



River basin management plan for the Severn River Basin District

Habitats Regulations Assessment

Date: September 2022

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Executive summary

A Habitats Regulations Assessment (HRA) of the River Basin Management Plan for the Severn River Basin District (RBD) has been carried out by the Environment Agency acting as lead competent authority, in consultation with Natural Resources Wales (NRW) and Natural England (NE). This is the HRA for the third cycle of River Basin Management Plan (RBMP).

The purpose of a River Basin Management Plan (RBMP) is set out in UK Ministerial Guidance: 'A RBMP should be a strategic plan which gives everyone concerned with the river basin district a measure of certainty about the future of water management in that district. It will include objectives for each water body and a summary of the measures necessary to reach those objectives'.

Responsibility for coordinating the planning of the future of waters in England lies with the Environment Agency. For waters in Wales, it lies with Natural Resources Wales. However, the Environment Agency and NRW work jointly in the Severn River Basin District. The Severn RBMP has been undertaken at an RBD level taking into consideration the plan and the Programme of Measures (POM) in both England and Wales.

At this high-level plan stage, the detail of precisely where and how the measures will be implemented has not yet been developed. At this level, the assessment undertaken allows confidence that the measures could go ahead without detriment to the integrity of Habitats sites. Habitats sites refers to 'European sites' and 'European marine sites' under regulation 8 of the Habitats Regulations 2017 (as amended). Measures will be subject to more detailed scrutiny of site-specific effects and consideration of mitigation and avoidance at project level. This is in accordance with guidance which states 'Where one or more specific projects are included in a plan in a general way but not in terms of project details, the assessment made at plan level does not exempt the specific projects from the assessment requirements of Article 6(3) at a later stage, when much more details about them are known.' [Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC](#)

Screening the measures involved a two step approach:

1. Pre-screening for the theoretical and generic impacts using the David Tyldesley Associates (DTA) HRA Handbook 13 point descriptors ([DTA Publications | The Habitats Regulations Assessment Handbook](#))
2. Screening for credible pathways using a bespoke adaptation of the DTA Handbook approach

As part of the HRA for the third cycle it was investigated which of the measures in the [second cycle](#) had identified mitigation requirements, and whether these measures had been completed as part of the second cycle as far as impacts on Habitats site integrity was concerned. We found many measures had been implemented or planned as plans, programmes and/or projects, and that many had also been subject to lower tier HRA.

There is sufficient credible evidence to conclude that the measures brought forward from the second cycle that could theoretically lead to deleterious impacts on the integrity of Habitats sites do not require appropriate assessment at the RBMP level because:

- the projects have been initiated under a funded programme and have been subject to HRA
- there is no credible pathway for likely significant effects according to the evidence at this plan level

A wide range of evidence was consulted to inform the HRA, and included:

- expert opinion
- strategies and strategic policy
- management plans
- conservation objectives
- site Improvement Plans and Prioritised Improvement Plans (SIPs and PIPs)
- IPENS Theme Plans and Thematic Action Plans
- GIS based data

The second cycle HRA demonstrated that controls are in place to identify any risks to Habitats sites when the actions required to implement the measures are developed. Before any measures in the plan are implemented, they must be subject to the requirements of the Conservation of Habitats and Species Regulations 2017 (as amended) (Habitats Regulations).

For measures that have been identified as requiring further consideration we have concluded that due to the scale of the Severn RBD and the inherent uncertainty in where the measures will be located there is not sufficient information to undertake further assessment at the plan level. This is compatible with the approach taken in the Western Wales and Dee RBMP HRA as both approaches require HRA to be undertaken at the project level as measures are being planned and implemented.

This assessment has assumed that plans, programmes and projects which commenced under cycles 1 and 2, if not completed, are correct in procedural and technical application of the Habitats Regulations. This does not remove the need for Habitats Regulations Assessments of any plans, projects, or permissions associated with, or arising out of, the measures identified in the third cycle Plan. Whilst this HRA can be used to inform lower tier HRA, it is important to note that implementation of projects whether directly resulting from the RBMP, or otherwise contributing to the achievement of the measures should be assessed according to the site specific proposals.

It is determined that, at this strategic plan level, the RBMP is not likely to have any significant effects on any Habitats sites, alone or in combination with other plans or projects. Given this conclusion, there is no requirement, at this strategic plan level, to progress to the next stage of the HRA (an 'appropriate assessment' to examine the question of adverse effects on the integrity of Habitats sites).

Acceptance that this Plan is consistent with the Habitats Regulations is based on the level of detail of the plan. This conclusion does not guarantee that any plan or project derived from the Plan will also be found to be consistent. As local actions are developed at a project level and the details of their scope and scale are known, this may identify additional effects on Habitats sites that have not been assessed here or were not appropriate to consider at this spatial scale of plan.

1 Introduction

This report sets out the results of a Habitat Regulations Assessment (HRA) into the likely significant effects on designated 'Habitats Sites' of the 2022 updated River Basin Management Plan (RBMP) for the Severn River Basin District. Habitats sites refers to 'European sites' and 'European marine sites' under regulation 8 of the Habitats Regulations 2017 (as amended). This report has been produced by the Environment Agency as the lead 'competent authority' for the HRA as part of preparing the updated RBMPs for approval by the Secretary of State for Environment, Food and Rural Affairs in England and the Minister for Climate Change in Welsh Government. In preparing the HRA report the Environment Agency has consulted with Natural England and Natural Resources Wales (NRW).

RBMPs provide a long-term framework for the management of all issues that affect the water environment in a River Basin District (RBD). They rely on a range of more detailed plans that government or key sectors are responsible for developing to enable the objectives of the RBMP to be achieved. The HRA has been carried out at the level of detail published in the RBMP, which is high-level and does not include specific details of actions on the ground.

This report describes each of the main stages and results of the updated RBMP HRA, as follows:

- description of the Habitats Sites within the RBD
- the approach to the HRA
- pre-screen the measures for theoretical and generic impacts using the David Tyldesley Associates (DTA) HRA Handbook 13 point (a-m) descriptors ([DTA Publications | The Habitats Regulations Assessment Handbook](#)) |
- screening the remaining measures for credible pathways using a bespoke adaptation of the DTA Handbook approach
- in combination effects of other plans and projects
- conclusion and future HRAs

This RBMP HRA provides a high level, desk-based assessment of potential impacts and pathways that could affect Habitats sites. As future plans or projects are developed, they will be able to use this HRA to inform assessment in more detail.

1.1 Background to the RBMPs

The Water Framework Directive (WFD) seeks to establish an integrated approach to the protection and sustainable use of the water environment. This requires a holistic approach to managing waters, looking at the wider ecosystem and taking into account the movement of water through the hydrological cycle.

The [Water Environment \(Water Framework Directive\) \(England and Wales\) Regulations 2017](#) transpose, for England and Wales, the Water Framework Directive as well as aspects of the Groundwater Directive and Environmental Quality Standards Directive.

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (referred to as WFD Regulations in this document) provides a framework for managing the water environment in England and Wales.

The requirements of WFD were already enshrined within UK law through the WFD Regulations 2017. The Regulations form part of retained EU law in accordance with the European Union (Withdrawal) Act 2018. To ensure the WFD Regulations can function post EU-Exit, statutory instruments to correct Brexit-related deficiencies were introduced in Parliament and the Senedd, namely the Environment (Legislative Functions from Directives) (EU Exit) Regulations 2019 and the Floods and Water (as amended) (EU Exit) Regulations 2019. These amendments do not impact on the way we carry out the RBMP process.

The WFD Regulations require the preparation and publication of RBMPs; the setting of environmental objectives for groundwater and surface waters (including estuaries and coastal waters) and the devising and implementing of programmes of measures to meet those objectives.

Under the WFD Regulations, a RBMP must be developed for each RBD and reviewed and updated every six years. These plans were first published in December 2009, and last updated in February 2016.

The objectives and measures must:

- prevent deterioration in the status of surface waters and groundwater
- achieve 'Protected Area' objectives and standards
- aim to achieve good status for all water bodies
- aim to achieve good ecological potential and good surface water chemical status for artificial and heavily modified water bodies
- additional measures for protected areas

This HRA applies to the third cycle of RBMPs.

1.2 The Severn RBMP

The Severn RBD, which covers over 21,000km², lies both in England and Wales. It extends from the Welsh uplands, through the rolling hills of the Midlands and south to the Severn Estuary. As the Severn RBD is cross-border responsibility for planning the future of the RBD is shared between the Environment Agency and NRW.

The Severn RBD has a varied landscape extending from the uplands of Wales in Powys and the Brecon Beacons, down through the valleys and rolling hills of Herefordshire, Shropshire, Monmouthshire and Cwmbran to the lowlands and the Severn Estuary/ Mor Hafon, and west to include parts of Warwickshire, Gloucestershire, Somerset and

Wiltshire. As well as the River Severn and its main tributaries, the Warwickshire Avon and the Teme, the RBD includes the Bristol Avon and rivers of south east Wales including the Wye, Usk and Taff.

Although predominantly rural in character, the RBD has a population of over 5 million people with major urban centres including Bristol, Coventry, Cardiff, the South Wales Valleys and parts of the West Midlands conurbation.

The Severn RBD is made up of 10 management catchments (see map below). Two management catchments, the Usk and South East Valleys, are entirely within Wales, whilst three management catchments are cross-border and comprise the Severn Uplands, Teme and Wye catchments.

The next level down comprises the operational catchments. These cover a number of smaller water bodies based around the same local geography or affected by common pressures on the water environment. There are also operational catchments specific to certain larger water bodies, for example groundwaters, which, due to their size, can cross management catchment boundaries and even RBDs.

The Severn Estuary has the second highest tidal range in the world. Natural turbidity is high, compared to other estuaries and the proportion of saltmarsh to mudflat is correspondingly low. There are two significant international freight ports at Cardiff and Avonmouth.

Figure 1 Map of the Severn RBD and management catchments



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1.3 Background to Habitats Regulations Assessment

In England and Wales, the Conservation of Habitats and Species Regulations 2017, as amended, commonly termed the Habitats Regulations, implements the Habitats Directive (Directive (92/43/EEC) on the Conservation of natural habitats and of wild flora and fauna, and the Wild Birds Directive (2009/147/EC). This legislation provides the legal framework for the protection of habitats and species of Habitats importance in England and Wales.

Habitats sites protected under the Habitats Regulations comprise Special Protection Areas (SPA), Special Areas of Conservation (SAC), candidate SACs (cSAC), Sites of Community Importance (SCI), potential Special Protection Areas (pSPA), and as a matter of government policy, to Ramsar sites (sites designated under the 1971 Ramsar Convention for their internationally important wetlands). These sites are referred to collectively in this report as 'Habitats sites'.

Regulation 9(3) of the Habitats Regulations requires that a 'competent authority' must consider the requirements of Habitats Directive in exercising any of its functions. Article 6(3) of the Habitats Directive and Regulations 61 and 62 of the Habitats Regulations, define the requirements for assessment of plans and projects potentially affecting Habitats sites. This requires that a competent authority, before deciding to undertake, or give any consent or authorisation for a plan or project which is likely to have a significant effect on a Habitats site, and is not directly connected with or necessary to the management of that site, must carry out an appropriate assessment. The term commonly referred to for the whole, step by step assessment process is, 'Habitats Regulations Assessment' or HRA.

The RBMP is considered to fit within the definitions of a 'plan' as defined by the Habitats Regulations, and requires an HRA. The RBMP is a high-level planning document for the RBD, therefore the HRA needs to be tailored to be appropriate for the spatial area of coverage and the strategic nature of the plan.

The HRA has followed a framework of four distinct stages, only moving to the next stage if required by the results of that stage of the assessment.

The four stages are:

Stage 1: Screening and Likely Significant Effects is the process which initially identifies the likely impacts upon a Habitats site of a plan or project, either alone or in combination with other plans or projects and considers whether these impacts may be significant. This stage also excludes the development of mitigation to avoid or reduce any possible effects.

Stage 2: Appropriate Assessment is the detailed consideration of the impact on the integrity of the Habitats site of the plan or project, either alone or in combination with other plans or projects, with respect to the site's conservation objectives and its structure and function. This is to determine whether there is objective evidence that adverse effects on the integrity of the site can be excluded. This stage also includes the development of mitigation to avoid or reduce any possible impacts.

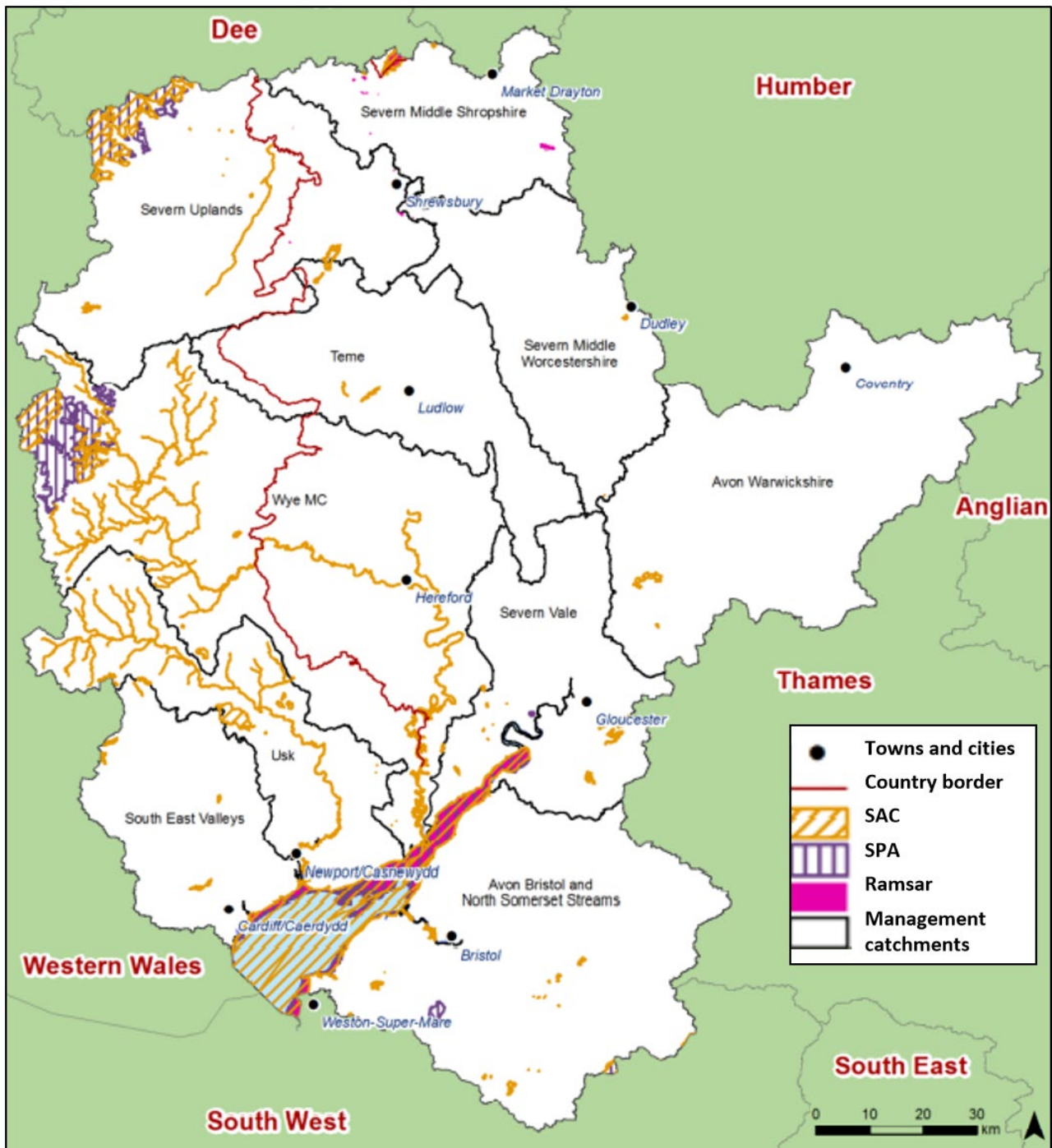
Stage 3: Assessment of alternative solutions is the process which examines alternative ways of achieving the objectives of the plan or project that would avoid adverse impacts on the integrity of the Habitats site, should avoidance or mitigation be unable to avoid adverse effects.

Stage 4: Assessment where no alternative solutions exist and where adverse effects remain is made with regard to whether or not the plan or project is necessary for imperative reasons of overriding public interest (IROPI) and, if so, of any required compensatory measures.

2 Habitat sites in the Severn RBD

Within the Severn RBD there are 43 SACs, 6 SPAs, and 4 Ramsar sites. Many of the sites have more than one designation reflecting the range of features that they support.

Figure 2 - Map of the Habitats sites in the Severn RBD



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The Habitats sites within the Severn RBD encompass a wide diversity of habitat types. In addition to freshwater habitats such as rivers, lakes, canals and other wetlands, the RBD includes sites with estuarine habitats. Other frequently occurring habitat types are woodlands, grasslands and heathlands.

Of the 4 Ramsar sites within the RBD the most extensive is the Severn Estuary, which is also designated as a SPA and SAC. The Severn estuarine and river system is one of the most diverse in the UK for fish species. It is an important feeding and nursery ground and a key migration route for species that use the estuary to reach spawning grounds in the many tributaries such as the Wye and Usk rivers.

The large tidal range of the Severn Estuary results in extensive areas of intertidal habitats, comprising mudflats, sandflats, sandbanks, shingle and rocky platforms, together with adjacent areas of saltmarsh and lowland grazing marsh, which also support internationally important assemblages of overwintering and migratory birds.

The inland Ramsar sites, such as the Midlands Meres and Mosses, are characterised by a complex of wetland, lowland open water and peatland sites that support nationally important flora and fauna. Located within the South West RBD, the Somerset Levels and Moors SPA/Ramsar site is situated immediately south of the Severn RBD border and is closely associated with the Severn Estuary SAC/SPA/Ramsar site. The site comprises a series of designated sites that cover extensive areas of flood plain drained by a large network of ditches, rhynes, drains and rivers, and represents the largest area of wetland / lowland wet grassland habitat in the UK, supporting internationally important numbers and assemblages of overwintering birds as well as breeding waders.

The SPAs within the RBD and the migratory and breeding bird populations they support are highly variable, ranging from the artificial reservoir of Chew Valley Lake near Bristol to extensive upland sites of Berwyn and Elenydd - Mallaen. In addition to the extensive lowland sites of the Severn Estuary, designated SPAs within the RBD include parts of the open grasslands of Salisbury Plain. Across the RBD there is a wide variety of SACs; some designated primarily due to the species they support, such as the populations of great crested newts at Granllyn in Wales and Fens Pools in Dudley. A number of sites within the RBD are designated for supporting important populations of bat species and for supporting important invertebrate species. A primary reason for the designation of the River Wye and Usk SACs is the range of Annex II fish species they support, including sea, brook and river lamprey, bullhead, twaite shad and Atlantic salmon in addition to their well-established otter populations.

Many of the sites within the RBD are also designated in respect of their qualifying habitats, such as riverine habitats of the Wye, the lakes, ponds, mires and bogs of the West Midlands Mosses, woodlands such as the Wye Valley and Avon Gorge, and the chalk grasslands of Salisbury Plain.

Designated upland habitats and heathlands are also represented in the Brecon Beacons and Berwyn and South Clwyd Mountains together with the transitional dry heathland habitats of the Stiperstones and Hollies.

Within the RBD sites designated for their wetland habitats range from the upland mires of Elenydd to the lowland raised bogs at Fenn's Whixall, Bettisfield, Wem and Cadney Mosses and Llangorse Lake, the largest lake in South Wales.

2.1 Habitats sites that could be affected by the RBMP

The RBMP is a long term plan for the water environment that could potentially affect both water dependent and non-water dependent Habitats sites and their qualifying features.

Water dependent sites are classified as protected areas under the WFD; each protected area Habitats site has specific objectives to ensure their favourable conservation status.

Supporting measures within the RBMP should therefore predominantly be beneficial for the conservation status of water dependent Habitats sites. However, this does not mean that water-dependent sites may not be adversely affected, since other measures within the RBMP could still have unintended consequences for these sites.

Effects on non-water dependent Habitats sites and their qualifying features are also possible. Measures proposed within the plan take a wide variety of forms, including interventions on land as well as water bodies. Potential effects on non-water dependent Habitats sites are considered as part of the assessment.

2.2 Habitats sites and their status for RBMPs

The RBMP provides summary information on the current status and baseline for water dependent Habitats sites for England as part of its monitoring data. NRW have published maps of water dependent Habitats sites on [Water Watch Wales](#).

Government guidance makes it clear that for both the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (WFD Regulations) and the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations), a key requirement is to prevent deterioration from current status.

No plan or project that might affect a Habitats site should be approved unless the Environment Agency or Natural Resources Wales (NRW) are either satisfied that it will not have an adverse effect upon the integrity of the site, or the proposal meets the test for exemption under overriding public interest.

2.3 Habitats sites and their management

As part of a strategic approach to managing Habitats sites, measures needed to achieve favourable conservation status for Habitats site interest features in England and Wales have been developed. In England these are collectively referred to as Site Improvement Plans (SIPs) and have been developed by the Improvement Programme for England's

Habitats sites (IPENS). In Wales, the equivalent plans are called Priority Improvement Plans (PIPs) and Thematic Action Plans.

Where RBMPs include objectives and actions specifically for Water Dependent European Sites under the WFD Regulations 2017, these objectives and actions are informed by the SIPs developed by Natural England, and PIPs produced by NRW.

IPENS Theme Plans and Thematic Action Plans have been used extensively in this HRA, informing the potential for interaction between the RBMP and pathways for effects on Habitats sites. The Theme Plans themselves explain the role of the WFD Regulations 2017 and the achievement of favourable condition. In general, the ambition, relating to natural function, is higher for Habitats Regulations than for WFD.

Selected IPENS Theme Plans and Thematic Action Plans have been used to establish:

- mutually compatible objectives and measures between the Habitats Regulations favourable condition of Habitats sites and RBMPs
- the degree of likely spatial overlap between RBMP measures and Habitats sites
- positive and negative impacts of measures occurring within Habitats site boundaries
- positive and negative impacts on Habitats site integrity and resilience of RBMP measures outside of Habitats site boundaries

The IPENS Theme Plans and the Thematic Action Plans are not legal documents, but they add value by providing evidence of the nature of the pressures, threats and the range of potential solutions.

Generic management practice, such as timing of works and sediment management is also described in strategies and guidance for habitat management. The guidance used in this assessment is referred to in the text where relevant and are listed in section 3.2.3.

3 Approach to HRA

The steps undertaken to complete an HRA are as follows:

- describe the plan and the measures proposed
- pre-Screen the measures for theoretical and generic impacts using the David Tyldesley Associates (DTA) HRA Handbook 13 point (a-m) descriptors ([DTA Publications | The Habitats Regulations Assessment Handbook](#))
- screening the remaining measures for credible pathways using a bespoke adaptation of the DTA Handbook approach
- consider in-combination effects with other relevant plans or projects
- consider the need for further stages of assessment (appropriate assessment, alternative solutions and IROPI)
- determine a conclusion

3.1 Description of the RBMP Measures

Each cycle of the RBMPs have been subject to HRA. This is significant because it means that in many locations the RBMP measures have been implemented in the first and second cycles and are therefore not considered further.

For the 2022 updated RBMP, the measures are set out as programmes of measures led by government and key sectors.

In England, the measures to deliver the outcomes have been categorised as those where there is more certainty, and those where there is less certainty. The HRA has not discriminated between the two. Some of these measures have predicted water body improvements that will achieve specific WFD objectives. Other measures will contribute to improvements but without predicted WFD outcomes.

The measures are high level summaries of the range of actions required to achieve the RBMP objectives, usually without any specific details as to the precise location, design and method of implementation.

3.2 Method for screening

This HRA has been carried out on the range of measures to achieve long-term WFD objectives, as set out in the updated RBMP. These are measures that prevent deterioration, achieve protected area objectives and meet water body status objectives.

The screening of measures comprised 2 phases:

- pre-screen the measures for theoretical and generic impacts using the David Tyldesley Associates (DTA) HRA Handbook 13 point (a-m) descriptors ([DTA Publications | The Habitats Regulations Assessment Handbook](#))

- screening the remaining measures for credible pathways using a bespoke adaptation of the DTA Handbook approach

3.2.1 Evidence base

The HRA must distinguish between the evidence required to establish a pathway and significance of the effects on the qualifying features of the Habitats site and the evidence required to define the magnitude and outcome of the effect, including mitigation, during appropriate assessment. The DTA Handbook (in Figure F.4.1) describes the evidence required to include:

- qualifying features
- conservation objectives
- conservation status and site condition
- baseline characteristics and conditions
- trends
- the plan proposals characteristics
- predicted outcomes

Screening is not defined in the Habitats Regulations, meaning that there is no definitive distinction between the level of evidence and its interpretation required for the test of likely significant effect and appropriate assessment. The government guidance is that the effects considered at screening must be credible, and not hypothetical.

[Habitats regulations assessments: protecting a European site - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site) :

'You should check if there's a risk or possibility of a significant effect based on the evidence. You should only consider real, not hypothetical risk.'

This HRA for the third cycle represents a subtle departure from the methodology used for first and second cycles, in part driven by the need for a more robust approach to better adhere to emerging best practice in the wake of 'people over wind' (see Section 3.3.3). The second cycle HRA screening utilised the generic hazard matrices that form the starting point for most Environment Agency EA HRAs. Because there is no further specific information on scale, extent, duration, frequency, timing and location of the proposals in the RBMP the precautionary approach was to utilise the generic information to inform this assessment.

For the third cycle the screening approach has been aligned with that defined in the DTA Handbook. This has involved compiling an evidence base to determine whether the generic pathways used in the hazard matrix apply. In this way the assessment of significance moves away from the theoretical and generic towards the credible and real. The evidence takes many different formats and is applied as needed to address specific uncertainty rather than applied as part of a uniform approach. The evidence includes theme plans, conservation objectives, condition status, site description, published literature, grey literature, personal communication and map-based information such as geographical information systems.:

3.2.2 Previous plans

With over 10 years of implementation of RBMP measures, there is ample evidence that many measures can be implemented while:

- benefitting the resilience or condition of Habitats sites
- not prejudicing the achievement of favourable condition
- without causing detriment to the integrity of Habitats sites

The Site Improvement Plans (SIPs), PIPs and associated IPENS Theme Plans also provide evidence to support the role of WFD measures to achieve and maintain favourable condition.

There are several databases, such as the River Restoration Centre database, that catalogue good practices in the field of conservation management. This constitutes transferrable technical knowledge.

This HRA assumes that standard good practice will be applied when implementing the measures for all projects. (See section 3.2.3)

3.2.3 Approach to mitigation and good practice

As a result of recent caselaw avoidance and site-specific mitigation cannot be considered during HRA screening. For the third cycle assessment we have considered the level of information available for measures and whether the good practice guidance published and commonly used gives us confidence that significant effects can be avoided at lower tier plan or project level. Projects will still be subject to HRA when they are being developed and where an appropriate assessment is undertaken mitigation will depend on the location, nature of and pathways for effects on site specific features.

Neither the Habitats Directive nor the regulations define or refer to 'mitigation measures'.

Good working practices include aspects such as the inclusion of pollution prevention clauses in the construction contracts for in river works, such as avoidance of nesting birds, not working in river during fish migration and spawning, no disturbing activities for overwintering birds.

At this plan level good practice gives additional confidence that potential effects to Habitats sites can be managed at the project level. Good practice includes the type of actions described in the Manual of River Restoration Techniques, the Association of Drainage Authorities environmental guidance, the Channel Management Handbook, Environmental Good Practice on Site Guide (Construction Industry Research and Information Association) and documents internal to the Environment Agency and NRW including:

- Environment Agency Safety, Health, Environment and Wellbeing (SHEW) Code of Practice (CoP). The SHEW COP draws together industry standards for planning for and controlling risks to the environment during project design and planning
- Safe and Environmentally Responsible Construction: Safety, Health and Environmental Code of Practice (NRW)

The second cycle Severn RBMP HRA concluded that appropriate assessment was not required. The screening included mitigation for two suites of measures: river restoration and remediation of water from abandoned metal mines. The subsequent ruling by the European Court of Justice C-323/17 - People Over Wind and Sweetman requires that measures intended to avoid or reduce harmful effects of a plan or project on a European Site is taken into account at the appropriate assessment stage. Prior to that ruling, mitigation could be considered in the screening decisions.

For the screening of the third cycle we have looked at the mitigation and conclusions of the second cycle Severn RBMP HRA. We have checked the details of the mitigation set out in the second cycle and considered whether these measures are specified in current industry standard good practice.

3.2.4 Pre-screening

The first phase of screening following the DTA HRA handbook assigned each measure to one or more of the following categories, using generic hazards only:

- A. policy or aspiration
- B. testing acceptability of proposals
- C. referred to not proposed
- D. general plan wide proposal or threshold policies
- E. measures that cannot lead directly to development
- F. measure that cannot lead to development
- G. measure that cannot have a conceivable theoretical effect on a site
- H. measure's actual or theoretical effects cannot undermine conservation objectives
- I. measure may theoretically have a detrimental effect
- J. significant effect of measure is unlikely but may occur in combination so requires checking
- K. significant effect of measure is unlikely alone or in combination
- L. measure likely to have a significant effect in combination
- M. bespoke area or site specific measures intended to reduce or mitigate effects on a Habitats site

A precautionary approach was applied to the first screening, which involved some very broad assumptions of how measures might become actions. This Pre-screening is presented in Appendix 1 and is summarised in Section 4.1.

3.2.5 Screening for credible pathways

Measures assigned I, L and M were taken forward to further specific screening to establish credible, real pathways of impact, see Section 4.

The Environment Agency generic hazards matrix and the assumptions listed below were used to establish whether a theoretical pathway of effect exists.

Because the majority of measures are presented at the RBD scale with little explanation to inform the salient aspects of their implementation, the following assumptions were made (in no particular order):

- standard good practices will be used in implementing the measures; these are either enshrined in guidance or plans or case studies and are standard practice across projects irrespective of the presence of Habitats sites and species
- plans, programmes and projects started during the first and second cycles may be incomplete and so continue into the third cycle, however the RBMP plan level HRA pertains to the cycle in which they commenced and so does not need to be repeated
- re-instatement of connectivity for fish passage is a sub-set of habitat restoration

The screening was undertaken with adherence to

- EU guidance [Managing Natura 200 sites The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC](#)
- Defra guidance [Habitats regulations assessments: protecting a European site - GOV.UK \(www.gov.uk\)](#)
- the DTA handbook [DTA Publications | The Habitats Regulations Assessment Handbook and Journal](#)

Section 4 presents this screening.

3.3 In-combination effects

In-combination assessment requires the consideration of impacts that are not significant alone to be checked for the possibility of such impacts becoming significant when combined with the effects of other plans or projects.

The In-combination assessment is presented in Section 5.

4 Discussion of Screening and Likely Significant Effects

This section considers the measures that were not pre-screened out and reports on the consideration of likely significant effects. These are summarised under the following headings:

- summary of measures
- assessment of measures
- conclusion of the test of likely significance

4.1 Summary of measures

We have considered the likely significant effects on Habitats sites for the measures in the updated RBMP that were not pre-screened out.

In practical terms they are mostly a continuation of the measures required to address the significant water management issues (SWMI) from the second cycle RBMP. The full list of measures can be found in appendix 1. There is replication amongst the measures in England to reflect that some will be led by other non-Environment Agency bodies, such as water companies, rivers trusts or catchment partnerships.

Section 3 set out how pre-screening of the measures in Appendix 1 was undertaken. This screened out 63 of the 86 Environment Agency measures and 78 of the 86 NRW measures. All the measures that require further consideration fall under one or more of the SWMI listed below:

- measures required to address physical modifications
- measures required to manage pollution from wastewater, from towns, cities and transport
- measures required to manage pollution from metal mines
- measures required for pollution from rural areas
- measures required to manage changes to natural flow and levels of water
- measures required for peatland restoration
- measures required to manage invasive non-native species

4.2 The assessment of measures

Appendix 1 pre-screens the measures to establish whether a theoretical pathway of effect exists.

The pre-screening was undertaken with adherence to:

- EU guidance [Managing Natura 200 sites The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC](#)
- Defra guidance [Habitats regulations assessments: protecting a European site - GOV.UK \(www.gov.uk\)](#)
- the DTA handbook [DTA Publications | The Habitats Regulations Assessment Handbook and Journal](#)

4.2.1 Measures required to address physical modifications

In England the following descriptions are proposed to address physical modifications:

- habitat restoration or creation
- river restoration and fish pass improvements
- removal of barriers to fish passage
- riparian tree planting and fencing

In Wales the following measures to address physical modifications are considered further:

- CYM4 - Deliver the Plan of Action for Salmon and Sea Trout including the Sustainable Fisheries Programme (SFP) in Wales to secure improvements to fish habitat and migration
- WAL02 - A programme to deliver appropriate river restoration options at a number of high priority, high benefit river catchments identified under the integrated River Restoration Programme for Wales
- WAL09 - Deliver program of SAC river restoration alongside the development of a strategic approach to funding, includes delivery of the Dee LIFE project
- WAL19 - Water Companies will address the impacts of water company assets on fish passage causing failure of WFD Regulations 2017 objectives in accordance with objectives in AMP7 (2020-25).
- WAL38 - Habitat improvement schemes, such as sediment management, to reduce the impact of physical modifications (water company reservoirs)

4.2.1.1 Consideration of effects

The types of restorative interventions identified in the IPENS Theme Plan include:

- introduction of coarse woody debris in the channel
- current modification (localised narrowing, log weirs etc)
- soft engineered bank re-enforcement/repair/reprofiling
- breaking up concreted substrate
- desilting
- cutting of riparian vegetation
- removal of hard bankside defences
- remove, relocate or stop maintenance of flood defence banks

- compensation for land loss due to increased river area
- restoration of appropriate substrate
- removal/modification of artificial barriers
- large scale modification – narrowing, bank reprofiling
- re-meandering
- stock exclusion
- establishment of riparian margin/buffer zone
- conversion from arable to semi-natural habitat
- establishment of appropriate riparian grazing
- control of invasive non-native plants
- temporary loss of recreational fishing rights
- infrastructure replacement
- reduced productivity of infilled channels

Of the measures proposed within the Severn RBD, the measures that include physical works to improve habitats have the greatest potential to lead to hazards, which could in turn present potential risks to designated site features. Measures for removal/easement of barriers to fish migration, the removal or modification of engineering structures and improvements to the condition of channel/bed and or banks/shoreline and riparian zone/wetland have the potential to lead to a similar range of hazards. These hazards could affect water levels, flows and quality, alter physical processes and result in noise and visual disturbance, habitat loss and physical damage.

Increased competition from non-native invasive species is also identified as a potential hazard in relation to the measures for the removal or easement of barriers to fish migration and the removal or modification of engineering structures.

When river restoration is undertaken within site boundaries good practice techniques to river management, in the form of contractual obligations and good design are required.

The river restoration IPENS Theme Plan in England highlights the role of RBMPs in achieving the conservation objectives.

Some measures within the plan are intended to achieve the conservation objectives for Habitats sites but are considered to ensure there are no unintended consequences on Habitats Sites. Project level HRA will also be required to ensure there are no unintended impacts on features of Habitats Sites.

Where terrestrial SACs and SPAs are very high in the catchment, or at the watercourse source, modification requiring intensive restoration is unlikely.

All SAC rivers in England have completed River Restoration Plans, the most recent being the R. Axe (Severn) in 2019. All the Restoration Plans have HRAs (that for the English part of R. Wye and Lugg, Severn, is the only one yet to be signed off). The Severn tributaries in Wales do not have restoration plans.

The 4 Rivers for LIFE project started in 2022, funding the development and implementation of restoration on the River Usk SAC. The other River Restoration programmes in the Severn RBD includes the Upper Wye SAC River Restoration Project.

The RBMP measures aim to work towards bringing habitats sites into Favourable Condition but project level HRA is required to ensure no unintended consequences of measure implementation.

The HRA of the second cycle concluded that appropriate assessment was not required. The generic mitigation used in the screening focussed on the avoidance of sensitive features (if they are present in the vicinity of the works) through mitigation of design and construction impacts.

Following the HRA of the first and second cycles, the River Restoration Plans in England have been completed by Natural England in conjunction with the Environment Agency and other local partners. The SAC restoration plans in England are evidence that river restoration is achievable in a way which avoids damaging the integrity of the sites.

The distribution of Habitats sites alongside non-designated rivers has been checked, looking for:

- whether the designation extends to both sides of the watercourse
- if the Habitats site is in such a location that river restoration is unlikely
- whether the conservation objectives or SIP/PIP of the riparian site also describe the river condition confirms that all sites are located such that access is available

In the event of a riparian Habitats site bordering a non-SAC watercourse, the site descriptions and condition assessments revealed the following:

- the river is in near natural condition; this implies that no river restoration is required for WFD
- the SAC is on one bank only; access from the opposite bank might be possible
- the site is on a hill top or at the source of the watercourse; it is unlikely that there have been watercourse modifications that require intervention

All work in river is subject to contractual conditions and standard good practice, to avoid impacts on siltation, fish, geomorphological processes etc and avoidance of impacts.

It is possible that there are features associated solely with artificial features. If so, then this would represent a conflict with the conservation objectives to promote natural processes. The SIPs, as described in the River Restoration IPENS Theme Plan, make it clear that reinstatement of natural processes is an essential step towards achievement of recovering and ultimately favourable condition. This requires resolution through project level HRA.

Standard working practices also ensure that works are carried out outside of bird nesting season and away from overwintering birds. The Bird Disturbance Toolkit has been routinely used in the past, and any works that impinge on those times has always been by exception and observing strict site specific protocols.

The measures will assist in restoring and maintaining the favourable condition of the Habitats sites and enhance the resilience of the riverine ecosystem. The River Restoration Plans detail the site specific improvements, and the accompanying HRAs are further control that impacts have been dealt with at a 'lower' level, under the previous cycle(s) of river basin management planning.

In England the River Restoration Plans have been jointly produced by Natural England, the Environment Agency and local partners. All the Restoration Plans refer to the WFD and the joint achievement of restoration objectives.

In England the River Restoration Plans/Strategies and their implementation (in combination with other actions) seek to ensure that the rivers achieve their SSSI and WFD objectives. Restoration plans and strategies can be accessed via the River Restoration Centre website <https://www.therrc.co.uk/designated-rivers>.

River restoration can lead to improved connectivity with the floodplain. This benefits the natural functioning of the floodplain, including ephemeral or transitional habitats such as exposed riverine gravels.

Unseasonal inundation can result in deoxygenation. This is more likely to be a problem associated with pump drained catchments, which has been covered in FRMPs and WLMPs (all priority sites in England had been started by 2011) under previous cycles of RBMPs. The same applies to SPA birds nesting on washlands.

In conclusion, as there is insufficient detail on the nature, timing, duration, scale or location of the measures to address physical modifications, and thus their specific potential effects, it is not possible for this assessment to reasonably predict effects on Habitats sites in a detailed way. There is confidence that the measures could be delivered at lower tier plan and project level without adverse effects, by applying good practice guidance and site specific mitigation as appropriate, but this must be demonstrated through lower tier plan or project level HRA.

4.2.2 Measures required to manage pollution from wastewater, from towns, cities and transport

For England the following measures were proposed to address the management of pollution from wastewater, from towns, cities and transport:

- Pollution control initiatives

As this is a high level plan, evaluation of map based data suggests that it is unlikely that any non-riverine SACs, SPAs or Ramsar sites will be affected by actions to restore waterbodies.

In England the following descriptions of the measures to manage pollution from wastewater were proposed:

- Mitigate/remediate point source impacts on receptor

- Reduce point source pollution at source
- Reduce point source pollution pathways (includes controlling entry to the water environment)
- Reduce diffuse pollution at source

4.2.2.1 Consideration of effects

Measures to manage pollution from wastewater are inherently beneficial to the integrity of Habitats sites. The nutrient loading contributes to eutrophication. Other pollutants such as biocides, cause genetic mutations and have a detrimentally effect on reproductive biology. They can also bioaccumulate in the food chain.

4.2.3 Measures required to manage pollution from metal mines

In Wales the following measures are considered further:

- CYM49 Deliver metal (non-coal) minewater preventative and remediation programme as identified under the Metal Mine Strategy for Wales.
- WW0031 Continue to investigate minewater impact and develop remediation plans in accordance with the Metal Mines Strategy for Wales

4.2.3.1 Consideration of effects

In the Welsh part of the Severn RBD, there are 2 mines within the top 50 sites in the Metal Mine Strategy for Wales. Both sites are category 4, which presents the least risk to water quality, and river water quality is described within the strategy as compliant. However, the Metal Mine Remediation Programme is undertaking desk based assessments on mines on the Wye and Clywedog catchments to determine their contribution to failing waterbody status.

Metals from mine waste, are biocides, cause genetic mutations and can have a detrimental effect on reproductive biology. They bioaccumulate in the food chain. However, calaminarian grasslands contain species that are adapted to enhanced heavy metal concentrations in the soil and are naturally confined to rocky outcrops rich in ore. They also occur on spoil heaps and on exposed grassland alongside rivers. There are no calaminarian grasslands in the Welsh part of the Severn RBD.

The current and trial techniques for metalliferous minewater remediation include passive treatment plants or reedbeds, capping, diverting drainage and stabilising spoil heaps to prevent metal loading. Due to the nature and location of these interventions, a project level HRA should be undertaken where there are pathways for effects on Habitats Sites.

Metalliferous minewater waste can ‘pollute our rivers, harm aquatic life and have an adverse impact on tourism’ [Metal mine water treatment - GOV.UK \(www.gov.uk\)](https://www.gov.uk) including ‘presenting:

- significant sources of land contamination, water and sometimes air pollution
- habitats are affected,

- valuable fishing rivers are loaded with toxic metals
- metal rich dusts from old spoil heaps posing a risk to human health through inhalation and ingestion by local populations'

[Metal Mine Strategy for Wales \(cyfoethnaturiol.cymru\)](http://cyfoethnaturiol.cymru)

Metaliferous minewater waste can accumulate in food chains affecting shellfisheries and feeding wildfowl and waders. There are benefits to remediating the water from metalliferous mines.

In conclusion, there is insufficient detail of the nature, timing, duration, scale or location of the measures to manage pollution from metal mines, and thus their specific potential effects. It is therefore not possible for this assessment to reasonably predict effects on Habitats sites in a detailed way. However, there is confidence that the measures could be delivered at lower tier plan and project level without adverse effects, relying on mitigation as appropriate, but this must be demonstrated through lower tier plan or project level HRA.

4.2.4 Measures required to manage pollution from rural areas

In England the following measures are proposed to address pollution from rural areas:

- Reduce diffuse pollution at source
- Mitigate/remediate diffuse pollution impacts on the receptor
- Reduce diffuse pollution pathways (including controlling entry to the water environment)

4.2.4.1 Consideration of effects

Measures to manage diffuse pollution (at source) from rural areas are inherently beneficial to the integrity of all Habitats sites. Phosphates and nitrates contribute to the eutrophication of all aspects of the aquatic ecosystems, including groundwater. Contamination by biocides is also an issue in the absence of measures.

4.2.5 Measures required to manage changes to natural flow and levels of water

In England the following measures are proposed to manage changes to natural flow and levels of water:

- control pattern/timing of abstraction
- water demand management
- improvement to condition of channel/bed and/or banks/shoreline
- use alternative source/relocate abstraction or discharge

In Wales the following measure is considered further in section 4.2.7 below:

- CYM73 - Support the delivery of the Welsh Government National Peatland Restoration Programme

4.2.5.1 Consideration of effects

The types of measures proposed to improve the natural flow and level of water are inherently capable of improving the integrity and resilience of Habitats sites. Habitats sites, wetlands and water courses, need water of appropriate quality, in adequate amounts and at the appropriate times to:

- sustain geomorphological processes
- meet the hydro-ecological requirements of the constituent species
- dilute contaminants

Appropriate hydrological function also includes water level management planning to avoid spring and summer flooding of washlands: these protect ground nesting birds and prevent deoxygenation of flood waters respectively.

4.2.6 Measures required to manage invasive non-native species

For England the following measures are proposed to address negative effects of non-native invasive species:

- mitigation, control and eradication (to reduce extent)
- building awareness and understanding (to slow the spread)
- early detection, monitoring and rapid response (to reduce the risk of establishment)
- prevent introduction

4.2.6.1 Consideration of effects

Measures proposed to manage invasive non-native species, are considered to meet the conservation objectives of relevant sites and will improve the integrity of the Habitats.

4.2.7 Measures required for peatland restoration

In England a number of measures, reflecting different funding sources, include peatland restoration.

In Wales the following measure is considered further below:

- CYM73 - Support the delivery of the Welsh Government National Peatland Restoration Programme.

Peatlands include upland and lowland habitats. Both England and Wales have peatland restoration strategies:

- [England Peat Action Plan](#)
- [Natural Resources Wales / The National Peatland Action Programme](#)

The IUCN UK Peatland Strategy states that ‘Tried and tested methodologies make implementation immediately possible, with growing political support. Large areas can be restored or brought under sustainable management without major changes to land use, making it a readily achievable form of climate mitigation’ [UK Peatland Strategy 2018-2040.pdf \(iucn-uk-peatlandprogramme.org\)](#).

The Peatland Action Plans were produced during the second cycle of RBMPs, and many projects are underway or completed. Peatland restoration programmes and projects are already underway in England and required by conservation objectives.

In Wales there is insufficient detail of the nature, timing, duration, scale or location of the peatland restoration measures, and thus their specific potential effects. However, there is confidence that the measures could be delivered at lower tier plan and project level without adverse effects, relying on mitigation as appropriate, but this must be demonstrated through lower tier plan or project level HRA.

4.3 Conclusion of the test of Likely Significance

The assessment of likely significant effects has been carried out for measures from the Severn RBMP. After pre-screening, a conclusion of no likely significant effect has been reached on the remaining measures either because the measures were started in cycle 2 and so underwent HRA in cycle 2, or there is insufficient information to undertake further assessment at plan level, so lower tier plan or project HRA must be undertaken.

Where measures have been screened out at this stage on the basis that the level of information available is not sufficient to enable further assessment there is sufficient confidence that the measures can be delivered without adverse effects, but this will need to be reassessed as the detail of actual schemes is developed.

This confidence is derived from the track record of delivery of similar measures and the availability of good practice guidance that sets out the types of methods and approaches to be adopted to avoid or minimise adverse effects. This good practice includes the type of actions described in the [Manual of River Restoration Techniques](#), [the Association of Drainage Authorities environmental guidance](#), [the Channel Management Handbook](#), [Environmental Good Practice on Site Guide](#) and documents internal to the Environment Agency and NRW including [Environmental Good Practice on Site Guide](#) and documents internal to the Environment Agency and NRW including

Operational guidance includes:

- Environment Agency Safety, Health, Environment and Wellbeing (SHEW) Code of Practice (CoP). The SHEW COP draws together industry standards for planning
- Environmentally Responsible Construction: Safety, Health and Environmental Code of Practice (NRW)

This approach is supported by the DTA Handbook which sets out three criteria in section F.10.1.5, that it considers would make it reasonable to defer further assessment to a lower tier plan or project:

- a. the higher level plan assessment cannot reasonably predict any effect on a Habitats site in a meaningful way; and
- b. the lower level plan or project, which will identify more precisely the nature, timing, duration, scale or location of the measure, and thus its potential effects, will have the necessary flexibility over the exact nature, timing, duration, scale and location of the measure to enable an adverse effect on site integrity to be avoided; and
- c. the HRA of the lower tier plan or project is required as a matter of law or government policy

As part of the various consenting mechanisms, if likely significant effects cannot be ruled out at the project level, the competent authority will undertake an appropriate assessment and the measures cannot receive approval to proceed until it has been demonstrated that they will not result in adverse effects on integrity of any affected Habitats sites. However, there is no evidence at the RBMP level to suggest that this is either likely, nor does the RBMP specify any measures which make future conflict with conservation objectives likely.

The RBMP does not constrain the nature, scale and/or location of the measures proposed in the plan, so they can be developed in a way that will improve the integrity and resilience of Habitats sites, and avoid the likelihood of any adverse effect on site integrity.

At this strategic plan level, this assessment has concluded, for the plan itself that there are no likely significant effects, and at this stage there is no requirement to consider further stages of the HRA on the RBMP programme of measures.

This is a plan level conclusion and does not determine any future conclusion of HRAs at the lower tier/project level. Each must be assessed on their individual merits and the inclusion of any measures in this plan does not determine the conclusions being drawn for future HRAs. Any possible in-combination effects of the RBMP with other plans are considered in section 5 below.

5 In combination effects with other plans and projects

In-combination assessment at this plan level serves to highlight where such assessment may be relevant to future HRAs and focuses on plans with a similar geographic scale to the river basin district (plans and projects of any scale should be considered at later stages when more detail on the project itself is available).

The RBMP is unlike some other forms of plan in that it is solely concerned with improving the environment, the water environment, and relevant projects from other plans will require WFD Regulations assessment.

The Revised National Flood and Coastal Erosion Risk Management (FCERM) Strategy for England was consulted on, then published in 2020. The FCERM strategy for England contains sufficient incorporated mitigation to satisfy the HRA. The FCERM strategy for England also contains a measure:

Measure 1.4.4: from 2021 investments in flood and coastal projects by risk management authorities will help to achieve objectives in river basin management plans and contribute to the government's aim for 75% of waters to be close to their natural state as soon as practicable.

The FCERM strategy for England further supports this, saying:

'the government's 25 Year Environment Plan includes the goal that 75% of our waters (such as rivers and streams) should be close to their natural state as soon as practicable. When making investments in flood and coastal defences, risk management authorities will support mitigation measures that contribute to achievement of river basin management plans.'

The HRA of the FCERM National Strategy for England has been consulted on, and agreed; the range of measures, in combination, are sufficient to ensure that the strategy can be sufficiently mitigated at the strategic level. Whilst the FCERM strategy is not necessarily a lower tier plan to the RBMP it provides additional evidence, and precedent, that the RBMP can be achieved without detriment to Habitats site integrity with respect to this area of overlap between the plans.

The National Strategy for Flood and Coastal Erosion in Wales was adopted by Welsh Government in 2020. This sets the policy direction for all Risk Management Authorities in Wales, taking into account the requirements of the Environment (Wales) Act 2016 and the Wellbeing of Future Generations Act (Wales) 2015. A HRA was undertaken and informed the development of the Strategy.

The plans considered as part of the assessment of in-combination effects from the second cycle RBMPs were taken from those reviewed as part of the Strategic Environmental Assessment (SEA). The SEA review generally found that the second cycle RBMP aligned

very well with the objectives of other plans and programmes, particularly those aimed at promoting sustainability and nature conservation. This situation has not changed significantly into the third cycle.

The list below considers where such plans may potentially contribute to effects on Habitats sites in combination with the Severn RBMP.

The risk of significant in-combination effects on Habitats sites with other plans is considered to be low, because the objectives and actions within the RBMP are aimed at improving the status of water bodies and achieving favourable conservation status for water dependent Habitats sites. Interactions with other strategic plans may potentially constrain the implementation of RBMP objectives. However, the plans may also provide opportunities to co-deliver actions identified within the Site Improvement Plans (SIPs) and Prioritised Improvement Plans (PIPs) for the Severn RBD to achieve favourable conservation status for water dependent Habitats sites features.

Habitats Regulations Assessments of measures or actions undertaken at later plan or project stages will still however require consideration of potential in combination effects, at an appropriate level of detail in combination with plans or other relevant projects.

5.1 Flood Risk Management Plan (FRMP) for the Severn RBD

FRMP measures focused on the water environment but extend to the wider catchment with certain nature based solutions.

The draft Flood Risk Management Plan for Wales (due for consultation November 2022) complements the RBMPs in Wales by including national measures such as:

- WA1.10 Ensure that all new flood alleviation schemes will integrate the principles of SMNR (Sustainable Management of Natural Resources) as required by the Environment (Wales) Act 2016 to deliver sustainable schemes which maintain and where possible improve ecological status or potential.
- WA1.11 In waterbodies designated as heavily modified due to flood and coastal protection, review and deliver (on a prioritised basis) mitigation for NRW owned assets and activities

Where measures in the RBMP are proposed to address physical modifications, and to a lesser extent other measures, there is potential for interaction with measures proposed within the FRMPs that comprise physical intervention/s, where these are in proximity to Habitats sites. FCRM projects require WFD assessment alongside HRA. Specific opportunities include measures promoting physical modifications, improved land management practices, upper catchment habitat creation, landfill protection, delivery of measures for heavily modified water bodies and catchment scale approaches.

5.2 Water Resource Management Plans

The RBMP and water resource management plans contain similar objectives around the protection, improvement, sustainable management and use of the water environment in terms of quantity and quality. Interactions between the plans, particularly for water dependent Habitats sites are likely; however, particularly given that water resource management plans are identified within the RBMPs as plans to work alongside the RBMP to address pressures on water body status and meet specific protection designation objectives, water resource management plans or actions arising from them should act as mechanisms to deliver RBMP objectives for water dependent Habitats sites.

5.3 Local Authority Local Development Plans

Promotion of growth within local development plans, depending on location, may place pressure on both water dependent and non-water dependent Habitats sites. Development activities arising from local plans could result in impacts on Habitats sites through disturbance during construction, adverse effects from encroachment on habitats or species displacement, or indirect effects such as alterations to drainage, increased surface water run-off and diffuse / point source pollution. Some local authorities have planning frameworks to manage pressure on designated sites resulting from development. Significant interactions with the Severn RBMP are unlikely, given that RBMP actions are focused on water body and water dependent Habitats site improvements. Whilst development activities arising from the Local Development Plans may inhibit the ability of the RBMP to achieve objectives relating to Habitats site protected areas, the overall effect of the RBMP is to promote management towards GEP and GES.

The Environment Agency is a prescribed public body with a duty to cooperate in order to maximise the effectiveness of the plans (Town and Country Planning (Local Planning) (England) Regulations 2012 as amended). All development plans utilise information from the RBMPs and other plans concerning the natural environment and biodiversity, including green infrastructure plans and Nature Recovery Networks. The sustainability assessment, and HRA if required, tests the plan against environmental criteria. These mechanisms support a complementary approach between the RBMP and development plan.

The Environment (Wales) Act 2016, the Wellbeing of Future Generations Act (Wales) 2015 and the Planning (Wales) Act 2015 put the laws in place to allow Wales to develop sustainably. Natural Resources Wales' area statements support place based approaches linked to the challenges, opportunities and national priorities in the Natural Resources Policy. The Area Statements (South East, South Central and Mid Area Statements are relevant for the Severn RBD) translate the national priorities into the action that can be taken across Wales. They set out a local evidence base for the sustainable management of natural resources and identify the opportunities where working together can help deliver the national priorities, build ecosystem resilience and make the most of the benefits Wales' natural resources and ecosystems provide for Well-being. Local Development Plans, Public Service Board Well-being Assessments, National Park and AONB plans must have

regard to this evidence. This framework for all public authorities will ensure complementary approaches between the RBMP and development plans in Wales.

5.4 Marine Strategy Framework Directive, Marine Plans

Marine plans guide those who use and regulate the marine area to encourage sustainable development while considering the environment, economy and society. The geographical scope of the MSFD is focused on marine / coastal waters; therefore, any interactions with the RBMP are only likely to affect the Habitats sites in the coastal/estuarine locations in the RBD. The MSFD has complementary objectives to the RBMP, with an overall objective to achieve 'Good Environmental Status' in marine waters, including the same objectives for good ecological and chemical status.

However, the MSFD also covers broader environmental aspects, such as noise, litter, and aspects of biodiversity, therefore is likely to complement objectives in the RBMP aimed at achieving favourable conservation status for Habitats site protected areas.

The UK Marine Policy Statement is the framework for marine planning and taking decisions about the marine environment, such as informing marine licensing decisions. High level objectives include living within environmental limits, ensuring a strong healthy and just society and achieving a sustainable marine economy.

Marine Plans, as part of their objective of sustainable development, will help to implement measures for GES and therefore serve to complement the RBMP. Their objective for living within environmental limits is also considered to be compatible with the RBMP's objectives for Habitats sites and improving their conservation status. Potential conflicts could arise, however, in connection with development, resource extraction and infrastructure activities enabled by the policy framework set out in the emerging plans.

5.5 Shoreline Management Plans (SMP 2)

The Shoreline Management Plans (SMPs) set out a strategic view of how coastal flood risk should be managed in the future. Policy options typically applied include: no active intervention, hold the line, and management realignment. Impacts that could potentially arise because of the implementation of SMPs include:

- changes in the physical regime, flow or velocity regime and resulting in coastal or estuarine erosion or deposition and altered flooding regimes
- changes to water chemistry resulting from alternations in salinity or an increased risk of pollution from, for example, the flooding of landfill sites or other contaminated land
- habitat severance
- disturbance during construction or maintenance; and
- habitat loss/physical damage as a result of coastal squeeze, sea level rise, the creation of new defences or conversely the retreat of the defence line

The Severn SMP HRA proceeded to IROPI. This has been, and will be, necessary to provide compensatory habitat with respect to coastal squeeze. There are some locations where the requirements of freshwater Habitats sites conflict with the natural processes of coastal and estuarine sites. These can only be resolved at the site scale. Compensatory habitat will also be delivered through the Habitat Compensation Programmes in England and the National Habitat Creation programme in Wales. The Habitat Compensation programmes in England have been improved following the HRA of the national FCERM strategy (2020) for England. These plans provide the HRA consideration of coastal effects in relation to the RBMP.

5.6 National Park and Area of Outstanding Natural Beauty Management Plans

The purpose of National Park and AONB Management Plans is primarily to secure the conservation and enhancement of natural beauty, wildlife and cultural heritage, promote public enjoyment and understanding, whilst supporting the social and economic wellbeing of communities.

Designated landscapes in the RBD encompass many different Habitats Sites, including water dependent sites, which contribute to the areas' conservation interest, natural beauty and recreational value. In relation to the RBMP, National Park and AONB management plans typically incorporate compatible objectives for promoting sustainable development, conserving and enhancing biodiversity & natural resources (including the water environment), managing development and tackling climate change. The implementation of the management plans may offer opportunities to deliver RBMP objectives for water dependent Habitats Sites.

6 Conclusion and future HRAs

This HRA has been carried out at the level of published detail in the 2022 Severn RBMP. The details of where and how the measures will be implemented are not available at this strategic plan stage. This limits the level of assessment that is possible at this stage, but, as set out in the preceding sections, standard practice that will be implemented at project level provides the confidence that adverse effects on integrity can be avoided at lower tier plan and project level.

The RBMP does not specify exactly where or how measures should be implemented, this will be determined at either a lower-tier plan or project level.

At the level of detail in the RBMP, there is confidence, that the measures can be implemented without having a likely significant effect on Habitats sites alone or in combination. The Habitats Regulations make it clear that before any measures in the plan are implemented, they must be subject to HRA.

This is a strategic plan level conclusion and relates to the plan only. Given this conclusion, there is no requirement to progress to the next stage of the Habitats Regulations assessment (an 'appropriate assessment' to examine the question of adverse effect on the integrity of Habitats sites). This conclusion does not preclude the need for lower tier plan/project level appropriate assessment, nor does it determine the conclusions that may be drawn at that level.

This HRA has further considered the in-combination effects of the updated RBMP with other plans at a strategic scale and determined that there is a prescribed degree of mutual compatibility and collaboration aimed at securing environmental protection and improvement (see Section 5).

This HRA has been prepared in a way that should assist HRA at a subsequent level, that is, lower tier strategies, plans or projects that implement measures. As local actions are developed at a project level and the details of their scope and scale are known, this may identify additional effects on Habitats sites that have not been assessed here or were not appropriate to consider at this spatial scale of plan.

Appendices

Appendices are available by request from enquiries@environment-agency.gov.uk

Appendix 1: preliminary screening using the DTA Handbook criteria