

FINAL

# BATH & NORTH WEST SOMERSET LOCAL FLOOD RISK MANAGEMENT STRATEGY HABITATS REGULATION ASSESSMENT

B&V PROJECT NO. 122434  
B&V FILE NO. 00

PREPARED FOR

**Bath & North East  
Somerset Council**

12 NOVEMBER 2015



**BLACK & VEATCH**  
Building a **world** of difference.®

**Reviewed by:**



Vicky Lutyens

11<sup>th</sup> November 2015

**Approved by:**



**Signature**

Jim Collings

**Printed Name**

20<sup>th</sup> November 2015

**Date**

## Table of Contents

<b>1.0</b>	<b>Introduction to the Local Flood Risk Management Strategy .....</b>	<b>1</b>
<b>2.0</b>	<b>Requirement for HRA .....</b>	<b>1</b>
<b>3.0</b>	<b>Outline of the HRA Process .....</b>	<b>2</b>
<b>4.0</b>	<b>HRA Screening Methodology .....</b>	<b>3</b>
<b>5.0</b>	<b>Role of Authorities .....</b>	<b>4</b>
<b>6.0</b>	<b>Screening the Bath &amp; North East Somerset Local Flood Risk Management Strategy .....</b>	<b>5</b>
<b>7.0</b>	<b>Summary .....</b>	<b>13</b>

## 1.0 Introduction to the Local Flood Risk Management Strategy

- 1.1 Flood risk is managed by a range of Risk Management Authorities<sup>1</sup> as defined in the Flood and Water Management Act 2010.
- 1.2 The statutory Bath & North East Somerset Local Flood Risk Management Strategy sets out how Bath & North East Somerset Council as the Lead Local Flood Authority will, in partnership with other Flood Risk Management Authorities, carry out roles and responsibilities under the Flood and Water Management Act 2010.
- 1.3 The Local Flood Risk Management Strategy focuses on 'local' sources of flood risk which include surface water run-off, groundwater and ordinary water courses.
- 1.4 The Local Flood Risk Management Strategy will remain live for a 10 year period to 2025, after which it will be reviewed and updated where necessary. A mid-term update of the Local Flood Risk Management Strategy will take place after five years, in 2020, to check progress against the Strategy objectives and update the document where required. The update of the Local Flood Risk Management Strategy in 2020 will be reviewed by the Flood Risk Scrutiny Panel.

## 2.0 Requirement for HRA

- 2.1 Article 6 of EU 'Habitats Directive' on the conservation of natural habitats and of wild fauna and flora (Council Directive 92/43/EEC) states:
  - *'Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives.....*
  - *.... competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the public'.*
- 2.2 The Conservation of Habitats and Species Regulations 2010 (the 'Conservation Regulations') transpose the Habitats Directive into national law in England and Wales. Regulations 102 to 105 require planning authorities to assess the potential effects of plans on European Sites.
- 2.3 Habitats Regulations Assessment (HRA) is the process by which the requirements of the Habitats Directive are implemented, and ensures that plans or projects will not adversely affect European Sites.

---

<sup>1</sup> Risk Management Authorities covered by the Local Flood Risk Management Strategy are: Somerset County Council, all district councils, Environment Agency, South West Water, Somerset Internal Drainage Board and the Highways Agency.

- 2.4 **European Sites** - Reference in this report to ‘European sites<sup>2</sup>’ should be taken to include the following:
- a) **Special Areas of Conservation** (SACs) for habitats and species designated through the EU Habitats Directive;
  - b) **Special Protection Areas** (SPAs) for the protection of wild birds and their habitats designated through the EU Birds Directive;
  - c) **Ramsar** sites, identified through the Convention on Wetlands of International Importance; and
  - d) Sites that are being considered for designation, referred to as Sites of Community Interest, candidate SACs or proposed SPAs.
- 2.5 SACs on land or freshwater areas are underpinned by notification as Sites of Special Scientific Interest (SSSI) designated by Natural England. HRA relates specifically and exclusively to the qualifying interests of international sites and not to the broader conservation interests or requirements under SSSIs. However, conserving and enhancing SSSIs that underpin international designations is likely to assist the conservation and enhancement of the international designations themselves. The condition status of SSSIs can also help to understand the ecological status of the international sites of which they may form a part.

### 3.0 Outline of the HRA Process

- 3.1 HRA is an assessment of the impacts of a proposed plan in combination with other plans or projects on one or more internationally designated sites. The screening stage of HRA is used to determine if a ‘likely significant effect’ will impact on the integrity of an international site. This report details the result of the screening stage of the HRA of the Bath & North East Somerset Local Flood Risk Management Strategy.
- 3.2 If likely significant effects are predicted in the screening stage, the second stage (the Appropriate Assessment) needs to provide a statement that says whether the plan does or does not adversely affect the integrity of an international site. Where it is not possible to conclude that no adverse effects will occur, having considered potential alterations to the plan and investigated alternative solutions, exceptional circumstances can be considered. However, it would have to be demonstrated that
- i. there were no alternative solutions and;
  - ii. there were imperative reasons of overriding public interest.
- 3.3 The process is sequential and if the screening stage concludes that the plan will have no likely significant effects on European sites it is not necessary to undertake appropriate assessment.

---

<sup>2</sup> It should be noted that ‘European Sites’ are also sometimes termed ‘Natura 2000’ sites

## 4.0 HRA Screening Methodology

4.1 There is no specific guidance relating to the HRA of flood risk management strategies. The methodology developed for the HRA screening is therefore based upon the following regulations and guidance documents:

- *Conservation of Habitats and Species (Amendment) Regulations 2012* (the ‘Habitat Regulations’).
- *The Habitats Regulations Assessment of Local Development Documents. Final Draft Guidance* (Natural England 2009).
- *Assessment of plans and projects significantly affecting Natura 2000 sites* (European Commission, 2001).
- *Planning for the Protection of European Sites: Guidance for Regional Spatial Strategies and Local Development Documents* (Department for Communities and Local Government, 2006).

4.2 The HRA Screening has been undertaken using the following steps described below and is based on the requirements set out by Natural England (2009).

**Step 1** - List any international sites within, adjacent to or associated with the area that the strategy covers. Review the site(s)’ qualifying interest features and conservation objectives. The significance of a plan’s effects on an international site depends on whether the “integrity” of the site is affected. Article 6(3) of the Habitats Directive requires that: “the competent national authorities shall agree to the plan... only after having ascertained that it will not adversely affect the integrity of the site concerned...”. To determine what is meant by the “integrity” of the site, it is important to discover why the site was designated, i.e. identify the qualifying interest features. These features are listed in Annex I (habitats) and Annex II (species) of the Habitats Directive. The integrity<sup>3</sup> of a site relies on the maintenance of an environment which will sustain its qualifying features and ensure their continuing viability. Conservation objectives are a statement of the overall nature conservation requirements for a site, expressed in terms of the favourable condition required for the habitats and/or species for which the site was selected.

**Step 2** Determine whether the strategy is directly connected with or necessary to the management of the international site(s).

**Step 3** Identify and discount all principal elements of the strategy that will have no significant impact on the international site(s) (including direct indirect and secondary impacts).

**Step 4** Identify any ‘in combination’ effects of the strategy with other plans and projects (including direct indirect and secondary impacts) i.e. the cumulative effect of influences of all the plans and projects on the site(s)’ conditions required to maintain integrity.

**Step 5** Identify elements of the strategy that may have a significant impact (including direct indirect and secondary impacts) to take through to the Appropriate Assessment if thought to be necessary.

<sup>3</sup> Site integrity is defined as being the coherence of its ecological structure and function across its whole area which enables it to sustain the habitats, complex of habitats and/or population levels of the species for which it was classified (or designated). (Paragraph 20, ODPM Circular 06/2005 on Biodiversity and Geological Conservation).

## 5.0 Role of Authorities

5.1 In the case of the Local Flood Risk Management Strategy, the plan-making authority, Bath & North East Somerset Council, takes the role of Competent Authority for the purposes of the Habitats Regulations. Competent Authorities are responsible for:

- i. making an assessment before deciding to undertake, or give any consent, permission or other authorisation for a plan or project likely to have a significant effect on an international site, either alone or in combination with other plans and projects;
- ii. for the purposes of the assessment, consulting the appropriate nature conservation body and having regard to its representations; and
- iii. ensuring that if there is a negative assessment of a plan or project, agreement to that plan or programme is only given if there are no alternative solutions, it must be carried out for imperative reasons of over-riding public interest, and any compensatory measures that may be required are secured.

5.2 Natural England implements, on behalf of the Government, international conventions and EC Directives on nature conservation. Regulation 61 of the Habitats Regulations states that if Natural England advises that a plan or project is likely to have a significant effect on an international site, it must be subject to Appropriate Assessment by a Competent Authority. The Habitats Regulations imply that the competent authority can agree if the strategy is likely to have significant effects, but it cannot 'give effect' to the strategy until an Appropriate Assessment has been carried out and determined that it will not adversely affect the integrity of the international site. Natural England can

- i. provide advice on whether plans and programmes are likely to have a significant effect (either alone or in combination with other plans and projects) when requested to do so;
- ii. advise Competent Authorities whether a plan or programme is necessary for the management of the site;
- iii. comment on Appropriate Assessments;
- iv. provide advice on the ecological requirements of any compensatory measures; and
- v. provide advice on the suitability of any proposed compensatory measures.

5.3 The Secretary of State is responsible for:

- i. securing any necessary compensatory measures to ensure that the overall coherence of Natura 2000 is protected;
- ii. confirming that any compensatory measures are sufficient to maintain the coherence of Natura 2000;
- iii. informing the Commission of the measures adopted; and
- iv. directing the plan-making authority not to give effect to a plan that may have an adverse affect on site integrity.

## 6.0 Screening the Bath & North East Somerset Local Flood Risk Management Strategy

6.1 The process outlined in paragraph 4.2 has been applied and the outcomes are outlined below.

6.2 Step 1: **Collation of information on international sites**

Three European Sites are present within the jurisdiction of Bath & North East Somerset and could be affected by some of the actions defined in the Local Flood Risk Management Strategy. These are:

- Bath and Bradford on Avon Special Area of Conservation (SAC) – significant parts of this site are within the Bath & North East Somerset area.
- Chew Valley Lake Special Protection Area (SPA) – the site is wholly within the Bath & North East Somerset areas.
- North Somerset and Mendip Bats SAC – one site is in the south west of the Bath & North East Somerset area by Compton Martin.

The interest features for these sites designated are provided in Annex 1, Table A1.

A review of all internationally designated sites adjacent to the Bath & North East Somerset area was undertaken to identify sites which could be impacted by the proposals within the Local Flood Risk Management Strategy. A small section of the SSSI Impact Risk Zone for the Mells Valley SAC is also within the Bath & North East Somerset authority area in the south west and therefore any proposed actions within this zone could lead to effects on this site. No other sites are likely to have significant effects following the implementation of the Local Flood Risk Management Strategy. All sites considered in the review are provided in Annex 1, Tables A1 and A2.

A review of the potential vulnerabilities / issues from the implementation of the Local Flood Risk Management Strategy on the four sites identified is provided in Table 6.1.

**Table 6.1 Vulnerabilities / Issues on European Sites which could be affected by the implementation of the Local Flood Risk Management Strategy**

Name	Site sensitivity	Site Vulnerabilities/Issues
Bath and Bradford on Avon Bats SAC	Important hibernation sites for greater horseshoe bat ( <i>Rhinolophus ferrumequinum</i> ) and, Bechsteins bat ( <i>Myotis bechsteini</i> )	Bats are mobile species and therefore there will be effects outside of the SAC boundary at any type and scale of development site e.g. at locations of summer roosts, loss of feeding resources in key foraging areas.
North Somerset and Mendip Bats SAC	Only the Compton Mine Orcre Mine is within the Bath & North East Somerset Unitary Authority area. The mines are hibernation sites for Greater Horseshoe Bats but, according to the SSSI citation the site does not appear to contain any other interest feature for the SAC (e.g. Tilio-Acerion forests of slopes, screes and ravines)  Lesser horseshoes and great horseshoes using the maternity and hibernation sites in the Somerset County sections of the SAC are likely to utilise foraging and commuting habitats within the Bath & North East Somerset area.	Bats are mobile species and therefore there will be effects within and outside of the SAC boundary at any type and scale of development site.  Any projects proposed within the Compton Mine Orcre site included in the SAC boundary could affect terrestrial interest features however, they are unlikely to be present.
Chew Valley Lake SPA	Important wintering habitat for Northern shoveler ( <i>Anas clypeata</i> )	Direct habitat loss or degradation from any changes in water abstraction, water quality, water depth and acid and nitrate deposition in important wetland areas.  There is the potential for disturbance effects and loss of habitat within the SPA boundary on Northern Shoveler if projects occur within the SPA boundary or nearby.
Mells Valley SAC	Provides a maternity site site for 12% of the UK greater horseshoe bat population. Bats also hibernate in the site.	Bats are mobile species and therefore there will be effects outside of the SAC boundary at any type and scale of development site.

**6.3 Step 2: Is the strategy connected to the management of the international sites**

The Local Flood Risk Management Strategy is not directly connected to the management of the international sites.

#### 6.4 Step 3: **Identify and discount elements of the strategy which will have no significant impact**

Table 6.2 analyses the actions provided in the Local Flood Risk Management Strategy to achieve the objectives to show where no significant effects on sites are predicted from the actions. The analysis shows that the majority of the actions proposed within the Local Flood Risk Management Strategy will not lead to a significant impact upon European sites and therefore these can be screened out of the next stages of the HRA.

The following actions proposed within the Local Flood Risk Management Strategy which could result in likely significant effects have been screened in:

- Deliver the actions in the Bath & North East Somerset Surface Water Management Plan
- Identify catchments where improved land management could reduce flood risk and/or improve the wider environment
- Identify critical highway drainage assets, in order to undertake targeted maintenance and respond to issues as the Local Highways Authority
- Prioritise maintenance and clearance works to culverts and watercourses
- Evaluate flood reports to identify where drainage improvements or other mitigation works are possible

#### 6.5 Step 4: **Identify in-combination effects**

The relevant strategic plans (and associated projects) which could give rise to potential in-combination effects are:

- South West River Basin Management Plan (2009)
- The National Flood and Coastal Erosion Risk Management Strategy for England (2011)
- Biodiversity 2020: A Strategy for England's wildlife and Ecosystem Services
- Water for People and the Environment: Water Resources Strategy for England and Wales
- Future Water, the Government's Water Strategy for England (2008)
- Bath & North East Somerset Green Infrastructure Strategy
- District and Unitary Local Plans
- South West River Basin Management Plan
- Bath & North East Somerset Strategic Surface Water Management Plan
- South West Water Integrated Urban Drainage Studies

Although there is a lack of detail on how these actions will be implemented on the ground it is clear from a review of the aims of the proposals that the projects resulting from the actions screened in for further assessment are unlikely to be of a large scale. Where required, the projects proposed will be subject to an Environmental Impact Assessment where impacts will be identified and mitigation measures implemented to result in no residual impacts. As a result it is highly unlikely that there will be any in-combination effects from the implementation of the actions in the Local Flood Risk Management Strategy and the plans listed above.

**Table 6.2 Screening the Local Flood Risk Management Strategy Actions to establish whether a Likely Significant Effect on a European site could result from their implementation. Actions indicated in bold italics could lead to an impact on European Sites and require further assessment.**

Objective	Action Ref	Action	Could there be an impact on a European site	Conclusion
1 - Improve understanding of local flood risk	1a	Complete a regional Surface Water Management Plan	No – the plan is complete. Any actions which were identified will be delivered as part of a separate Local Flood Risk Management Strategy Action to achieve Objective 3 (see below).	Screened out – No Likely Significant Effect.
	1b	Continue to develop an updated flood reporting system	None – Does not in itself identify projects	Screened out - No Likely Significant Effect.
	1c	Improve the use of visual tools (e.g. GIS) to record and analyse flooding incidents	None – Does not in itself identify projects	Screened out - No Likely Significant Effect.
	1d	Continue to complete investigations of flood incidents, where the appropriate criteria is met	No – This is an investigatory action and does not identify projects.	Screened out - No Likely Significant Effect.
	1e	Ensure that appropriate data on flooding is shared between organisations, and between organisations and communities	None – Does not in itself identify projects	Screened out - No Likely Significant Effect
2 - Promote community awareness and build capability for appropriate action	2a	Establish clearer routes for communicating with communities and businesses about the roles and responsibilities for flood risk	None – Does not in itself identify projects	Screened out - No Likely Significant Effect
	2b	Help communities understand their own flood risk and their responsibilities for managing flooding	None – Does not in itself identify projects	Screened out - No Likely Significant Effect
	2c	Raise awareness of land drainage and riparian responsibilities	None – Does not in itself identify projects	Screened out - No Likely Significant Effect

Objective	Action Ref	Action	Could there be an impact on a European site	Conclusion
	2d	Develop a network of Local Flood Representatives to act as a point of contact in the community on flooding issues, including in areas with transient populations	None – Does not in itself identify projects	Screened out - No Likely Significant Effect
	2e	Ensure communities know what to do in the event of a flood,, including in areas with transient populations	None – Does not in itself identify projects	Screened out - No Likely Significant Effect
3- Manage local flood risk through capital and maintenance investment.	3a	Continue to work with partners, including adjacent authorities, to develop long term approaches to manage flood risk	None – Does not in itself identify projects	Screened out - No Likely Significant Effect
	<b>3b</b>	<b><i>Deliver the actions in the Bath &amp; North East Somerset Surface Water Management Plan</i></b>	<b><i>Yes – the actions could identify engineering projects which could have an impact.</i></b>	<b><i>Potential need to screen in for future assessment due to potential for Likely Significant Effect.</i></b>
	3c	Continue to develop a register of assets which significantly affect local flood risk	None – Does not in itself identify projects.	Screened out - No Likely Significant Effect
	3d	Designate structures that effect local flood risk, to protect them from alteration or removal	None – Does not in itself identify projects.	Screened out - No Likely Significant Effect
	3e	Continue to assess applications for works on ordinary watercourses, through the land drainage consent process.	None – Does not in itself identify projects.	Screened out - No Likely Significant Effect
	<b>3f</b>	<b><i>Identify catchments where improved land management could reduce flood risk and/or improve the wider environment</i></b>	<b><i>Yes – if improved land management is deemed as preferable in order to reduce flood risk or improve the water environment, suitable schemes will be progressed / promoted which could lead to impacts.</i></b>	<b><i>Potential need to screen in for future assessment due to potential for Likely Significant Effect.</i></b>

Objective	Action Ref	Action	Could there be an impact on a European site	Conclusion
3- Manage local flood risk through capital and maintenance investment continued	3g	<i>Identify critical highway drainage assets, in order to undertake targeted maintenance and respond to issues as the Local Highways Authority</i>	<i>Yes - a revised maintenance programme will be prepared which will involve replacing / improving critical assets</i>	<i>Potential need to screen in for future assessment due to potential for Likely Significant Effect.</i>
	3h	<i>Prioritise maintenance and clearance works to culverts and watercourses</i>	<i>Yes - a revised maintenance programme will be prepared which will involve replacing / improving critical assets</i>	<i>Potential need to screen in for future assessment due to potential for Likely Significant Effect.</i>
	3i	<i>Evaluate flood reports to identify where drainage improvements or other mitigation works are possible</i>	<i>Yes – drainage improvement projects resulting from the evaluation could lead to impacts</i>	<i>Potential need to screen in for future assessment due to potential for Likely Significant Effect.</i>
4 - Prevent inappropriate development that creates or increases flood risk.	4a	Continue to review planning applications to make recommendations for surface water drainage and managing flood risk	None – Does not in itself identify projects	Screened out - No Likely Significant Effect
	4b	Publish the West of England Sustainable Drainage Systems Guidance for developers, and work across the West of England to co-ordinate sustainable drainage system implementation	None – Does not in itself identify projects	Screened out - No Likely Significant Effect
	4c	Include SuDS planning policy within the Council's Placemaking Plan/ Core Strategy	None – Does not in itself identify projects	Screened out - No Likely Significant Effect
	4d	Continue to provide guidance at the pre-application stage on flooding issues	None – Does not in itself identify projects	Screened out - No Likely Significant Effect
	4e	Consider the need for additional planning guidance on flooding specific to Bath & North East Somerset	None – Does not in itself identify projects	Screened out - No Likely Significant Effect
	4f	Identify areas that are sensitive to surface water flood risk and develop appropriate surface water drainage and flood risk requirements for any proposed development in these areas	None – Does not in itself identify projects	Screened out - No Likely Significant Effect

Objective	Action Ref	Action	Could there be an impact on a European site	Conclusion
5- Improve flood preparedness, warning and ability to recover.	5a	Help develop a multi-agency flood plan for high risk areas in Bath & North East Somerset	Yes – plan will result in projects which could lead to an impact	<b><i>Potential need to screen in for future assessment due to potential for Likely Significant Effect.</i></b>
	5b	Communicate information to communities, businesses and individuals on flood preparedness and recovery	None – Does not in itself identify projects	Screened out - No Likely Significant Effect
	5c	Promote uptake of the Environment Agency’s Floodline Warnings Direct service	None - Relates to emergency plans / warning systems.	Screened out - No Likely Significant Effect.
	5d	Improve warnings and proactive mitigation in response to predicted rainfall	None - Relates to emergency plans / warning systems.	Screened out - No Likely Significant Effect.

## 6.6 Step 5 Identification of potentially significant impacts that may need to be taken through to Appropriate Assessment

The Strategy Action Plan given in Section 5 of the Local Flood Risk Management Plan is a 'live' document. There is a lack of certainty in terms of how the actions will be implemented on the ground. **It is therefore not possible to undertake an Appropriate Assessment of the likely significant impacts on European Sites at this stage.**

Once the projects resulting from the implementation of the Local Flood Risk Management Strategy are defined at project design stage, those that are planned in proximity to European Sites (using the HRA Alert Maps produced by the Bath & North East Somerset Council's Ecology Team) may need to be screened on the potential for significant effects upon the interest features of these. In addition, where projects have potential for wider significant effects by virtue of their size, location or characteristics, a statutory Environmental Impact Assessment may be required.

The projects implemented within the Local Flood Risk Management Strategy are likely to be small scale engineering works, where mitigation measures will be easily achievable to prevent potential impacts such as habitat loss or pollution effects integral to the functionality of the European Site. A set of principles have been developed in agreement with Natural England to ensure that there are no likely significant effects on bats using the Bradford on Avon Bat SAC and North Somerset and Mendip Bat SAC from engineering projects arising from the Local Flood Risk Management Strategy:

- All projects will consider what structures or assets may be affected (disturbed, altered or removed). Consultation with the Bath & North East Somerset Ecologist or Natural England will occur if the structures or assets have the potential to house roosting bats. Works may need to be scheduled to avoid the times of year when bats are using the asset.
- Every engineering project will consider what vegetation will need to be removed. Once known consultation with the Bath & North East Somerset Ecologist or Natural England will occur if the vegetation could be of value to bats so that mitigation measures can be employed (e.g. mature trees or shrubs adjacent to a water course or adjacent to an asset or structure which may be used by bats for roosting or sections of mature trees or shrubs which form a linear feature so that there will be a gap in the linear feature following their removal).

During the consultation exercise on this Habitats Regulation Assessment, Natural England it accepted that Step 5 cannot be completed at this stage. Natural England recommended that the types of actions which may have the potential to affect the interest features of the European sites be listed in the report, so that these can be quickly identified for specific activities within the Action Plan as it is implemented. These actions have been reviewed and are likely to be as follows:

- removal of commuting or foraging habitats for the SAC bats (i.e. greater horseshoe, Bechstein's and lesser horseshoe bats);

- removal or disturbance of features or assets used by SAC bats for roosting;
- lighting impacts to SAC bats if engineering projects are carried out at night or at dusk;
- habitat loss leading to a loss in the available foraging areas for SAC bats and the Chew Valley Lake Northern Shoveler populations; and
- changes to Chew Valley Lake SPA through alterations in water abstraction processes, negative water quality changes, modifications in the depth of the lake and acid and nitrate deposition in important wetland areas which support the bird populations of the SPA.

## 7.0 Summary

- 7.1 The report aims to provide a summary of the European Sites that could potentially be affected by the Bath & North East Somerset Local Flood Risk Management Strategy and ways in which they could be affected.
- 7.2 Only five of the 29 proposed actions of the Local Flood Risk Management Strategy have been identified to potentially cause a significant impact on European Sites. These are:
- Deliver the actions in the regional Surface Water Management Plan
  - Identify catchments where improved land management could reduce flood risk and/or improve the wider environment
  - Identify critical highway drainage assets, in order to undertake targeted maintenance and respond to issues as the Local Highways Authority
  - Prioritise maintenance and clearance works to culverts and watercourses
  - Evaluate flood reports to identify where drainage improvements or other mitigation works are possible
- 7.3 Further HRA screening of the actions implemented through the Local Flood Risk Management Strategy may be required at project design stage once the details of any projects are better understood. The screening will identify whether significant effects upon the interest features of European Sites are likely and, therefore whether an Appropriate Assessment is required.

## Appendix A. Annex 1

**Table A1 List of European Sites within the Bath and North East Somerset Unitary Authority area**

Name	Designation	Qualifying Interest Feature
Bath and Bradford on Avon Bats	SAC	Greater Horseshoe bat ( <i>Rhinolophus ferrumequinum</i> ) (1304) Bechsteins bat ( <i>Myotis bechsteini</i> ) (1323) Lesser Horseshoe bat ( <i>Rhinolophus hipposideros</i> ) (1303)
North Somerset and Mendip Bats	SAC	Semi-natural dry grasslands and shrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (6210) Tilio-Acerion forests of slopes, screes and ravines (9180) Caves not open to the public (8310) Lesser Horseshoe bat ( <i>Rhinolophus hipposideros</i> ) (1303) Greater Horseshoe bat ( <i>Rhinolophus ferrumequinum</i> ) (1304)
Chew Valley Lake	SPA	This site qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species Over winter: Northern Shoveler ( <i>Anas clypeata</i> ) - 503 individuals representing up to 1.3% of the wintering Northwestern/Central Europe population (5 year peak mean 1991/2 - 1995/6)

**Table A2 List of International Sites in adjacent counties/unitary authorities:-**

Name	Designation	Qualifying Interest Feature
South Gloucestershire (Unitary Authority)	Severn Estuary SAC	Estuaries (1130) Mudflats and Sandflats (1140) Atlantic Salt Meadows ( <i>Glauco-Puccinellietalia maritimae</i> ) (1330) Sandbanks which are slightly covered by seawater all the time (1110) Reefs (1170) Sea Lamprey ( <i>Petromyzon marinus</i> ) (1095) River Lamprey ( <i>Lampetra fluviatilis</i> ) (1099) Twaite Shad ( <i>Alosa fallax</i> ) (1103)
	Severn Estuary SPA and Ramsar Site	This site qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species: Over winter: 84317 waterfowl (5 year peak mean 01/04/1998) including: Including: <i>Cygnus columbianus bewickii</i> , <i>Anser albifrons</i> , <i>Tadorna tadorna</i> , <i>Anas strepera</i> , <i>Calidris alpina</i> , <i>Tringa totanus</i> .
City of Bristol (Unitary Authority)	Avon Gorge Woodlands SAC	<i>Tilio-Acerion</i> forests of slopes, screes and ravines (9180) Semi-natural dry grasslands and shrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (6210)
Wiltshire	North Meadow and Clattinger Farm SAC	Lowland hay meadows ( <i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i> ) (6510)
	Great Yews SAC	<i>Taxus baccata</i> woods of the British Isles (91J0)
	Kennet & Lambourn Flood Plain SAC	Desmoulin`s whorl snail ( <i>Vertigo moulinsiana</i> ) (1016)

Name	Designation	Qualifying Interest Feature
Wiltshire <i>Continued</i>	Pewsey Downs SAC	Semi-natural dry grasslands and shrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (6210) Early gentian ( <i>Gentianella anglica</i> ) (1654)
	Prescombe Down SAC	Semi-natural dry grasslands and shrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (6210) Early gentian ( <i>Gentianella anglica</i> ) (1654) Marsh fritillary butterfly <i>Euphydryas</i> ( <i>Eurodryas</i> , <i>Hypodryas</i> ) <i>aurinia</i> (1065)
	Salisbury Plain SAC	<i>Juniperus communis</i> formations on heaths or calcareous grasslands (5130) Semi-natural dry grasslands and shrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (6210) Marsh fritillary butterfly <i>Euphydryas</i> ( <i>Eurodryas</i> , <i>Hypodryas</i> ) <i>aurinia</i> (1065)
	Salisbury Plain SPA	This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive: During breeding season: Stone Curlew <i>Burhinus oedicephalus</i> , 22 pairs representing at least 11.6% of the breeding population in Great Britain (Count as at 1998). Over winter: Hen Harrier <i>Circus cyaneus</i> , 14 individuals representing at least 1.9% of the wintering population in Great Britain (RSPB 1996/7).
	Chilmark Quarries SAC	Greater Horseshoe bat ( <i>Rhinolophus ferrumequinum</i> ) (1304) Barbastelle ( <i>Barbastella barbastellus</i> ) (1308) Bechsteins bat ( <i>Myotis bechsteini</i> ) (1323)
	The New Forest SPA -	This site qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species: During the breeding season: Eurasian Hobby ( <i>Falco Subbuteo</i> ), representing 5% of the population in Great Britain (no count period specified). Wood Warbler ( <i>Phylloscopus sibilatrix</i> ), representing at least 2% of the population in Great Britain (no count period specified)

Name	Designation	Qualifying Interest Feature
Wiltshire <i>Continued</i>	River Avon SAC	Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation (3260) Desmoulin`s whorl snail ( <i>Vertigo moulinsiana</i> ) (1016) Sea Lamprey ( <i>Petromyzon marinus</i> ) (1095) Brook lamprey ( <i>Lampetra planeri</i> ) (1096) Atlantic salmon ( <i>Salmo salar</i> ) (1106) Bullhead ( <i>Cottus gobio</i> ) (1163)
	Porton Down SPA	This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive during the breeding season: Stone Curlew <i>Burhinus oedicephalus</i> , representing 10.6% of the GB breeding population (5 year mean, 1995-1999).
	The New Forest SAC	Oligotrophic waters containing very few minerals of sandy plains ( <i>Littorelletalia uniflorae</i> ) (3110) Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the Isoëto-Nanojuncetea (3130) Northern Atlantic wet heaths with <i>Erica tetralix</i> (4010) European dry heaths (4030) Molinia meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinion caeruleae</i> ) (6410) Depressions on peat substrates of the <i>Rhynchosporion</i> (7150) Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer ( <i>Quercion robori-petraeae</i> or <i>Ilici-Fagenion</i> ) (9120) <i>Asperulo-Fagetum</i> beech forests (9130) Old acidophilous oak woods with <i>Quercus robur</i> on sandy plains (9190) Bog woodland (91D0) Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> ) (91E0) Transition mires and quaking bogs (7140) Alkaline fens (7230) Southern damselfly ( <i>Coenagrion mercurial</i> ) (1044) Stag beetle ( <i>Lucanus cervus</i> ) (1083) Great Crested newt ( <i>Triturus cristatus</i> ) (1166)

Name	Designation	Qualifying Interest Feature
Somerset	Somerset Levels & Moors SPA and Ramsar Site	This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive: Over winter: Bewick’s Swan ( <i>Cygnus columbianus bewickii</i> ), representing 2.7% of the GB population (5 year peak mean 1991/92-1995/96) European Golden Plover ( <i>Pluvialis apricaria</i> ), representing 1.2% of the GB population (5 year peak mean 1991/92-1995/96)
	Mendip Limestone Grasslands SAC	European dry heaths (4030) Caves not open to the public (8310) Tilio-Acerion forests of slopes, screes and ravines (9180) Greater Horseshoe bat ( <i>Rhinolophus ferrumequinum</i> ) (1304)
	Mendip Woodlands SAC	Tilio-Acerion forests of slopes, screes and ravines (9180)
	Holme Moor & Clean Moor SAC	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> (7210) Alkaline fens (7230) Molinia meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinion caeruleae</i> ) (6410)
	Quants SAC	Marsh fritillary butterfly <i>Euphydryas (Eurodryas, Hypodryas) aurinia</i> (1065)
	Hestercombe House SAC	Lesser Horseshoe bat ( <i>Rhinolophus hipposideros</i> )
	North Somerset & Mendip Bats SAC	As provided in Table 6.1
	Exmoor and Quantek Oakwoods SAC	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles (91A0) Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) (91E0) Barbastelle ( <i>Barbastella barbastellus</i> ) (1308) Bechsteins bat ( <i>Myotis bechsteini</i> ) (1323) Otter ( <i>Lutra lutra</i> ) (1355)

Name	Designation	Qualifying Interest Feature
Somerset <i>Continued</i>	Exmoor Heaths SAC	Northern Atlantic wet heaths with <i>Erica tetralix</i> (4010) European dry heaths (4030) Vegetated sea cliffs of the Atlantic and Baltic Coasts (1230) Blanket bogs (7130) Alkaline fens (7230) Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles (91A0)
	Mells Valley SAC	Semi-natural dry grasslands and shrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (6210) Caves not open to the public (8310) Greater Horseshoe bat ( <i>Rhinolophus ferrumequinum</i> ) (1304)
North Somerset (Unitary Authority)	Severn Estuary SPA, SAC and Ramsar Site	As above in South Gloucestershire unitary authority section
	Avon Gorge Woodlands SAC	As above in City of Bristol unitary authority section
	Mendip Limestone Grasslands SAC	As above in Somerset county section
	North Somerset and Mendip Bats SAC	As above in B&NES unitary authority section