determining areas of varying flood risk. In practice the SFRA provides risk maps that will be used to inform planning decisions. The overall aim is to reduce the risks to people and both the built and natural environment from flooding.

This Level 2 SFRA aims to provide supplementary information to the Level 1 SFRA, to inform on specific tidal flood risk issues and suitability for development of key development areas and known flooding hotspots identified by Rother District Council in preparation of their LDF.

Key points/description:

This report presents the findings of the Level 2 SFRA. Specifically, it details the methodology and results of an extensive tidal flooding modelling and mapping exercise, which has looked at residual flood risk from breach or overtopping of existing defences. This is the principal strategic flood risk within Rother District. The Level 2 mapping compliments that produced by Rother District Council's Level 1 SFRA, to provide a complete suite of flood mapping from all sources, based on available data. The Level 1 and 2 reports should be used in conjunction with each other for both forward strategic planning and to inform ongoing development control decisions.

Notes: The flood modelling results (pp.18-41) are likely to be of particular interest, as are the flood risk maps in the various appendices and the policy recommendations (pp.58-60).

Link: <http://www.rother.gov.uk/article/4900/Strategic-Flood-Risk-Assessment>

Relevance: RR

Report title: Strategic Flood Risk Assessment – Level 1

Author/Organisation: Rother District Council

Date: August 2008

Aim(s):

The purpose of both a Level 1 and Level 2 Strategic Flood Risk Assessment (SFRA) is to provide the Local Planning Authority with a tool that will assist in identifying the level of flood risk in the District, to better inform planning decisions. This should help prevent development in unsuitable locations by assisting the LPA in determining areas of varying flood risk. In practice the SFRA provides risk maps that will be used to inform planning decisions. The overall aim is to reduce the risks to people and both the built and natural environment from flooding.

This Level 1 SFRA report is intended to present sufficient information to enable Rother DC to apply the PPS25 Sequential Test to potential strategic development areas within their boundary and, where there are no 'more reasonably' available sites, to assist in identifying if application of the PPS25 Exception Test will be necessary.

Key points/description:

This report presents the findings of the Level 1 SFRA. Specifically, it collates and reviews available information on flood risk for the study area. Information has been sought from a variety of stakeholders including the Environment Agency, Southern Water, County Highways, Internal Drainage Board together with from within the Council (Drainage Engineer, Building Control Officer, Planning Department and the Emergency Planning Officer).

Notes: Section 3 (pp.30-47) on the different causes of flooding experienced within Rother District, including current and proposed standards for defences, is likely to be of interest, as are the various appendices displaying flood zone maps, maps of developments at risk from flooding, maps showing highways at risk of flooding etc.

Link: <http://www.rother.gov.uk/article/4900/Strategic-Flood-Risk-Assessment>

Relevance: RR

Report title: Strategic Flood Risk Assessment Shepway District Council

Author/Organisation: Herrington Consulting Limited

Date: June 2009

Aim(s):

To provide an analysis of the main sources of flood risk to the District, together with a detailed means of appraising development allocations and existing planning policies against the risks posed by coastal flooding over this coming century.

Key points/description:

The report contains a variety of sections, including:

- An introduction to the project and its objectives
- An overview of the study area
- A description of the Strategic Flood Risk Assessment (SFRA) approach and methodology
- A description of the relevant policy framework
- An overview of the relevant data sources
- Overview of the area's flood risk
- An assessment of the impact of climate change on flood risk
- A review of flood risk management practices
- An assessment of residual risk
- Guidance for site specific Flood Risk Assessments (FRAs)
- Proposed development site appraisals (see Appendix 6)
- Policy recommendations
- Sustainable Urban Drainage (SUDS)
- Conclusions

Notes: The "Overview of Flood Risks" section (Chapter 6, pp.25-31) is likely to be of particular use, as are the flood zone maps (including climate change) in Appendix 3.

Link: <http://www.shepway.gov.uk/content/view/200178/211/>

Relevance: RM

Report title: Rother and Romney Catchment Flood Management Plan: managing flood risk

(Summary Report) **NB: a new plan – for which the consultation has recently closed – is due out soon!**

Author/Organisation: Environment Agency

Date: December 2009

Aim(s):

To provide an overview of the flood risk across the river catchment and recommended ways of managing the risk now and over the next 50 to 100 years. CFMPs help us to understand the scale and extent of flooding now and in the future, and set policies for managing flood risk within the catchment. CFMPs should be used to inform planning and decision making by key stakeholders.

Key points/description:

"The north and west of the Rother and Romney catchment is part of the High Weald, mainly woodland, grassland and natural floodplains, while the south and east are characterised by a wide expanse of reclaimed coastal marshland." The report identified the following current and future flood risk:

- Significant flooding problems are associated with the urban areas of Robertsbridge, Etchingam and Hamstreet. Robertsbridge has suffered ever increasing flooding since 1946.

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- In the lower Rother catchment there are several minor tributaries and drains that can cause isolated flood incidents and the Romney and Walland Marshes are prone to both river and coastal flooding.

The report identifies the following impacts from climate change and future flood risk:

- From the three drivers tested (i.e. climate change, land use change, and land management change), climate change has the largest impact on the Rother and Romney CFMP catchment with up to 20% increase in peak flood flows.
- In the Rother and Romney catchment the future flood risk is likely to be from river flooding and surface water flooding.
- The EA appraisal of the future risk in the catchment reveals the number of properties at risk to the 1% annual probability event will increase from 151 to 179 properties by the year 2100. The majority of these properties are located in Robertsbridge, Etchingham and Hamstreet.
- The broadscale modelling indicates there are large numbers of properties at risk in Rye, Hythe and Folkestone, however these figures do not differentiate between coastal and river flooding.
- The key trends are: 1) more frequent and intense storms causing more widespread and regular flooding from drainage systems and some rivers, and 2) more rain in winter, increasing the likelihood of large scale flood events.

Notes: There is a useful and concise overview of the catchment – as well as a good context map – on pp.6-7 of the report. There are also some useful sections on all the sub-areas of the catchment with a summary of the number of properties at risk of flooding, as well as the main issues and the proposed actions. It should also be noted that the policy option applying to most of the High Weald part of the catchment (called “Rural Rother”) is Policy 6 (Areas of low to moderate flood risk where we will take action with others to store water or manage run-off in locations that provide overall flood risk reduction or environmental benefits), apart from the Robertsbridge and Etchingham sub-area where Policy 3 applies (Areas of low to moderate flood risk where we are generally managing existing flood risk effectively). In the Romney and Walland Marsh sub-area (the majority of the rest of the catchment) Policy 3 applies. All the 6 policy options are listed on p.12.

Link: <https://www.gov.uk/government/publications/rother-and-romney-catchment-flood-management-plan>

Relevance: RR & RM

Report title: Kent Spatial Risk Assessment for Water – Volume 1 (Main Report)

Author/Organisation: URS Infrastructure & Environment UK Limited for Kent County Council

Date: February 2014

Aim(s):

To assess the potential effects of future changes in pressure on Kent’s water systems (caused by factors like land use, population and climate change, and mapping how these effects vary spatially across the County), and then using this information to inform potential adaptation in areas where the impact has the potential to be the greatest.

Key points/description:

Overall conclusions/points:

- The catchments considered most at risk are: The Bourne, Lesser Teise, Len, Beult, Medway Estuary, Hexden Channel, Upper Great Stour, North & South Streams at Eastry, North Chislet Marsh, Hammer Stream, and Sommerhill Stream.
- The SRA demonstrated an accumulation of higher risk consequences in the Medway catchment. A number of impacts on water systems combine for the Medway catchment, particularly in the upper reaches and the main tributaries of the catchment, including land

instability, increasing flood risk, limitations on wastewater treatment, lower summer flow risk, and water supply cost implications.

- The adaptation measures identified within the SRA suggest that there are many opportunities to enhance the resilience of the business, community, environment, and agriculture sectors within Kent (e.g. by managing water availability and use through improving irrigation efficiency, water storage capacity, using sustainable drainage systems, and restoring floodplains and wetlands on farmland). The adaptation measures include actions that members of individual sectors could consider. A number of measures were also identified that, if implemented by Kent County Council, may influence each sector's response to climate change adaptation. The SRA also provides an overview of the business opportunities that may arise as a consequence of the adaptation measures identified and where these are most likely to be spatially available in the County.

Conclusions/points relevant to the River Rother and Romney Marsh (both of which play a fairly small role in this report):

- Risk of Greater Depth and Extent of Fluvial and Tidal Flooding – the middle reaches and tributaries of the Rother are one of the areas of Kent most susceptible to a high magnitude impact from increasing extent of tidal and fluvial flooding.
- Risk of Increased Pressure from Urban Diffuse Pollution – the middle sections of the Rother on the borders with East Sussex are also at high risk from an increase urban diffuse pollution due to growing urban pressures.
- Increase in Coastal Erosion – the southern coastline of the Romney Marsh peninsular is one of a small number of areas at high risk from an increase in coastal erosion.

Notes: Some of the maps scattered throughout the report provide useful visual aids for imagining possible future distributions of water-related risk and opportunity across Kent.

Link: N/A

Relevance: RR & RM

Report title: National biodiversity climate change vulnerability model

Author/Organisation: Natural England

Date: February 2014

Aim(s):

The National Biodiversity Climate Change Vulnerability Model (NBCCVM) aims to provide:

- A spatially explicit assessment of the relative vulnerability of priority habitats, based on established climate change adaptation principles
- A suite of map-based GIS outputs at a variety of scales, which can be used (in conjunction with other relevant spatial data) to target action to build biodiversity resilience
- A flexible, GIS based, decision support tool that allows the user to incorporate locally specific datasets and select how adaptation principles are combined to reflect local circumstances and priorities.
- The NBCCVM is a practical way to identify areas most at risk from climate change, providing a focus for discussion with partners helping to develop shared priorities and inform decisions on where to concentrate limited resources.

Key points/description:

The NBCCVM methodology uses a GIS-based 200 x 200m grid to assess areas of priority habitat for their:

- Intrinsic **Sensitivity** to Climate Change; the model assigns high, medium or low sensitivity to direct climate change impacts – reflecting the habitat itself on the basis of expert judgement and scientific literature.

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- **Adaptive capacity;** a range of different local factors can increase or decrease the ability of the habitat to adapt to climate change – to reflect this the model includes measures of fragmentation, topographic variation and management and condition.
 - **Conservation Value;** this assigns a relative value to (i) priority habitat only, (ii) priority habitat within a national designation, or (iii) priority habitat within an international designation – with the latter valued highest.

These elements are then added together to produce an overall assessment of vulnerability. Key outputs are maps showing the results for individual and combined metrics and the range of relative vulnerability across the country, giving a visual representation of the areas vulnerable to climate change.

Notes: To enable the model to “run” in an interactive way, Natural England has created a software tool, called the National Biodiversity Climate Change Vulnerability Assessment Tool (NBCCV Assessment Tool). However, I cannot currently find a link to this tool online and therefore a request may have to be made to Natural England should you want to use it.

Link: <http://publications.naturalengland.org.uk/publication/5069081749225472>

Relevance: RR & RM

Report title: Ashford Borough Council – Strategic Flood Risk Assessment

Author/Organisation: JBA Consulting (for Ashford Borough Council)

Date: July 2014

Aim(s):

An SFRA is a planning tool that assists councils in their selection and development of sustainable site allocations away from vulnerable flood risk areas. This SFRA aims assist the council in making spatial planning decisions to inform the forthcoming Local Plan for the period up to 2030. To this end, the key objectives of the SFRA are to:

- Provide a policy context for flood risk management, in general terms, from which flood risk issues can be considered.
- Assess flood risk from all sources within the Ashford Borough, as well as risks to and from the surrounding areas in the same catchment;
- Enable ABC to make informed decisions on flood risk when appraising options within the Sustainability Appraisal process;
- Enable ABC to make informed decisions on flood risk when allocating sites using the risk-based Sequential Test;
- Provide guidance on flood risk issues in the preparation of strategic land use policies in the Local Plan;
- Enable ABC to determine the acceptability of flood risk in relation to emergency planning capabilities.

Key points/description:

On flood risk in Ashford Borough relevant to the Rother and Romney Catchment, it is reported that:

- The Rother and Romney Catchment is identified by a complex network of drains and there have been events recorded on Shirley Moor, Small Hythe and Rolvenden. Flooding from the Reading Sewer near Small Hythe Bridge and the Isle of Oxney has also been recorded.
- There are historic records of flooding in Hamstreet, situated at the confluence of the Spering Sewer and the Royal Military Canal and part of the Rother and Romney catchment. However, historical flooding at Hamstreet has been attributed to a combination of fluvial, surface water and groundwater sources.
- Many areas of the borough are also at risk from other sources of flooding, including ordinary watercourses, surface water, groundwater and sewers, which have caused problems in recent years.

Notes: The various maps displaying flood zone, depth, hazard maps etc. will likely be of particular use, as will Appendix C which provides Strategic Flood Risk Assessment summary sheets for individual sites – some of which fall in the Rother and Romney Catchment.

Link: <http://www.ashford.gov.uk/local-plan-2030-evidence-base>

Relevance: RR & RM

People Engagement

Report title: Battle and Brede Heritage Consultation Project Final Report

Author/Organisation: Hopkins Van Mil

Date: April 2013

Aim(s):

To develop an initial consultation strategy to inform the work on The Battle and Brede Landscape Partnership Scheme.

Key points/description:

In collaboration with the High Weald AONB Unit, Hopkins Van Mill designed and conducted 12 stakeholder representative telephone interviews, 4 telephone interviews with representatives of Parish Councils, issued a hard copy and online stakeholder consultation survey (88 responses); developed a stakeholder map; designed and facilitated a stakeholder workshop attended by 16 people and a smaller workshop attended by representatives of 4 Parish Councils; arranged for three drop in consultation sessions with young people (17 interviews), parents with young children (15 interviews), and a group of over 65s (5 representatives). The full list of those consulted is included in a stakeholder engagement map.

This report collates the findings from the whole consultation process undertaken in a six week time-frame to provide specific evidence for the difference the High Weald AONB Unit wishes to make through the LPS in terms of expressed outcomes for heritage, people and communities.

Notes: The findings presented in Section 5 (“Main Findings” pp.9-21), which collates the results of the various consultation processes (including the online “Survey Monkey Survey” described below), may be useful in informing the Rother Catchment Partnership about value about the High Weald portion of the Rother Catchment and what their aspirations are for its future.

Link: N/A

Relevance: RR

Report title: Survey Monkey Summary

Author/Organisation: Hopkins Van Mil

Date: May 2013

Aim(s):

To gather information from the public regarding their involvement with the area, their views on the area, what they value about the area, and what their vision is for the future of the area – all of which is designed to help develop an initial consultation strategy to inform the work on The Battle and Brede Landscape Partnership Scheme (see the “Battle and Brede Heritage Consultation Project Final Report” above).

Key points/description:

The report contains a list of all the questions that were answered as well as the answers that were given.

Notes: This is a useful and fairly comprehensive record of peoples’ thoughts on the Battle & Brede area.

Link: N/A

Relevance: RR

Report title: Battle and Brede Heritage Consultation Project Community Engagement Strategy

Author/Organisation: Hopkins Van Mil

Date: June 2013

Aim(s):

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- Develop a joint vision and objectives for learning, conservation and participation in the heritage of the area
 - Generate project ideas
 - Secure in principal community and stakeholder involvement in the Scheme's future development and delivery.

Key points/description:

This report was commissioned by the High Weald AONB Unit (and produced by Hopkins Van Mil in association with Resources for Change) to develop an initial consultation strategy to inform the work on The Battle and Brede Landscape Partnership Scheme. This was a large-scale, partnership project seeking to further learning, conservation and participation in the area's local heritage.

In February 2012 the High Weald AONB Unit submitted a Stage 1 application (Scheme outline) to the Heritage Lottery Fund's Landscape Partnership Scheme Programme with the ambition of securing a grant of £2 million towards delivery of a £2.8 million Scheme, subject to a successful development phase and Stage 2 submission. The Stage 1 bid was unsuccessful but, following positive discussions with the Heritage Lottery Fund, a resubmission was planned for May 2013.

This report forms part of the work that aimed to strengthen the Battle and Brede Landscape Partnership Scheme prior to resubmission. It was also designed inform the 2014 High Weald AONB Management Plan review.

Notes: The tips and suggestions on the community engagement process and brand building may be of use/relevance to the Rother Catchment Partnership's ongoing work.

Link: N/A

Relevance: RR

Report title: Landowner Projects Survey summary

Author/Organisation: Simon Aguss

Date: June 2013

Aim(s):

To find out what landowners are willing to do in terms of conservation and enhancement work on their land in the Brede Valley.

Key points/description:

This is an excel spreadsheet that records the results of a landowner consultation to find out what conservation and enhancement works they would like to undertake on their land.

Notes: Potentially useful reference for any work undertaken on land in the High Weald portion of the Rother Catchment.

Link: N/A

Relevance: RR

Report title: Have your say on the (Eastern) Rother Catchment Initial Catchment Consultation Summary

Author/Organisation: Chloe Sadler (Kent Wildlife Trust) in partnership with the High Weald AONB Unit, Environment Agency, and Sussex Wildlife Trust

Date: Spring 2014

Aim(s):

To capture the concerns, ideas and aspirations of all the people and organisations with an interest in the (Eastern) Rother catchment, with the goal of using these to help inform the production of a catchment plan for the area.

Key points/description:

The consultation identified the following key issues and potential solutions:

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- **Pollution:** the overall opinion was that sources of pollution within the catchment are wide ranging and include water treatment works at Tenterden and Burwash Common, saltwater intrusion from quarrying activities in Lydd, pesticides from farming activity, the presence of asbestos used for bank stabilisation in certain areas, and boats and other watercraft. Solutions suggested include action by water companies, catchment-scale partnership working, and education.
 - **Information availability and dissemination:** people generally felt there was no clear source of information relating to the catchment. Solutions suggested include effective partnership working at catchment scale and developing better ways of disseminating information to stakeholders.
 - **Presence of non-native invasive species and the disappearance of native species:** there was speculation that non-native invasive species (such as signal crayfish, American mink, zebra mussels and Himalayan balsam) could pose a considerable threat across the entire catchment without proper control – something which could contribute to the decline or disappearance of native species (e.g. the signal crayfish pushing out the native white-clawed species). Solutions suggested include an overall survey/audit of invasive species to enable a more joined-up approach to their removal, a survey of rare native species in the catchment to help target efforts, and education to help eradication efforts and reduce their spread.
 - **River channel management:** concerns were raised about the frequency of river channel management within the catchment, both in terms of vegetation and sediment. Solutions suggested include effective partnership working at a catchment scale and better dissemination of information so that information on management is readily available.
 - **Education and outreach:** general attitude that there has been a lack of educational outreach activities targeted at river users, particularly around illegal fishing activity and biosecurity. Solutions suggested include effective partnership working at a catchment scale and better dissemination of information, as well as better education.
 - **Land management:** collective view that various land management issues (e.g. river/ditch dredging, poaching of banks by grazing animals, and phosphate contamination from farm soils) could be impacting water quality in the catchment. Solutions suggested include advisory visits to landowners, grant schemes to incentivise landowners, and education targeted towards landowners.
 - **Access and recreation:** general support for better access to rivers and their banks balanced by recognition this could cause problems (e.g. dogs, litter, erosion, wildlife disturbance, and user conflicts) if unmanaged. Solutions suggested include promoting and investigating improved access to the catchment, promoting and investigating potential to link existing cycle routes in the catchment, and promoting the catchment as a place to for outdoor recreation.
 - **Other concerns raised include:** development, flooding, water management, history and heritage, and alterations to natural flow.

Notes: More detailed information about the consultees – as well as more detailed breakdown of how they responded to various questions about the catchment – is available in the appendices of this report.

Link: N/A

Relevance: RR & RM

General/Miscellaneous

Report title: National Character Area Profile: 123 Romney Marshes (NE499)

Author/Organisation: Natural England

Date: 2013

Aim(s):

NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain is designed to support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and encourage broader partnership working through Local Nature Partnerships. The profile also aims to help inform choices about how land is managed and can change.

Key points/description:

Each profile includes a description of the natural and cultural features that shape our landscapes, how the landscape has changed over time, the current key drivers for ongoing change, a broad analysis of each area's characteristics and ecosystem services, and a selection of "key facts and data" about its natural and human environment. Statements of Environmental Opportunity (SEOs) are suggested, which draw on this integrated information. The SEOs offer guidance on the critical issues, which could help to achieve sustainable growth and a more secure environmental future.

Notes: The "key facts and data" section is a particularly a useful source of overview information for each National Character Area.

Link: <http://publications.naturalengland.org.uk/publication/5701066775592960>

Relevance: RM

Report title: National Character Area Profile: 122 High Weald

Author/Organisation: Natural England

Date: 2013

Aim(s):

NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain is designed to support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and encourage broader partnership working through Local Nature Partnerships. The profile also aims to help inform choices about how land is managed and can change.

Key points/description:

Each profile includes a description of the natural and cultural features that shape our landscapes, how the landscape has changed over time, the current key drivers for ongoing change, a broad analysis of each area's characteristics and ecosystem services, and a selection of "key facts and data" about its natural and human environment. Statements of Environmental Opportunity (SEOs) are suggested, which draw on this integrated information. The SEOs offer guidance on the critical issues, which could help to achieve sustainable growth and a more secure environmental future.

Notes: The "key facts and data" section is a particularly a useful source of overview information for each National Character Area.

Link: <http://publications.naturalengland.org.uk/publication/4706903212949504?map=true>

Relevance: RR

Report title:

Author/Organisation: High Weald Joint Advisory Committee

Date: January 2013

Aim(s):

To facilitate the restoration and enhancement of the Marsh's built, natural and cultural heritage.

It will also raise awareness of this unique heritage among both local people and visitors, and create opportunities for training and employment using heritage as a conduit.

Key points/description:

The Scheme was focused on area is and focused on the Brede Valley and its Hinterland – an area of 196km². This focus has arisen from discussions with potential partners that indicate an enthusiasm for proactive partnership working to achieve heritage improvements within the area. The projects the Battle & Brede LPS hoped to deliver are detailed under headings including:

1. Training in traditional skills
2. Conserving and Enhancing the Built and Natural Features of the Area
3. Community Participation
4. Access and Learning

Notes: This document describes a project which was unsuccessful in gaining HLF funding. However, it produced a variety of research – much of which listed and described here – which should help inform the Rother Catchment Partnership in its production of the Eastern Rother Catchment Plan. It also provides a vision for applicable to the High Weald portion of the Eastern Rother Catchment which may be a great help in the production of the Rother Catchment Plan.

Link: N/A

Relevance: RM

Report title: The Romney Marsh ‘Fifth Continent’ Landscape Partnership Scheme – Summary of Stage 1 Application to Heritage Lottery Fund

Author/Organisation: Kent Wildlife Trust

Date: May 2014

Aim(s):

To facilitate the restoration and enhancement of the Marsh’s built, natural and cultural heritage. It will also raise awareness of this unique heritage among both local people and visitors, and create opportunities for training and employment using heritage as a conduit.

Key points/description:

The geographical area of interest is the land to the south and east of the Royal Military Canal. The eastern boundary stretches to West Hythe. The total area covered by the Scheme is 242km² of the Romney Marsh National Character Area. The Fifth Continent Scheme aims to deliver a suite of projects based around three themes. These are:

1. Restore (RS) - Facilitate the restoration, recreation and enhancement of the built and natural heritage of the area
2. Rediscover (RD) - Put the communities and people of the Marsh back at the centre of their landscape and heritage; enhance opportunities for visitors and locals alike
3. Reclaim (RC) - Develop opportunities for learning and skills development

Notes: This document describes a project which is yet to be delivered. There will likely be a profusion of research and evidence related documents produced as it progresses, many of which should help inform the Rother Catchment Partnership in its production of the Eastern Rother Catchment Plan. It also provides a vision for applicable to the Romney Marsh portion of the Eastern Rother Catchment which may be a great help in the production of the Rother Catchment Plan.

Link: N/A

Relevance: RM

Gaps in the Research

In light of the above synthesis, the following section attempts to identify some of the gaps in the research presently available on the River Rother and Romney Marsh.

Restoration & Management

In terms of research on river restoration and management there are a fair number of studies (five in total), the most recent of which (“River Brede: Modelling of Restoration Options” by Karen Fisher and Andy Pepper) was completed in December 2009; however, all the studies focus primarily on the Brede and Rother, and do not address management and restoration options on Romney Marsh, or investigate the potential for floodplain and river restoration on the Tillingham and Eastern Rother. These, therefore, represent areas of potentially useful future research. Although it should be noted any investigation of options on Romney Marsh and Pett levels needs to take into account the very real threat of saline intrusion and coastal inundation through sea level rise and storm surges.

In addition, another area of potentially fruitful research would involve the mapping of “landscape restoration and management” options rather than just those relating to rivers. This would enable the connections to be made between ecological networks and encourage the treatment of the whole catchment as a “living landscape”, rather than simply a series of separate habitats/components.

Water Quality

Research reports dealing specifically with water quality seem to be few and far between. However, this is primarily because this information is held in the form of rather technical data by the Environment Agency – data which can be accessed in the form of water body summary sheets, on their online mapping tool (<http://environment.data.gov.uk/catchment-planning/>), or upon request.

There is also no detailed mapping of the hydrology of each river catchment (spring and groundwater sources, flow routes, etc.) which could help inform water and flood management plans. Such mapping would be useful particularly on Romney Marsh.

Biodiversity

There are a total 21 studies and websites listed here relating to biodiversity in the Rother Catchment. Most relate more to the River Rother (nine in total) with only two exclusively focused on Romney Marsh. The remaining five are jointly focused; although there none of the studies appear to explicitly draw any ecological linkages between Romney Marsh and the Eastern Rother. This could therefore represent a useful focus area for any future biodiversity research work.

Other potentially useful areas of future research focus might include: 1) landscape scale conservation, using ecological networks to create visions for functioning and healthy landscapes for people and wildlife; 2) detailed NVC surveys of any of the floodplain land use and habitats across the Rother, Tillingham, Brede or Romney Marsh; 3) more in depth fish surveys throughout the catchment; 4) more information about the distribution of invasive species, particularly aquatic plants (i-record – an easy-to-use map based online tool which local people can use to map their local biodiversity, see: <http://www.brc.ac.uk/irecord/> – could be useful here).

Geology

There appears to be very little research specifically on the geology of the area; indeed, the only resources identified were the SSSI Citation Hastings Cliffs to Pett Beach (which related equally to the biodiversity of the area and is therefore also included in the biodiversity section) and the publicly accessible Local Geological Sites database listed on the Sussex Geodiversity Partnership's website.

History & Archaeology

The history and archaeology section is the second largest (after biodiversity) with a total of 20 studies and websites listed. Interestingly, this section seems to have the greatest degree of synthesis, with 10 studies dealing with both the Eastern Rother and Romney Marsh in conjunction with one another; although a number of these "crossover" studies actually comprise collections of papers dealing with topics usually relating to specific locations – locations which are typically biased towards Romney Marsh.

Indeed, thanks to the Romney Marsh a large amount of historical and archaeological – as well as some palaeoenvironmental – research has been conducted in the area, as well as a number of studies in the Eastern Rother, particularly at key historical sites like Bodiam. Consequently, there seems to exist an opportunity to tell a more coherent historical and archaeological story of the region if this research were to be comprehensively pulled together.

Flood Risk & Climate Change

There are a total of 8 reports dealing explicitly with flood risk and climate change. The most recent study is the July 2014 report "Ashford Borough Council – Strategic Flood Risk Assessment" by JBA Consulting (for Ashford Borough Council).

More work in this area would seem to be priority given that any future climate change – which would in turn lead to changes in hydrological regime and therefore flood risk – is likely to impact all the other areas of research covered in this document.

It is also worth noting that there are studies going on in other places, such as Pont Bren – see: <http://www.coedcymru.org.uk/images/user/5472%20Pontbren%20CS%20v12.pdf> – and the Trees on the River Uck project (now Sussex Flow Initiative) – see: <http://www.treesontheriveruck.org.uk/> – which are helping to work with nature at a catchment scale to reduce flooding. These represent examples of good practice that the Rother Catchment Partnership could follow.

People Engagement

In terms of people engagement there is a clear paucity of research with only one document in this category being the one explicitly produced to inform this project. Although the report provides some useful insight into people's concerns over what they see as the main issues in the Rother Catchment, as well as their proposed solutions, there is no doubt that work on public engagement could be broadened and expanded in the future.