

Habitats Regulations Assessment of the second cycle Wales Flood Risk Management Plans

Version 1: Draft for consultation with Appropriate
Nature Conservation Bodies
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Acronyms

Acronym	Meaning
AA	Appropriate Assessment
cSAC	candidate Special Area of Conservation
CAP	Common Agricultural Policy
CARR	Communities at Risk Register
FCERM	Flood and Coastal Erosion Risk Management
FRM	Flood Risk Management
FRMP	Flood Risk Management Plan
HRA	Habitats Regulation Assessment
INNS	Invasive Non-Native Species
LSE	Likely Significant Effect
MPS	Marine Policy Statement
NHCP	National Habitat Creation Programme
NSN	National Site Network
NFM	Natural Flood Management
NRP	Natural Resources Policy
NRW	Natural Resources Wales
NSFCERMW	National Strategy for Flood and Coastal Erosion Risk Management in Wales
pSPA	potential Special Protection Area
RBD	River Basin District
RBMP	River Basin Management Plan
RMA	Risk Management Authority
SAC	Special Area of Conservation
SAT	Strategic Assessment Team
SEA	Strategic Environmental Assessment
SMP	Shoreline Management Plan
SMNR	Sustainable Management of Natural Resources
SPA	Special Protection Area
WFD	Water Framework Directive
WGWE	Welsh Government Woodland Estate
WNMP	Welsh National Marine Plan

1. Introduction

This document sets out the strategic Habitats Regulations Assessment (HRA) of the second cycle Wales Flood Risk Management Plan (FRMP). This document will accompany and inform the consultation on the draft FRMP taking place in Spring 2023.

Natural Resources Wales has a strategic oversight role for flood and coastal erosion risk management which involves the general supervision and communication of flood and coastal erosion risk management in Wales. We also have powers to manage flooding from main rivers, reservoirs and the sea. The FRMP is fulfilling our requirements under section 25 of the Flood Risk Regulations (2009).

Figure 1 shows the study area for this HRA. The HRA will assess national measures that apply across Wales and will also consider local measures that are presented for each of the 6 areas shown on the figure.

Some catchments such as the Severn and the Dee are cross border and so we will consult with Environment Agency and Natural England to ensure cross border effects and cumulative effects are considered in its development. The neighbouring FRMPs, the English Dee, English Severn, South West and North West, have undergone HRA separately by the Environment Agency.

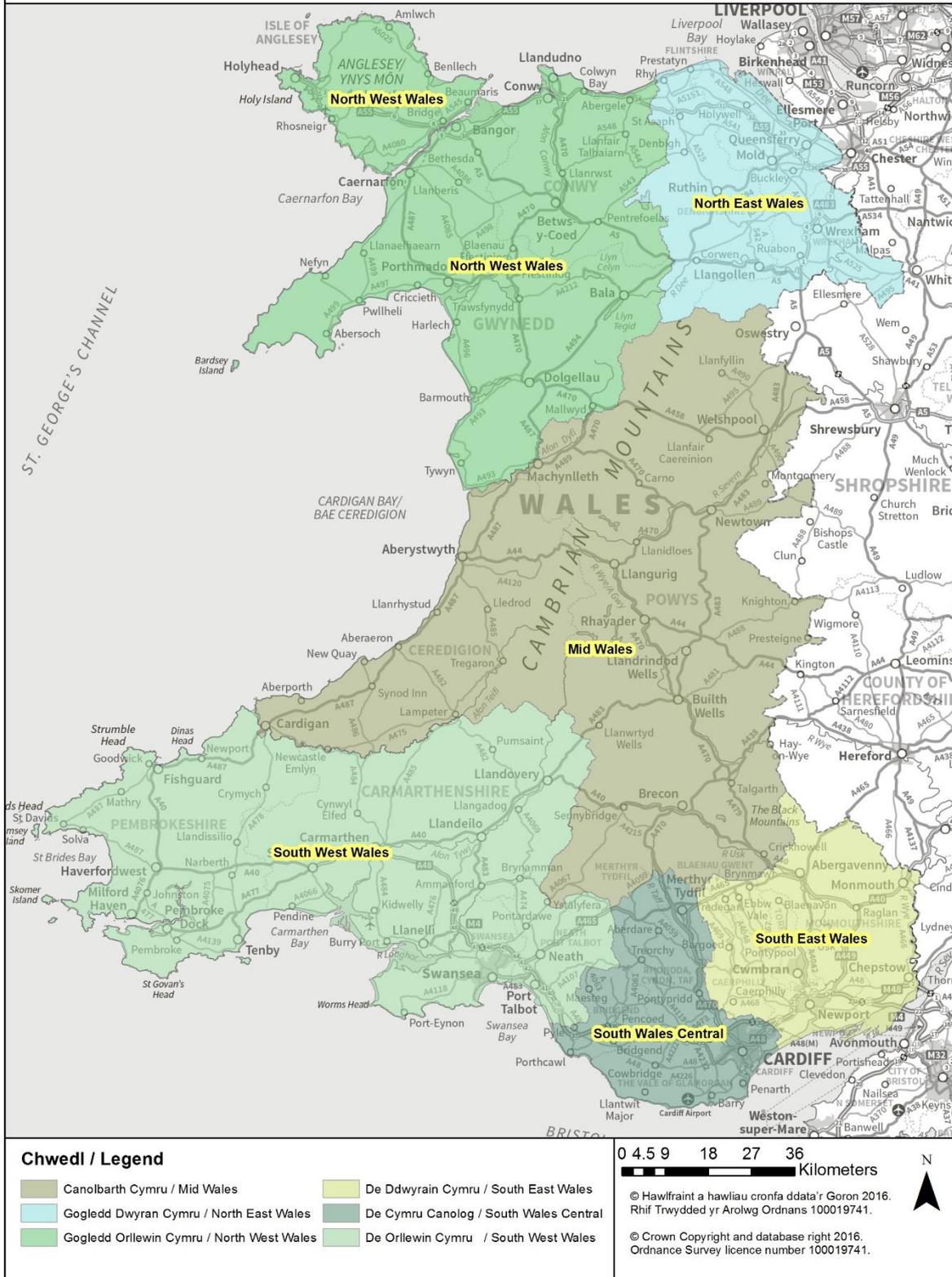


Figure 1. Study area for the Wales FRMP.

2. Determining the need for a Habitats Regulations Assessment

2.1 Introduction to Habitats Regulations Assessment

The Conservation of Habitats and Species Regulations (SI 2017/1012), termed the 'Habitats Regulations', provides the legal framework for the protection of habitats and species of national importance in the UK.

The protected sites comprise Special Areas of Conservation (SAC) and Special Protection Areas (SPA), and the Habitats Regulations are also applied to candidate SACs (cSAC), potential Special Protection Areas (pSPA) and Ramsar sites (sites designated under the [1971 Ramsar Convention](#) for their internationally important wetlands). These sites are referred to collectively in this report as National Site Network Sites (NSN Sites).

Figure 2 shows all SACs, SPAs and Ramsars within or close to the study area based on the most up to date information.

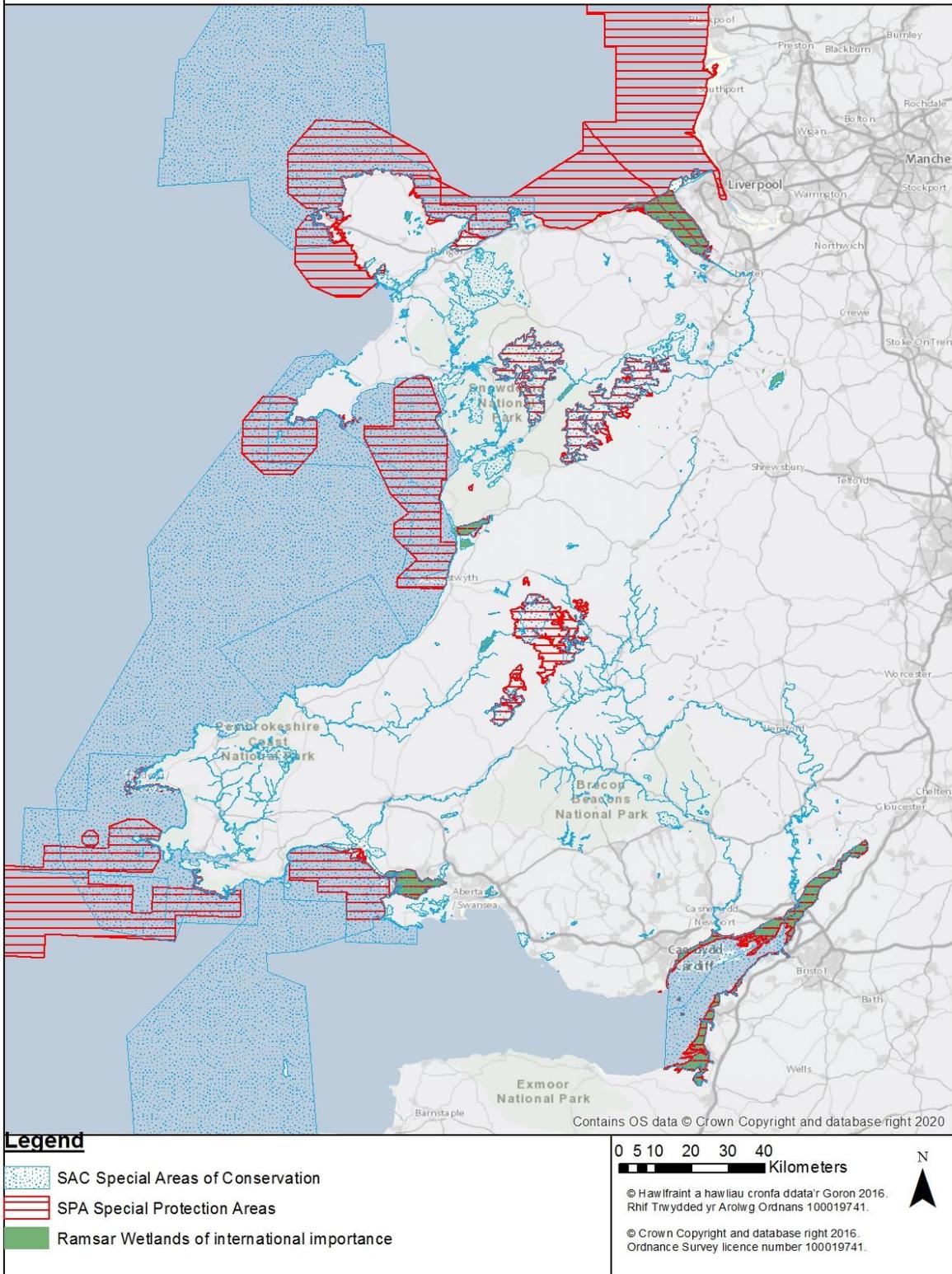


Figure 2. NSN Sites across the Wales.

The Habitats Regulations require that a competent national authority, before deciding to undertake, or give any consent, permission or other authorisation for a plan or project which is likely to have a significant effect on a NSN site and is not directly connected with or necessary to the management of that site, must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.

2.1.1 Stages of Habitats Regulations Assessment

Guidance on the Habitats Regulations sets out several stages to the assessments required under Regulation 63 of the Habitats Regulations. We refer to this process as 'Habitats Regulations Assessment' (HRA). This HRA follows NRW Operational Guidance Note 209 on the HRA Process for Internal Plans.

The HRA process is made up of a series of stages and tests that are summarised below:

1. Screening I: Determining which plans should be subject to HRA.
2. Screening II: Test of Likely Significant Effect
3. Scoping: Deciding the scope and method of the "appropriate assessment"
4. Appropriate Assessment
5. Formal consultation on the Appropriate Assessment
6. Test of Integrity
7. Record the outcome of the assessment

If the test of integrity concludes that the effects of the plan on NSN sites are uncertain or adverse, then there are three tests that must be applied for a plan to proceed under derogation. These are:

1. There are no feasible alternative solutions that would be less damaging or avoid damage to the site.
2. The proposal needs to be carried out for imperative reasons of overriding public interest.
3. The necessary compensatory measures can be secured.

3. An overview of the Plan

In Wales, there are estimated to be 245,118 properties at risk of flooding from all sources of flood risk (flooding from the sea, rivers and surface water). This is approximately 1 in 8 properties in Wales. We take a risk-based approach to managing the risk of flooding through the activities we do.

The first cycle FRMPs were produced at River Basin District (RBD) scale and covered the Western Wales, the Severn and the Dee. The Severn and the Dee were produced jointly with the Environment Agency. This time we are taking a Wales wide view for our FRMP, whilst working closely with the Environment Agency and the Lead Local Flood Authorities to ensure that we are taking an integrated approach to how water is managed in our shared catchments.

The FRMP will provide an overview of where in Wales is at risk of flooding and direct you to where you can find out further information from our interactive maps. The draft national objectives are set out below. The draft FRMP will set out national measures for managing the risk of flooding across Wales as well as more detailed measures for the communities that we are most concerned about. This is informed by the Communities at Risk Register (CARR) which considers a number of factors to identify the locations (communities) at greatest risk of flooding. The CARR is used to inform, plan and prioritise our investment programme to target investment. It is not an absolute ranking of risk; it is an indicator of relative significance of risk from location to location.

NRW's FRMP objective is to:

Reduce the risk to life from flooding to people and communities from main rivers, reservoirs and the sea.

To support the delivery of that objective, NRW's FRMP priorities are to:

Priority 1: Respond to the climate and nature emergencies by seeking innovative practices, promoting adaptation and preparing for future change.

Priority 2: Work with partners and stakeholders to develop and deliver catchment approaches to reduce flooding and contribute to ecosystem resilience.

Priority 3: Improve community resilience to current and future flood risk. Working to support communities to become more aware and take action to mitigate their own flood risk.

Priority 4: Promote opportunities for enhancement to the health and well-being of communities and the environment, and the wider benefits they provide, to support NRW's response to the Nature Emergency.

Priority 5: Increase resilience of flood risk management assets, to reduce the impacts of current and future flood risk.

Priority 6: Improve effectiveness of our key products and services, including our digital services, to provide improved services to the public.

Priority 7: Continuously improve understanding of current and future flood risk (including climate change) so that decisions are based upon the best available evidence and information.

Priority 8: Provide an effective and sustained response to flood events, working in collaboration with Risk Management Authorities and Professional Partners.

Priority 9: Continually improve our flood warning service to enable people to take more effective action in response to flooding.

Priority 10: Provide effective planning advice on flood risks and consequences to reduce inappropriate development in areas at risk of flooding.

Priority 11: Prioritise our work on a risk basis in alignment with Welsh Government's National FCERM Strategy and develop our evidence base to secure future investment in flood risk management.

Priority 12: Promote, support and implement nature-based solutions where appropriate to reduce the risk and impacts of flooding and to deliver wider ecosystem benefits.

Priority 13: Undertake our strategic oversight role to understand all sources of flood risk on a national basis to inform investment and optimise how we plan work including with other partners.

Priority 14: Ensure we have an FCERM workforce with the appropriate capabilities and skills required to meet our priorities and respond to future challenges.

Since publishing the first cycle FRMPs, new Welsh legislation has placed greater emphasis on the Sustainable Management of Natural Resources (SMNR) and the importance of this in securing wellbeing for future generations. The Environment (Wales) Act 2016 and the Well-being of Future Generations (Wales) Act (2015) require us to manage, use and enhance Wales' natural resources to deliver lasting, sustainable economic, social and environmental benefits. This puts in place an area-based approach to plan and manage our natural resources in a more joined-up way to improve ecosystem resilience and the ability of our ecosystems to adapt to climate change. The draft FRMP aligns with [Area Statements](#), which outline the priorities, challenges and opportunities for SMNR at a regional level in Wales.

The draft FRMP consists of:

- 1 National objective and 14 national priorities
- National measures aimed at achieving this objective and priorities. There are 58 national measures. We will consider all national measures at a national scale. These measures are non-spatial and will apply across Wales and so the assessment will necessarily be high level.
- Local measures are more spatially specific, but the measures remain generic. For example, "Undertake initial assessment and feasibility of reducing flood risk". The draft FRMP is prioritising the need to reduce flood risk in certain communities but the outcome is uncertain. This measure may result in new flood risk management assets, such as walls and bunds or it might be property level protection, upstream storage or improving resilience within the community. The nature of the intervention is uncertain and will be developed at a project level.

We propose to undertake the HRA of local measures in 2 stages. Firstly, screen the measure descriptions. This will allow certain measures, eg "Improve existing Flood Warning Service" to be screened out and those with potential pathways for effects, "eg Design and Construction of flood risk asset improvement" to be screened in. Secondly, we will take all the screened in measures and identify NSN Sites in or near the study areas and consider in greater detail pathways for effects. Where no NSN sites are within or near the study area we will screen out the measures.

- Some of the measures will already have undergone or be undergoing HRA at a strategic or project level. We have screened these measures out of the HRA, but we will, however, assess the in combination effect of these measures.

This HRA has been undertaken iteratively with the developing FRMP.

HRA must be an iterative process and the conclusions have informed the development of the draft FRMP. The HRA will be discussed with the Appropriate Nature Conservation Bodies (NRW and Natural England) and will inform public consultation on the draft plan. It will be revised in light of these discussions and responses to the draft plan consultation and as the FRMP evolves.

4. Screening I: Is the Plan directly connected with or necessary to the management of a NSN site for the purposes of conserving the habitats or species for which the sites are designated? Could the plan affect a different NSN site to the one it is intended to conserve?

The second cycle Wales FRMP is not directly connected with or necessary to the management of NSN sites. The plan includes measures that could result in physical interventions in the environment and consequently, there is potential for effects on NSN sites located on, adjacent to or linked with (e.g. downstream of) measures. NRW have therefore determined that the Wales FRMP should be subject to HRA.

5. Screening II: Test of Likely Significance Alone

5.1 Screening approach

The screening stage in strategic HRA is undertaken in stages. A pre-screening is initially undertaken where measures that have no pathway for effects on NSN site features are screened out immediately, with justification provided. Those with potential pathways for effects will be considered in the second stage which is the Test of Likely Significant Effect.

This HRA has been designed to reflect the national scale of the plan, assessing the national measures without spatial reference but also to consider the local measures which do have spatial reference.

5.2 Pre-Screening of measures

National and local measures have been allocated into one of 13 categories according to the ways in which they could affect NSN sites. These are described in Table 1 and are taken from the [Habitats Regulations Handbook](#)¹. Where pathways or uncertainties exist, the national measures will be taken forward to the test of likely significance.

¹Tyldesley, D., and Chapman, C., (2013) *The Habitats Regulations Assessment Handbook*, (month) (year) edition UK: DTA Publications Limited

Table 1. Pre-screening Assessment Categories.

Category	Description
A	<p>General statements of policy/general aspirations. Policies which are no more than general statements of policy or general political aspirations should be screened out because they cannot have a significant effect on a site.</p>
B	<p>Policies listing general criteria for testing the acceptability/sustainability of proposals. These general policies cannot have any effect on a NSN site and should be screened out.</p>
C	<p>Proposal referred to but not proposed by the strategy. Screen out any references to specific proposals for projects, such as those which are identified, for example, in higher policy frameworks such as the Wales Spatial Plan or National Policy Statements, relating perhaps to nationally significant infrastructure projects. These will be assessed by the Secretary of State or Welsh Ministers. A useful ‘test’ as to whether a project should be screened out in this step is to ask the question:</p> <p>‘Is the project provided for/proposed as part of another plan or programme and would it be likely to proceed under the other plan or programme irrespective of whether this subject plan is adopted with or without reference to it?’</p> <p>If the answer is ‘yes’, it will normally be appropriate to screen the project out in this step.</p>
D	<p>Environmental protection/site safeguarding policies. These are policies the obvious purpose of which is to protect the natural environment, including biodiversity, and/or to conserve or enhance the natural, built or historic environment, where enhancement measures will not be likely to have any adverse effect on a NSN Site. They can be screened out because the implementation of the policies is likely to protect rather than adversely affect NSN sites, and would not undermine their conservation objectives.</p>
E	<p>Policies or proposals that steer change in such a way as to protect NSN sites from adverse effects. These types of policies or proposals will have the effect of steering change away from NSN sites whose qualifying features may be affected by the change, and they can therefore be screened out.</p>

Category	Description
F	<p>Policies or proposals that cannot lead to development or other change. Policies that do not themselves lead to development or other change, for example, because they relate to design or other qualitative criteria for development, such as materials for new development. They do not trigger any development or other changes that could affect a NSN site, and can be screened out.</p>
G	<p>Policies or proposals that could not have any conceivable adverse effect on a site. Policies which make provision for change, but which could have no conceivable effect on a NSN site, because there is no causal connection or link between them and the qualifying features of any NSN site and can therefore be screened out.</p>
H	<p>Policies or proposals the (actual or theoretical) effects of which cannot undermine the conservation objectives (either alone or in combination with other aspects of this or other plans or projects). Policies or proposals which make provision for change, but which could have no significant effect on a NSN site, either alone or in combination with other aspects of the same plan, or in combination with other plans or projects, and can therefore be screened out. These may include cases where there are some potential effects which (and theoretically even in combination) would plainly be insignificant and could not undermine the conservation objectives.</p>
I	<p>Policies or proposals with a likely significant effect on a site alone. Policies or proposals which are likely to have a significant effect on a NSN site alone should be screened in.</p>
J	<p>Policies or proposals not likely to have a significant effect alone. These aspects of the plan would have some effect on a site, but the effect would not be likely to be significant; so, they must be checked for in-combination (cumulative) effects. They will then be re-categorised as either Category K (no significant effect in combination) or Category L (likely to have a significant effect in combination), as explained below.</p>

Category	Description
K and L	<p>Policies or proposals not likely to have a significant effect either alone or in combination (K), or likely to have a significant effect in combination (L) after the in-combination test. Where an aspect of a plan could have some effect on the qualifying feature(s) or a NSN site, but the effects of that aspect of the plan alone would not be significant, the effects of that aspect of the plan will need to be checked in combination firstly, with other effects of the same plan, and then with the effects of other plans and projects. i.e. policies or proposals which will have no likely significant effect alone or in combination are classified as Category K. Policies or proposals which are likely to have a significant effect in combination are classified as Category L. Category L policies or proposals will require further consideration in terms of potential in-combination effects. Firstly, this will be with regard to other aspects of the Plan itself, and subsequently with other separate plans or projects, for example neighbouring Local Plans.</p>
M	<p>Bespoke area, site or case-specific policies or proposals intended to avoid or reduce harmful effects on a NSN Site. Examples of these may be policies or proposals which: are area specific; or provide a bespoke mitigation plan or strategy; or require that a particular proposal be accompanied by a detailed “construction management plan”, or similar plan; or require a proposed change to be subject to early warning monitoring.</p>

Supplementary Material

Appendix 1 lists the national measures, applicable across Wales, and Appendix 2.1-2.7 list the local measures. They are grouped under FRM topics and the pre-screening decision and our justification is recorded.

Pre-screening is based on the identification (or not) of a pathway for any likely significant effects on the NSN sites outlined in Figure 2. A precautionary approach has been taken where any uncertainty exists because of the following:

- Plans, programmes or projects are still in-development;
- National measures have no detailed spatial information in terms of their delivery.

In these instances, we have taken the measures forward for further consideration of pathways in the test of likely significant effects on NSN Sites.

Of the 58 Wales national measures, 48 were screened out at the pre-screening stage (see Appendix 1 for justification) and 10 required further screening consideration and justification, and this is set out below.

The first stage of pre-screening the local measures is set out in Appendix 2.1. There are a total of 265 local measures which consist of 14 generic measures applied across a number of different communities. The first stage pre-screening resulted in 7 of the 14 generic measures being screened out of the assessment, meaning 122 of the 265 local measures were pre-screened out.

5.3 Test of Likely Significant Effect

5.3.1 National Measures

Ten national measures required further screening consideration and justification, and this is set out below.

When considering potential pathways for effects of FRM activities the WG Flood and Coastal Erosion Risk Management Strategy² and Shoreline Management Plan³ Habitats Regulations Assessments have shown that coastal activities have the potential to result in significant effects, and potentially impact site integrity, as a result of coastal squeeze impacts on intertidal habitats. Consequently, the strategy and SMP2 went through the derogations, establishing the lack of alternatives, imperative reasons of overriding public interest and the compensatory mechanism (National Habitat Creation Programme (NHCP)).

The FRMP states that: “The SMP2s remain as plans in their own right and where applicable and appropriate, certain sea flooding actions have been brought forward into this FRMP to provide a complete picture for a community of the measures that we propose to take to manage flood risk”. The SMP2 sets the policy which will inform how coastal measures are delivered under the FRMP. The FRMP gives no greater level of detail, other than identifying coastal areas (local measures) that are a priority for consideration within this FRMP cycle.

Government [Guidance](#) on the Habitats Regulations, states that a HRA previously carried out by another competent authority for the same proposal can be used if:

- there’s no new information or evidence that may lead to a different conclusion,
- the assessments already done are relevant, thorough and correct,
- the conclusions are rigorous and robust, and
- there’s no new case law that changes the way an HRA should be carried out or interpreted

² [National Strategy for Flood and Coastal Erosion Risk Management in Wales | GOV.WALES](#)

³ [Natural Resources Wales / Shoreline Management Plans](#)

Both the national and local scale measures provide no further information or evidence that can add to the SMP2 HRA conclusions. The SMP2 HRA's are still current and used by RMA's and other stakeholders. There is also no new caselaw that has changed our approach to HRA of coastal projects. We therefore rely on the SMP2 HRA for coastal squeeze impacts for national measures (WA1.1, 1.2, WA1.5, WA1.13, WA9.7 and WA9.8).

Whilst we are using the SMP2 HRA evidence and conclusions in relation to coastal squeeze effects, we still propose taking the measures through to AA, because there could be other pathways for effects on other features of NSN sites. This is in line with government guidance which requires us to make sure our final decision will have no negative effect on a NSN Site.

Following this consideration, the 9 national measures will be taken forward to AA, as outlined in Table 2 below.

Table 2: Test of Likely Significant Effect

Measure Description	Test of Likely Significant effect
<p>WA1.1 Ensure our Flood Risk Management assets continue to provide sustained protection to communities at risk of flooding through the delivery of our maintenance programmes</p>	<p>Maintenance activities could be on or near NSN Sites. The timing and nature of the activities are generally repetitive and planned but a likely significant effect on NSN features cannot be ruled out at this level. Progress national measure to Appropriate Assessment</p> <p>Any coastal assets maintained under this measure will be undertaken with consideration of the policy direction set by the SMP2 and it's HRA. The potential coastal squeeze effects of this measure are therefore not considered further in this HRA.</p>
<p>WA1.2 Investigate and deliver options to reduce the risk of flooding to communities through the Flood Risk Management Capital Programme.</p>	<p>Preferred options to reduce flood risk can be physical interventions such as construction or improvement of flood risk assets. The communities at risk could be on or near NSN Sites. The timing and nature of the projects when they come onto the programme are unknown and so a likely significant effect on NSN features cannot be ruled out. Progress national measure to Appropriate Assessment</p>

	<p>Any coastal projects delivered under this measure will be undertaken with consideration of the policy direction set by the SMP2 and it's HRA. The potential coastal squeeze effects of this measure are therefore not considered further in this HRA.</p>
<p>WA1.5 Consider catchment and natural based solutions to addressing flood risk, where it is appropriate to do so, when delivering our activities.</p>	<p>Linked to measure WA 1.2 above. Preferred options to reduce flood risk can be physical interventions such as construction or improvement of flood risk assets and may include NFM options. The communities at risk could be on or near NSN Sites. The timing and nature of the projects when they come onto the programme are unknown and so a likely significant effect on NSN features cannot be ruled out. Progress measure to Appropriate Assessment</p> <p>Any coastal projects delivered under this measure will be undertaken with consideration of the policy direction set by the SMP2 and it's HRA. The potential coastal squeeze effects of this measure are therefore not considered further in this HRA.</p>
<p>WA1.6 Develop an Asset Management Strategy to sit with an Asset Management System in line with industry standards such as ISO55001, to help guide our asset plan priorities</p>	<p>Flood Risk Asset Management System (FRAMS) looks to implement an industry standard asset management system for managing FRM assets.</p> <p>The aim is to create an asset management system which links cooperate goals to operational delivery and allows a long-term plan for the management of FRM assets.</p> <p>The development of the system will not result in any physical work on the ground. The measure relates purely to the development of a system and so there are no pathways for likely significant effects on NSN sites and so this measure will not be progressed to Appropriate Assessment</p>
<p>WA1.11 In waterbodies designated as heavily modified due to flood and coastal protection, Review and deliver</p>	<p>Whilst the aim of this measures is to restore and improve waterbodies that are heavily modified, benefiting ecological and hydromorphological</p>

<p>(on a prioritised basis) mitigation for NRW owned assets and activities.</p>	<p>status, there could still be pathways for effects on NSN sites. The timing, nature and location of the activities are unknown and so a likely significant effect on NSN features cannot be ruled out. Progress measure to Appropriate Assessment</p>
<p>WA1.12 Manage our drainage districts to reduce flood risk through the management of drainage channels, ordinary watercourses, pumping stations and control structures.</p>	<p>Certain drainage districts are on or near NSN Sites. The timing, nature and location of the management activities are unknown and so a likely significant effect on NSN features cannot be ruled out. Progress measure to Appropriate Assessment</p> <p>Any coastal projects delivered under this measure will be undertaken with consideration of the policy direction set by the SMP2 and its HRA. The potential coastal squeeze effects of this measure are therefore not considered further in this HRA.</p>
<p>WA4.1 Maintain and operate an effective, efficient and resilient hydrometry, telemetry, hydrology and geomorphology services for all business sectors across NRW.</p>	<p>Certain hydrometry and telemetry assets are on or near NSN Sites. The timing, nature and location of the maintenance activities are unknown and so a likely significant effect on NSN features cannot be ruled out. Progress measure to Appropriate Assessment</p>
<p>WA4.5 Manage and deliver Hydrometry & Telemetry capital programme to ensure our hydrometric monitoring assets are fit for purpose and that we have a medium term investment plan for securing this</p>	<p>Certain hydrometry and telemetry assets are on or near NSN Sites. The timing, nature and location of the improvement activities are unknown and so a likely significant effect on NSN features cannot be ruled out. Progress measure to Appropriate Assessment</p>
<p>WA9.7 Support Wales to have a coastline that is sustainable and resilient to climate change. We will plan for coastal adaptation in line with Shoreline Management Plan policy for coastal defence management and enable the National Habitat Creation Programme to deliver compensatory intertidal habitat where required.</p>	<p>The SMP2 has undergone HRA and the Statement of Case identified the NHCP as the compensatory mechanism for coastal habitat losses through coastal squeeze. However, adaptation at the coast either for protection of people or property or for habitat creation under the NHCP, have the potential for significant effect on NSN features.</p> <p>Progress measure to Appropriate Assessment</p>

	Any Coastal Adaptation / NHCP Projects delivered under this measure will be undertaken with consideration of the policy direction set by the SMP2 and its HRA. The potential coastal squeeze effects of this measure are therefore not considered further in this HRA.
<p>WA9.8 Develop adaptation plans to address the increased flood risks presented by Climate Change both in land and on the coast</p>	<p>Coastal Adaptation Plans could be developed on or near NSN Sites. The timing, nature and location of the plans are unknown and so a likely significant effect on NSN features cannot be ruled out. Progress measure to Appropriate Assessment</p> <p>The Coastal Adaptation Plans delivered under this measure will be undertaken with consideration of the policy direction set by the SMP2 and its HRA. The potential coastal squeeze effects of this measure are therefore not considered further in this HRA.</p>

5.3.2 Local Measures

The first stage of pre-screening the local measures resulted in 122 of the 265 local measures being pre-screened out of the assessment.

The second stage, Appendix 2.2-2.7 considered the screened in generic measures at each of the relevant locations. Further local measures were screened out if:

- No NSN sites are present within or near the community at risk
- A HRA is underway or complete

This exercise screened out a further 77 local measures because no NSN sites are present at the locations or where a HRA is complete or underway. Leaving 66 local measures to be taken through to AA.

For the same reasons as outlined above, impact pathways on coastal intertidal habitats brought about by coastal squeeze are not going to be considered further in this HRA. Those local measures identified as having possible pathways for effects that could result in coastal squeeze will be delivered under the direction of the SMP2 policy which has been assessed under the SMP2 HRA. However, they are still taken forward for AA on the basis that they can have wider effects on NSNS features.

6. Screening II: Test of Likely Significance in combination

6.1 Identifying possible in-combination effects

The Habitats Regulations require us to consider whether the FRMP would have significant effects either alone, or in combination with other plans or projects. The pre-screening and Test of likely Significant Effect have screened out 49 of 58 National measures from the assessment. 9 national measures and 66 local measures are being put forward on a precautionary basis for AA due to uncertainty of likely significant effects.

In this section we consider which plans have the potential to act in combination with the FRMP. Given the high-level nature of the plan, only relevant national and regional plans have been considered. At AA stage we will consider in greater detail the in-combination effects of the 9 national measures and 66 local measures screened in.

Plans that we have identified and will consider at AA stage are:

- **Area Statements** were published in Spring 2020 and set out the themes, priorities and actions required across 7 areas of Wales to promote the sustainable management of natural resources. The statements promote collaborative working and will be developed over coming years to work towards delivery of the **Natural Resources Policy** priorities. Themes and priorities include sustainable management of the water environment. The local measures in particular will be informed by Area Statement priorities. The SEA is considering opportunities and constraints relevant to FRM activities in each Area.
- **The UK Marine Policy Statement (MPS) and Welsh National Marine Plan (WNMP)**: implements the requirements of The Marine and Coastal Access Act 2009, and sets out a framework for a system of marine planning, providing the high level policy context for the sustainable development of the United Kingdom marine area, and in the case of the WNMP, for the Wales marine area, supporting the vision for clean, healthy, safe, productive and biologically diverse oceans and seas. The MPS places a duty on marine plan authorities to prepare Marine Plans for the Welsh inshore and offshore regions. The WNMP was adopted in November 2019 and the neighbouring plans, the North West Marine Plan and the South West Marine Plan were adopted in June 2021. They set the planning framework that applicants and public authorities must use in applying for and determining proposals and licence applications.
- **Welsh Governments Future Wales: the national plan 2040** sets the long-term spatial direction for Government policy, action and investment and for others who the Government work with. The vision is to help deliver sustainable places by supporting positive placemaking and ensuring that our spatial choices direct development to the right places, make the best use of resources, create and sustain accessible, healthy communities, protect our

environment and support prosperity for all. Future Wales was adopted in Spring 2021.

- **Shoreline Management Plans (SMPs):** are the regional strategic plans that set out the priorities and strategic direction for all flood and coastal erosion risk management on the coast. SMPs have a geographic framework set out according to an area of coastline known as a sub-cell within a littoral sediment cell (length of coastline that is relatively self-contained in terms of the movement of sediment). A policy is assigned to each sub-cell to direct FRM activities around the coast.
- **North West, South West, English Dee and English Severn Flood Risk Management Plans (FRMPs):** are high-level planning tools that set out objectives for flood risk management across each river catchment and estuary. The Environment Agency has produced the four plans that neighbour Wales and were adopted in December 2022. They consider inland flood risk from rivers, surface water, groundwater and tidal flooding, and are designed to set the overall direction of flood risk management on a catchment basis. They identify broad flood risk management policies that are economically practical, have a potential life of 50 to 100 years, and will help the Environment Agency work with others, including NRW, to put them in place.
- **National Strategy for Flood and Coastal Erosion Risk Management (FCERM) in Wales and National FCERM Strategy England:** in response to the Flood and Water Management Act 2010, the National FCERM Strategies were adopted in 2011 to manage flood and coastal erosion risk management in England and Wales. The FCERM strategies described what needed to be done and by whom to manage the risk of flooding and coastal erosion, and to manage its consequences. They set out the national approach to flood and coastal risk in Wales and England, respectively, describing the long-term goals for managing flooding from rivers and the sea and how these will be achieved. The FCERM strategy in England was adopted in September 2020. The FCERM strategy in Wales was adopted in November 2020.
- **Woodlands for Wales Strategy:** This [Strategy](#) (last updated in 2018) sets out the former Welsh Government's approach to sustainably manage woodland across Wales. Since the first publication in 2001, the strategy has run parallel to UK legislation, and more recently, Welsh legislation (e.g. Well-being for Future Generations (Wales) Act 2015, Environment (Wales) Act 2016), in order to manage the delivery of the policy objectives of sustainable woodland expansion and management. The Strategy is reviewed consistently to ensure best practice for management is followed.
- **The third cycle Western Wales River Basin Management Plan (RBMP) and Dee RBMP** was adopted in July 2022 by Welsh Government and DEFRA. The **Severn RBMP, North West RBMP and South West RBMP** were adopted in December 2022.

Other important plans that are under development are:

- **Rural Land Use** – No specific plans have been reviewed for this in combination assessment, however, it is recognised that the Agriculture Bill (Wales) will seek to provide the legal framework for leaving the Common Agricultural Policy (CAP) and establishing new systems for agricultural and land management support across the UK.

7. Appropriate Assessment

7.1 Approach to the appropriate assessment

The likelihood and significance of effects of the plan have been identified in the earlier parts of this HRA. The AA is the consideration of whether adverse effects on site integrity will occur for the measures that have not been screened out (Section 5.3). We have taken these measures forward into the AA because of uncertainty over the scale/location/magnitude of significant effects that we could not conclude were not likely to happen. There are real and credible pathways for effect that could occur but at this level of plan we do not have the detail available to say where, how or when effects might occur.

Table 3: The national measures screened in for Appropriate Assessment

Measure Description
WA1.1 Ensure our Flood Risk Management assets continue to provide sustained protection to communities at risk of flooding through the delivery of our maintenance programmes.
WA1.2 Investigate and deliver options to reduce the risk of flooding to communities through the Flood Risk Management Capital Programme.
WA1.5 Consider catchment and natural based solutions to addressing flood risk, where it is appropriate to do so, when delivering our activities.
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.
WA1.12 We will manage our drainage districts to reduce flood risk through the management of drainage channels, ordinary watercourses, pumping stations and control structures.
WA4.1 Maintain and operate an effective, efficient and resilient hydrometry, telemetry, hydrology and geomorphology service for all business sectors across NRW.
WA4.5 Manage and deliver Hydrometry & Telemetry capital programme to ensure our hydrometric monitoring assets are fit for purpose and that we have a medium term investment plan for securing this
WA9.7 We will support Wales to have a coastline that is sustainable and resilient to climate change. We will plan for coastal adaptation in line with Shoreline Management Plan policy for coastal defence management and enable the National Habitat Creation

Programme to deliver compensatory intertidal habitat where required. We will integrate, where appropriate, nature-based solutions into the delivery of coastal defence schemes.

WA9.8 Develop adaptation plans to address the increased flood risks presented by Climate Change both in land and on the coast

Table 4: The local measures screened in for appropriate assessment

Area	Location	Source of flooding	Measure
Mid	Aberystwyth	River/Sea	M1 Undertake initial assessment and feasibility work for reducing flood risk
	Builth Wells	River	M3 Undertake initial assessment and feasibility work for reducing flood risk
	Crickhowell	River	M11 Undertake initial assessment and feasibility work for reducing flood risk
	Mid Wales place	River/Sea	M29 Maintain existing defences and inspection regime
North East	Bangor on Dee	River	NE1 Undertake initial assessment and feasibility work for reducing flood risk
	Bangor on Dee	River	NE2 Develop scheme appraisal for flood alleviation scheme
	Clwyd - Ffynnon y Ddol	River	NE7 Undertake initial assessment and feasibility work for reducing flood risk
	Connah's Quay and Shotton	River/Sea	NE10 Maintain existing defences and inspection regime
	Connah's Quay and Shotton	River	NE11 Undertake initial assessment and feasibility work for reducing flood risk
	Dee	Sea/River	NE14 Maintain existing defences and inspection regime
	Dee	River	NE15 Develop an integrated catchment approach to flood risk management
	Dee – Tidal Outfalls	Sea	NE17 Design and construction of flood risk asset improvements
	Garden City and Deeside Ind Est	Sea	N20 Undertake initial assessment and feasibility study
	Glyndyfrdwy	River	NE22 Undertake initial assessment and feasibility work for reducing flood risk
	Holt and Plas Devon	River	NE23 Design and construction of flood risk asset improvements
	Holt and Plas Devon	River	NE25 Undertake initial assessment and feasibility work for reducing flood risk
	Lache	River	NE26 Maintain existing defences and inspection regime

Area	Location	Source of flooding	Measure
	Llandrillo	River	NE27 Undertake initial assessment and feasibility work for reducing flood risk
	Pen y Ffordd	River	NE36 Maintain existing defences and inspection regime
	Prestatyn	River	NE38 Maintain existing defences and inspection regime
	Queensferry-Sandycroft-Manor Lane	Sea	NE41 Design and construction of flood risk asset improvements
	Rhyl	River	NE45 Maintain existing defences and inspection regime
North West	Aberdaron	River/Sea	NW1 Undertake initial assessment and feasibility work for reducing flood risk
	Abergele	River	NW4 Design and construction of flood risk asset improvements
	Abergele	River	NW5 Design and construction of flood risk asset improvements
	Abergwyngregyn	Sea	NW6 Consider future management options and undertake coastal adaptation planning
	Bala	River	NW10 Design and construction of flood risk asset improvements
	Bala	River	NW11 Maintain existing defences and inspection regime
	Beddgelert	River	NW13 Undertake initial assessment and feasibility work for reducing flood risk
	Betws Garmon	River	NW14 Undertake initial assessment and feasibility work for reducing flood risk
	Bontnewydd	River	NW15 Design and construction of flood risk asset improvements
	Caernarfon	River	NW17 Undertake initial assessment and feasibility work for reducing flood risk – Seiont Mill
	Criccieth	River	NW24 Design and construction of flood risk asset improvements (Chamber & weedscreen)
	Dysynni	Sea	NW28 Consider future management options and undertake coastal adaptation planning

Area	Location	Source of flooding	Measure
	Fairbourne	Sea	NW30 Undertake initial assessment and feasibility work for reducing flood risk
	Gwehelog (Mochras)	River	NW31 Undertake initial assessment and feasibility work for reducing flood risk
	Harlech	Sea	NW 32 Undertake initial assessment and feasibility work for reducing flood risk
	Llanbedr	Tidal	NW35 Undertake initial assessment and feasibility work for reducing flood risk
	Llanfihangel - y - Traethau	Sea	NW43 Design and construction of flood risk asset improvements
	Malltraeth – maintenance of existing defence	Sea	NW 46 Design and construction of flood risk asset improvements
	Pennal	River	NW50 Undertake initial assessment and feasibility work for reducing flood risk
	Pontllyfni	Sea	NW51 Consider future management options and undertake coastal adaptation planning
	Talsarnau	Sea	NW56 Undertake initial assessment and feasibility work for reducing flood risk
	Talsarnau	Sea	NW57 Consider future management options and undertake coastal adaptation planning
	Towyn	Sea	NW59 Maintain existing defences and inspection regime
	Tywyn – Low level Afon Fathew Aqueduct	River	NW63 Undertake initial assessment and feasibility work for reducing flood risk
	Ynys Mon	River	NW67 Maintain existing defences and inspection regime
South Central	Canton	Sea	SC4 Maintain existing defences and inspection regime
	Grangetown	Sea	SC11 Maintain existing defences and inspection regime
	Hirwaun	River	SC12 Undertake initial assessment and feasibility work for reducing flood risk

Area	Location	Source of flooding	Measure
	Riverside	Sea	SC35 Maintain existing defences and inspection regime
	River Taff catchment	River	SC36 Develop an integrated catchment approach flood risk management
	St Mellons	Sea	SC38 Maintain existing defences and inspection regime
South East	Caerleon	River	SE4 Undertake initial assessment and feasibility work for reducing flood risk
	Chepstow	River	SE8 Undertake initial assessment and feasibility work for reducing flood risk
	Crindau	Sea	SE9 Maintain existing defences and inspection regime
	Duffryn	Sea	SE11 Maintain existing defences and inspection regime
	Goldcliff	Sea	SE12 Design and construction of flood risk asset improvements.
	Liswerry	Sea	SE13 Maintain existing defences and inspection regime
	Maindee	Sea	SE22 Maintain existing defences and inspection regime
	Monmouth	River	SE23 Undertake initial assessment and feasibility work for reducing flood risk
	Usk	River	SE35 Undertake initial assessment and feasibility work for reducing flood risk
South West	Briton Ferry	Sea	SW7 Maintain existing defences and inspection regime
	Carmarthen	River	SW8 Undertake initial assessment and feasibility work for reducing flood risk
	Glyn-Neath	River	SW12 Undertake initial assessment and feasibility work for reducing flood risk
	Llanelli	Sea	SW14 Maintain existing defences and inspection regime
	Llanelli	River	SW15 Scheme Review
	Tenby	River/Sea	SW26 Design and construction of flood risk asset improvements

Given the high level of the FRMP measures there are inherent difficulties and uncertainties in carrying out an AA. However, adverse effects on the integrity of NSN sites must be assessed as far as possible using the available detail associated with the screened in measures. This AA must then inform development of those measures, with lower tier plan, programme and project level HRA increasing in specificity in subsequent stages.

Whilst the local measures have a spatial element that allows us to identify NSN sites in or near the community, the measures remain generic. When measures are implemented during the FRMP cycle the initial assessments will commence with identification of a long list of options. At this stage, identification of NSN Sites, as undertaken in Appendices 2.2-2.7, flags the need for a project level HRA to commence and influence the options identification, appraisal and selection of the preferred option. At this stage it is impossible to ascertain potential pathways for effects when project options are unknown and can range from Do Nothing through to major civil engineering works, with many other options also considered.

We seek to defer the HRA to lower tier plans and projects, where a greater level of detail will be available to inform the HRA, including mitigation. The criteria that must be met to defer down are:

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

We have shown throughout this assessment that there is a lack of detail in the national and local measures. For the measures we have screened in, we have not been able to conclude with sufficient certainty that significant effects would not arise. There is insufficient detail available to predict the likelihood and significance of effects in a meaningful and robust way. The programmes and projects that will be developed under these measures will have greater detail and flexibility in terms of locations, timing and options appraisal that takes into account the sensitivities of NSN sites and features.

Where NRW is developing and delivering programmes and projects they must be delivered following our Operational Guidance Notes. Those of relevance are:

- OGN 84: Screening internal plans, programmes and strategies for SEA
- OGN 85: Undertaking SEA of Internal plans, programmes and strategies
- OGN 86: Environmental screening of internal projects
- OGN 87: Undertaking environmental assessment of internal projects
- OGN 200: Habitats Regulations Assessment of projects
- OGN 209: Habitats Regulations Assessment of internal plans
- OGN 236: Assessment of Coastal Squeeze

- OGN 72: Guidance for assessing activities and projects for compliance with the WFD

NRW, as a proponent of projects, is required by UK law to complete a HRA when undertaking operations that could have pathways for effects on NSN sites. NRW also has a responsibility when determining applications made by external or internal parties for any form of authorisation to undertake projects with the potential to affect NSN sites.

We are therefore confident that the criteria for deferring down the HRA to a lower tier are met.

7.2 Assessment of potential in-combination effects

The Habitats Regulations require competent authorities to include within an AA, the assessment of effects on a NSN site in combination with other plans or projects.

For the purpose of this assessment, and in keeping with the high-level nature of the plan, only key relevant high-level plans that could potentially result in in-combination effects have been considered. At this national scale, it is not possible to provide an extensive list of all plans and projects which may lead to in-combination effects together with the FRMP. These will however need to be considered further where AA is required in lower tier assessments. The key high level plans considered are summarised below:

- Natural Resources Policy & Area Statements
- Welsh National Marine Plan (WNMP)
- Future Wales: The National Plan 2040
- National Strategy for Flood and coastal Erosion Risk Management for Wales
- National FCERM Strategy for England
- Shoreline Management Plans
- Second Cycle Flood Risk Management Plans – English Severn, English Dee, North West and South West
- Third Cycle River Basin Management Plans – Severn, Western Wales, Dee, North West and South West
- Woodlands for Wales Strategy

Natural Resources Policy and Area Statements

The Natural Resources Policy (NRP) sets out the priorities for the SMNR as:

- Delivering nature-based solutions
- Renewable energy
- Circular economy
- Place based approach

The FRMP has been developed to support and deliver these priorities, where relevant. For example, the development of measures at a national and local level supports the place based approach. The area statements promote collaborative working and they will be developed over coming years to work towards delivery of the NRP priorities. Themes and priorities include sustainable management of the water environment which complements the FRMPs. The synergies are drawn out in the sector specific information on [Area Statements and Water](#). The delivery of nature-based solutions and collaborative and place-based approach promoted through area statements will benefit FRMP delivery of measures and is not anticipated to result in in-combination effects.

Welsh National Marine Plan

The WNMP HRA focussed on the potential effects of sector policies promoting or supporting development on NSN sites. The high level nature of the plan, meaning uncertainties in location, scale, type and timing of future activities, meant that the HRA could not identify specific effects on NSN sites. Uncertainties are inevitable and common in high level plans and the HRA recommended that the general policy safeguards, a requirement for project level HRA and regular review of the WNMP (3 yearly) will ensure no adverse effect on the integrity of NSN sites.

The WNMP explicitly supports flood and coastal erosion management:

- Policy SOC_08: Resilience to coastal change and flooding. Proposals should demonstrate how they are resilient to coastal change and flooding over their lifetime.
- SOC_09: Effects on coastal change and flooding. Proposals should demonstrate how they avoid significant adverse impacts upon coastal processes and minimise the risk of coastal change and flooding; Proposals that align with the relevant Shoreline Management Plan(s) and its policies are encouraged.
- SOC_11: Resilience to climate change. Proposals should demonstrate that they have considered the impacts of climate change and have incorporated appropriate adaptation measures, taking into account Climate Change Risk Assessments for Wales. Proposals that contribute to climate change adaptation and/or mitigation are encouraged.

The policies set out in the WNMP complement the FRMP measures and objectives and are not likely to result in in-combination effects.

Future Wales: The National Plan 2040

Future Wales is Welsh Governments national development framework which was adopted in February 2021. It sets the long term spatial direction for Government policy, action and investment and for others who the Government work with. The vision is to help deliver sustainable places by supporting positive placemaking and

ensuring that our spatial choices direct development to the right places, make the best use of resources, create and sustain accessible, healthy communities, protect our environment and support prosperity for all. The framework sets out 11 outcomes that the Government aim to achieve in its 20-year life. This includes “the environmental, social and cultural value of our natural resources will be managed, maintained and enhanced, while economic benefits will be utilised sustainably and appropriately by promoting nature-based solutions and a circular economy. Across Wales better resource choices will be reflected in more sustainable places, which benefit from reductions in levels of pollution, and be healthier and more liveable.”

Policy 8 of Future Wales is on flooding. It states: “FRM that enables and supports sustainable strategic growth and regeneration in national and regional growth Areas will be supported. The WG will work with Flood RMA and developers to plan and invest in new and improved infrastructure, promoting nature-based solutions as a priority. Opportunities for multiple social, economic and environmental benefits must be maximised when investing in flood risk management infrastructure. It must be ensured that projects do not have adverse impacts on international and national statutory designated sites for nature conservation and the feature for which they have been designated.”

This aligns with FRMP measures to prevent inappropriate development and also sets important context for how FRM projects and plans are developed and delivered, including safeguarding in relation to NSN sites. Therefore, no in combination effects can be predicted at this level. The main potential for in combination effects on NSN sites will come from lower tier plans and projects arising from the two plans, so consideration will be required in their HRAs.

National Strategy for Flood and Coastal Erosion Risk Management in Wales

The aim of the NSFCERMW is to reduce the risks to people and communities from flooding and coastal erosion. The strategy describes the roles and responsibilities of those involved in managing the risk of flooding and coastal erosion, the approaches to managing those risks and their consequences, and the way funding for flood and coastal erosion risk management is allocated. It sets out the national approach to flood and coastal erosion risk in Wales, describing the long-term goals for managing flooding from surface water, rivers and the sea, as well as coastal erosion, and how these will be achieved.

The HRA of the NSFCERMW concluded that its implementation could affect the integrity of NSN sites as a result of interventions required to protect communities. The HRA documented the alternatives considered, the imperative reasons of overriding public interest and the measures proposed to compensate for the loss of any features of NSN Sites. It is not anticipated that the FRMP would have any in combination effects with the strategy, given that it has been developed within the policy framework set by the NSFCERMW.

National FCERM Strategy for England

As required by the Flood and Water Management Act 2010, in a similar manner to the NSFCERMW, the National FCERM Strategy for England sets out the overall framework for managing flood risk and coastal erosion in England. The strategy describes what needs to be done and by whom to manage the risk of flooding and coastal erosion, and to manage its consequences. It sets out the national approach to flood and coastal risk in England, describing the long-term goals for managing flooding from rivers and the sea and how these will be achieved. The Strategy was adopted in 2020. As with the NSFCERMW, it is not anticipated that the FRMP would have any in combination effects with the Strategy.

Shoreline Management Plans

Shoreline Management Plans (SMPs), the second generation of which were adopted in Wales in 2013, set out the priorities and the strategic direction for all flood and coastal erosion risk management on the coast. They support and help to achieve the objectives of the NSFCERMW and so the in-combination assessment above is also valid for the SMPs.

English Dee, English Severn, South West, North West Flood Risk Management Plans

These FRMPs were produced by the Environment Agency and adopted in December 2022. As with the Wales FRMP, they are high-level planning tools that set out objectives for flood risk management across each river catchment and estuary. The FRMPs are designed to set the overall direction of flood risk management, prioritised depending upon risk to communities. They identify broad flood risk management policies that are economically practical, have a potential life of 50 to 100 years, and help the EA to work with others to put them in place.

Given that the FRMPs are rooted in UK legislation, the approach taken by NRW and the EA are very similar. Nationally the primary focus of English FRMPs is on areas that have been designated as being at particular risk of flooding from either rivers and sea or surface water (Flood Risk Areas).

English Dee - There are no Flood Risk Areas (FRA) within the English part of the Dee RBD. The Lache FRA is located in North Wales close to the English border in the shared river catchment of the Balderton Brook and wider River Dee. The Environment Agency work together with Natural Resources Wales to manage flood risk in this area.

English Severn – There are 10 FRA's within the English part of the Severn RBD. Five of these are as a result of flood risk from rivers and sea (Weston Super Mare, Bath, Bristol, Gloucester, Henley in Arden and Burnham on Sea). Five of these are as a result of surface water flood risk (Bristol, Cheltenham, Coventry, Redditch and Wolverhampton). Some of these locations are at risk from tidal flooding (e.g., Bristol) and so there could be implications for the Severn Estuary NSN sites. However, all

projects will be delivered in line with the Severn Estuary SMP2 and the relevant National FRM strategy and so the in-combination assessment above is also valid for the existing FRMPs.

South West - There are 17 FRAs for significant risk of flooding from main rivers and the sea and 2 FRAs for significant risk of flooding from surface water. The closest FRA's to Wales include Burnham on Sea, Bridgwater, Minehead, Ilfracombe and Barnstaple.

North West – There are 7 FRAs for significant risk of flooding from main rivers and the sea and 8 FRAs for significant risk of flooding from surface water. The closest FRAs to Wales include Ellesmere Port Rivers and Sea FRA and Liverpool Surface Water FRA.

As above, all projects delivered within FRA's in South West and North West will be delivered in line with the SMP2 and the relevant National FRM strategy and so the in-combination assessment above is also valid for the existing FRMPs.

Third Cycle River Basin Management Plans – Severn, Western Wales, Dee, North West and South West

The third cycle Western Wales RBMP and Dee RBMP were adopted by Welsh Government and DEFRA in July 2022. The third cycle Severn RBMP was adopted in December 2022. The RBMP3 includes complementary national measures with the FRMP national measures, for example:

- CYM5 - In waterbodies designated as heavily modified due to flood and coastal protection, mitigation for NRW owned assets and activities will be reviewed and delivered on a prioritised basis.
- WAL15 - All new flood alleviation schemes will integrate the principles of SMNR as required by the Environment (Wales) Act 2016 to deliver sustainable schemes which maintain and where possible improve ecological status or potential. Integrate, where appropriate natural flood management options in the delivery of flood risk management.
- WAL16 - Maintenance, repair and improvements to flood risk systems will be delivered sensitively, sustainably and will seek to deliver environmental and social benefits.
- WAL17 - Support Wales to have a coastline that is sustainable and resilient to climate change. Plan for coastal adaptation in line with Shoreline Management Plan policy for coastal defence management. Enable the National Habitat Creation Programme to deliver compensatory intertidal habitat where required. Integrate, where appropriate, nature-based solutions into the delivery of coastal defence schemes

The HRA of the Dee and Western Wales RBMP3 took 9 of the 86 Welsh measures to AA. This approach was taken on a precautionary basis in light of case law and the uncertainty of effects of certain measures at the high level of the RBMP. At AA stage the case was made to defer the HRA down to lower tier plans and projects. It should

be considered in the context of the main aim of the RBMPs which are to improve the water environment, including NSN sites.

The HRA's of the Severn RBMP, North West RBMP and South West RBMP concluded no likely significant effects on NSN sites, deferring assessments to lower tier plans or projects. Again, this should be considered in the context of the main aim of the RBMPs which are to improve the water environment, including NSN sites.

Woodlands for Wales Strategy

The Woodlands for Wales Strategy (last updated in 2018) sets out Welsh Government's approach to sustainably manage woodland across Wales. Forestry operations have the potential to affect water quality and the hydromorphology of watercourses. However, the Woodlands for Wales Strategy requires that "all woodlands and trees are managed sustainably to high standards of environmental stewardship, safeguarding and enhancing the full range of ecosystem services through more widespread and effective application of the United Kingdom Forestry Standard and greater uptake of auditable standards such as UK Woodland Assurance Standard". The Woodlands for Wales Strategy has synergies with the FRMPs as it:

- promotes woodland creation as integral elements of land management,
- promotes urban woodlands and trees as making a contribution to water management and
- recognises the carbon storage capacity of woodlands

Measures for habitat restoration and peatland restoration are likely to be undertaken within areas of forestry and so there could be potential for in combination effects. However, there is insufficient detail on the timing and design of these projects and so in combination effects will need to be considered through the project level HRAs.

7.3 Avoidance and Mitigation of Impacts

The European Court judgement in the case of People Over Wind (People Over Wind & Sweetman v. Coillte, 2018) has clarified that it is not appropriate at the screening stage to take account of measures intended to avoid or reduce the harmful effects of a plan or project upon a NSN site, and such measures should, instead, be taken into account as part of an AA. This has changed our approach to the HRA of the second cycle FRMP, in comparison to the first cycle. The development of the FRMP and the HRA was an iterative process whereby consideration was given to amending wording of measures, where appropriate, to avoid adverse impacts.

There is a legislative requirement for HRA to be undertaken for any plans, strategies or projects that could have pathways for effects on NSN sites. This is required by NRW as an authority undertaking works on or near sites, or by NRW (or other consenting authorities), permitting or consenting strategies or projects that take place on or near a NSN site. Table 5 below highlights mitigatory approaches relevant to those measures scoped into the AA. These are not intended to be comprehensive, and it is very likely that there will be other impacts and therefore other mitigation that

will be required which it is not possible to identify at plan level because the nature, timing, duration, scale or location is not yet known. However, they should be considered when preparing lower tier programmes and projects, and demonstrate that adverse effects can be avoided.

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Table 5: Standard Mitigatory Approaches for FRM maintenance and improvement

Potential Impact pathways	Generic mitigation
Habitat loss, damage or fragmentation	<p>Minimise the footprint of the works. Also consider access routes and any compound areas that might be required. At the river entry point, consider protection for the bank to prevent future erosion, loss of habitats and compaction that may lead to an increase in invasive or non-desirable species after the works.</p> <p>Effects on riparian habitat and in-river habitat must be considered, including indirect effects brought about by changing geomorphology. Will the watercourse try and change its course after the works and erosion and deposition patterns altered? Could river-gravels used for fish spawning be washed away?</p> <p>Shrub or tree removal should be kept to a minimum and timed to avoid sensitive periods. Where unavoidable, planting mitigatory trees and shrubs may be required.</p> <p>Make certain that impact pathways are well understood and ensure that appropriate avoidance and mitigation measures can be delivered and are built into method statements where potential for adverse effects are identified.</p>
Disturbance causing damage or harm to a designated species feature.	<p>Ecological surveys undertaken early in project appraisal to determine presence or absence of species. Followed by specific protected species surveys. Note, these can be seasonally dependent and so must be factored into project plans accordingly.</p> <p>Indirect effects must be considered for example, in a fluvial environment impacts can occur some distance downstream. Mobile species are protected outside of NSN sites.</p> <p>Noise/visual disturbance should be avoided or minimised.</p> <p>Timing of works to avoid sensitive periods e.g. fish migration and spawning, otter resting/breeding, bat roosting, bird nesting, overwintering birds and otter movement.</p> <p>Make certain that impact pathways are well understood and ensure that appropriate mitigation measures can be delivered and are built into method statements where potential for adverse effects are identified.</p>

Potential Impact pathways	Generic mitigation
Emissions to air, such as dust, vehicle emissions	The scale and nature of projects under the FRMP is unlikely to generate significant impacts on air quality. But method statements should include standard best practice such as dust suppression on site.
Soil quality/compaction	Access routes, compounds and work areas must be protected from soil compaction, or where unavoidable, be reinstated post construction. Appropriate mitigation measures should be built into method statements where potential for adverse effects are identified.
Water quality – works in in the marine, river or lake environment may result in suspended solids, release of contaminants or changes to the chemical &/or biological quality of the water course	<p>Any coastal or in-river works can generate suspended solids and/or chemical contamination that may affect NSN site interest features. Consider if the river entry point can be upstream of the works, so that mitigation will be easier to put in place. Guidance for Pollution Prevention should be followed at all times to minimise risk.</p> <p>Ground investigations and consultation with Geoscience should identify the risk of any contaminated land within the study area.</p> <p>Early consideration in options appraisal and in designing method statements will be required.</p> <p>Make certain that impact pathways are well understood and ensure that appropriate mitigation measures can be delivered and are built into method statements where potential for adverse effects are identified.</p>
Biosecurity	<p>Working with large equipment in, and importing material to, watercourses poses a high risk of introducing INNS to an area, or spreading diseases / pathogens. Contractors required to produce robust risk assessment and method statements and have rigorous procedures for cleaning plant and equipment. All non-virgin materials to be strictly screened. For example, if river-gravels are used from another site, specialist advice would be needed.</p> <p>An assessment should be made of which INNS are the highest potential risk; both to the habitat and features at the working site, or if there are any present that could later be spread elsewhere.</p>

Potential Impact pathways	Generic mitigation
Water resources – change in water levels e.g. abstraction or ditch blocking	<p>Any projects that alter the hydrological regime has the potential to adversely affect NSN sites.</p> <p>Make certain that impact pathways are well understood and ensure that appropriate mitigation measures can be delivered and are built into method statements where potential for adverse effects are identified. Works to weirs has a potential to affect water flows some distance away from the site.</p>

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7.4 Conclusions of the appropriate assessment

We have considered 9 of the 58 national measures, and 66 of 265 local measures in this AA. This approach was taken on a precautionary basis in light of case law and the uncertainty of effects of certain measures of the FRMP.

The AA sets out that the criteria for deferring down the HRA to lower tier plans, programmes and projects are met and we are confident that they can be delivered without causing adverse effects on site integrity. Therefore, we propose deferring down the HRA to lower tier plans and projects for these measures.

There are a series of measures and approaches, as described in section 7.3 above, which, along with an appropriately detailed HRA, will ensure mitigation is implemented within the lower-tier plans, programmes and projects to avoid and reduce any impacts on NSN site integrity.

8. References

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Supplementary Material

Appendix 1. Screening justification for national measures.

Tables A-J set out the pre-screening outcomes for the Welsh national measures. Each table sets out measures under the FRM topic

Table WA1: Screening justification for national measures for Management of flood risk assets

Measure Description	Screening Decision & Justification
WA1.1 Ensure our Flood Risk Management assets continue to provide sustained protection to communities at risk of flooding through the delivery of our maintenance programmes.	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
WA1.2 Investigate and deliver options to reduce the risk of flooding to communities through the Flood Risk Management Capital Programme.	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
WA1.3 Ensure continued management and monitoring of flood risk asset information including the condition of assets via a programme of inspections, using industry standard techniques.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA1.4 Ensure we have good data on our asset stock held and maintained in our corporate database.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA1.5 Consider catchment and natural based solutions to addressing flood risk, where it is appropriate to do so, when delivering our activities.	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
WA1.6 Develop an Asset Management Strategy to sit with an Asset Management System in line with industry standards such as ISO 55001, to help guide our asset plan priorities	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone

Measure Description	Screening Decision & Justification
WA1.7 Working in collaboration with other risk management authorities to manage flood risk and deliver improved ways of working, including the further development of the National Asset Database.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA1.8 Implement an improved risk-based approach to Routine Asset Maintenance allocations and implement new processes and procedures	Screen Out Cat A: General statements of policy/general aspirations.
WA1.9 Develop and implement an Asset Data Management Plan to ensure we have confidence in the information we hold on our FRM assets.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA1.10 Ensure our work on flood risk assets integrates the principles of SMNR (Sustainable Management of Natural Resources) as required by the Environment (Wales) Act 2016 to deliver sustainable projects which maintain and where possible improve ecological status or potential.	Screen out Cat D: Environmental protection/site safeguarding policies
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.	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
WA1.12 Manage our drainage districts to reduce flood risk through the management of drainage channels, ordinary watercourses, pumping stations and control structures.	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
WA1.13 Regulate proposed works within drainage districts to ensure that the proposed works do not cause a risk of flooding or make an existing risk worse.	Screen out Cat B: Policies listing general criteria for testing the acceptability/sustainability of proposals

Table WA2: Screening justification for national measures for Reservoir Management & Regulation

Measure Description	Screening Decision & Justification
WA2.1 Ensure the safe and responsible management of structures to ensure their compliance with the Reservoirs Act	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA2.2 Develop risk-based regulation in line with NRW's regulatory principles and the regulators code	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA2.3 Improve the regulatory process, including consideration of recommendations from reviews in this sector (for example, the review into the Toddbrook spillway failure)	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA2.4 Provide robust enforcement process and challenge to improve compliance levels.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.

Table WA3: Screening justification for national measures for Flood Forecasting and Issuing Warnings

Measure Description	Screening Decision & Justification
WA3.1 Maintain and operate an effective, efficient and resilient flood forecasting and warning service.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA3.2 Deliver a new Flood Warning System and supporting multi-disciplined team so we continue to deliver a flood warning service which is resilient, meets user needs, is efficient to maintain and can be continually improved.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA3.3 Improve the hydrometeorological service which NRW depends on for our flood forecasting service so it meets user needs, embraces improvements in meteorological forecasting, keeps pace with technological change and is efficient for duty officers to use.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.

Measure Description	Screening Decision & Justification
WA3.4 Deliver the recommendations of the Flood Warning Service Review and February 2020 Floods Review to improve the capability of our flood forecasting and flood warning services.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA3.5 Improve our Wales flood forecasting system (Flooding Early Warning System (FEWS)) & Forecast Web Service so they meet user needs and are efficient to maintain.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA3.6 Deliver continuous improvements to the Floodline service for customers in Wales so the service meets customer needs.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.

Table WA4: Screening justification for national measures on Hydrometry and Telemetry, Hydrology and Geomorphology

Measure Description	Screening Decision & Justification
WA4.1 Maintain and operate an effective, efficient and resilient hydrometry, telemetry, hydrology and geomorphology services for all business sectors across NRW.	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
WA4.2 Procure and implement a new Telemetry system, including a new mobile communications solution for our outstations and data transfer tool so our internal and external customers continue to receive near-real time data.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA4.3 Deliver strategic review of the Hydrometric Network to determine its future scope, requirements, governance, funding and service provision.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA4.4 Contribute to the delivery of the UK Flood Hydrology Roadmap, working in collaboration with partner agencies across the UK.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.

Measure Description	Screening Decision & Justification
WA4.5 Manage and deliver Hydrometry & Telemetry capital programme to ensure our hydrometric monitoring assets are fit for purpose and that we have a medium term investment plan for securing this.	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
WA4.6 Manage and deliver a Hydrogeomorphological service to internal and external clients so that works in and next to rivers comply with environmental regulations.	Screen out Cat D: Environmental protection/site safeguarding policies
WA4.7 Improve our River Levels, Rainfall and Sea Data online service so it meets user needs and is efficient to maintain.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.

Table WA5: Screening justification for national measures for Community Engagement and Resilience

Measure Description	Screening Decision & Justification
WA5.1 Provide advice via our website, printed media and customer care centre to communities on how to prepare, cope and recover from flooding, working with and signposting to other organisations where appropriate.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA5.2 Support the network of community flood volunteers across Wales in preparing for, responding to and recovering from flooding.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA5.3 Work in partnership with other organisations and income streams to support the delivery of external projects which increase community resilience to flooding across Wales.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA5.4 Commence delivery of priority actions from our Flood Community Engagement Review to improve delivery of our “enabling role” and to address evidence gaps.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA5.5 Deliver recommendations of the February Floods Recovery and Review Implementation Programme, including implementation and embedding	Screen out

Measure Description	Screening Decision & Justification
of improved tools, training courses for staff and new publications to support our incident response and recovery.	Cat F: Policies or proposals that cannot lead to development or other change.

Table WA6: Screening justification for national measures for Understanding and Analysing Flood Risk.

Measure Description	Screening Decision & Justification
WA6.1 Continued development of our understanding of flood risk across Wales through improvements to local flood models and maps.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA6.2 Use our flood maps to raise awareness and understanding of flood risk with communities at risk of flooding	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA6.3 Deliver the maintenance tools, improvements and enhancements to the Flood Risk Analysis Wales Data Management Project.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA6.4 Deliver the enhancements and improvements to the Flood Risk Viewer on the external website project, including National Asset Database and Coastal erosion requirements, plus transposing to the new GIS portol.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.

Table WA7: Screening justification for national measures for Flood risk advice, permitting, compliance and enforcement

Measure Description	Screening Decision & Justification
WA7.1 Continued delivery of effective response and management of permitting, compliance, enforcement and planning advice in relation to development and flood risk.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA7.2 Advise local planning authorities on their Local Development Plans to ensure flood risk is incorporated appropriately.	Screen out

Measure Description	Screening Decision & Justification
	Cat A: General statements of policy/general aspirations.
WA7.3 Continue to develop & embed ways of working associated with the new Welsh Government guidance on development and flood risk (TAN15) & Flood Map for Planning.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA7.4 Deliver the FRM elements of the Strategic Review of Charging Project, to optimise fair and proportionate cost recovery where appropriate.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.

Table WA8: Screening justification for national measures on Responding to Flood Incidents

Measure Description	Screening Decision & Justification
WA8.1 Continue to deliver effective and resilient incident management and response arrangements, including planning, exercising and training activities to ensure that we are able to provide a sustained and effective response to flood incidents (within our resource capacity limitations).	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA8.2 Undertake recovery work in response to flood events and take appropriate steps to learn from flood incidents.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA8.3 Deliver the improvements identified in the February 2020 Floods Recovery and Review Implementation Programme in relation to our incident preparedness and response activities.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.

Table WA9: Screening justification for national measures on Strategic Planning and Oversight of Investment

Measure Description	Screening Decision & Justification
WA9.1 Continue to manage and provide oversight of FRM investment programmes and lead efforts to influence and negotiate future budgets	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA9.2 Continue to manage and provide oversight of NRW's contribution to the Joint Research & Development Programme	Screen out Cat A: General statements of policy/general aspirations.
WA9.3 Seek opportunities through Area Statements and Opportunity Catchments for working collaboratively with partners and key stakeholders to deliver joined up and integrated approaches to flood risk management and to support delivery of wider environmental and societal benefits	Screen out Cat A: General statements of policy/general aspirations.
WA9.4 Seek opportunities to work collaboratively with partners to find innovative approaches to managing flood risk	Screen out Cat A: General statements of policy/general aspirations.
WA9.5 Undertake strategic business planning and reporting activities and ensuring effective governance is in place to effectively manage the FRM Portfolio	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA9.6 Provide FRM technical advice and support to Welsh Government and other Risk Management Authorities.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA9.7 Support Wales to have a coastline that is sustainable and resilient to climate change. We will plan for coastal adaptation in line with Shoreline Management Plan policy for coastal defence management and enable the	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone

Measure Description	Screening Decision & Justification
National Habitat Creation Programme to deliver compensatory intertidal habitat where required.	
WA9.8 Develop adaptation plans to address the increased flood risks presented by Climate Change both in land and on the coast	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
WA9.9 Improve access and understanding of Shoreline Management Plans by delivering improved guidance and tools.	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
WA9.10 Influence and develop mechanisms to further implement nature based solutions in response to flood risk, including FRM's advice to the Sustainable Farming Scheme and improvements to UK Forestry Standards	Screen out Cat A: General statements of policy/general aspirations.
WA9.11 Develop improvements to skills development and capacity building including work on development framework, succession planning and working with partners to improve training opportunities.	Screen out Cat A: General statements of policy/general aspirations.
WA9.12 Develop long term investment evidence for funding of flood risk management activity.	Screen out Cat A: General statements of policy/general aspirations.

Appendix 2.1. Screening justification for the local measures – Stage 1 (Screening by measure description)

Measure Description	Screening Decision & Justification
Undertake initial assessment and feasibility work for reducing flood risk	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
Improve existing flood warning service	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
Update existing / Build hydraulic model	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
Maintain existing defences and inspection regime	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
Consider and integrate nature-based solutions including natural flood management in NRW flood risk schemes and activities	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
Assess and review existing FAS	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
Assess, Design and Construction of Flood Alleviation Scheme / Flood risk asset improvements	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
We will engage with the River Severn Partnership where appropriate and possible to do so	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
Consider future management options and undertake coastal adaptation planning	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
Development of the recommendations from the Clwyd strategy	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone
Improve incident response activities and resilience	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
Develop an integrated catchment approach to FRM	Screen In Cat I: Policies or proposals with a likely significant effect on a site alone

Work with RMAs both within Wales and cross border where we have a joint interest, to plan and undertake activities that reduce the risk of flooding to communities	Screen out Cat F: Policies or proposals that cannot lead to development or other change.
Carry out structural assessment on existing structures to ensure they are fit for purpose	Screen out Cat F: Policies or proposals that cannot lead to development or other change.

Stage 2 - Consideration of pathways for effects of Screened in measures

Appendix 2.2: Mid Local Measures

Location	Source	Measure ref & name	Designated Sites (SAC/SPA/Ramsar)
Aberystwyth	Main River/Sea	M1 Undertake initial assessment and feasibility work for reducing flood risk	Screen In: North Cardigan Bay SPA, Pen Llyn a'r Sarnau SAC, West Wales Marine SAC
Builth Wells	Main River	M3 Undertake initial assessment and feasibility work for reducing flood risk	Screen In: River Wye SAC
Cardigan	Main River/Sea	M8 Design and construction of flood alleviation scheme	Screened out: Project level HRA underway
Crewgreen (Haimwood)	River	M10 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Crickhowell	Main River	M11 Undertake initial assessment and feasibility work for reducing flood risk	Screen in: River Usk SAC, Usk Bat Sites SAC
Dyfi Valley (Tidal Dyfi Strategy)	River	M14 Consider future management options and undertake coastal adaptation planning	Screened out: Project level HRA underway
Knighton	River	M17 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Llandinam	River	M19 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Llandrinio	River	M20 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out

Llanidloes	River	M22 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Meifod	River	M24 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Mid Wales Place	River/Sea	M29 Maintain existing defences and inspection regime	Screen in: numerous including North Cardigan Bay SPA, Pen Llyn a'r Sarnau SAC, West Wales Marine SAC, Usk SAC

Appendix 2.3: North East Local Measures

Location	Source	Measure name	Designated Sites (SAC/SPA/Ramsar)
Bangor on Dee	River	NE1 Undertake initial assessment and feasibility work for reducing flood risk	Screen In: River Dee and Bala Lake SAC
Bangor on Dee	River	NE2 Develop scheme appraisal for flood alleviation scheme	Screen In: River Dee and Bala Lake SAC
Clwyd	River	NE4 Develop an integrated catchment approach to flood risk management	n/a screen out
Clwyd	Sea	NE5 Development of the recommendations from the Clwyd Tidal Strategy	Screen Out: Plan level HRA completed of Strategy (2011)
Clywd	River/Sea	NE6 Maintain existing defences and inspection regime	n/a screen out
Clwyd - Ffynnon y Ddol	River	NE7 Undertake initial assessment and feasibility work for reducing flood risk	Screen In: Liverpool Bay SPA
Clwyd - Old Foryd Road	Sea	NE8 Design and construction of flood risk asset improvements	Screen Out: Linked to Clwyd Strategy review (see above)
Connah's Quay and Shotton	River/Sea	NE10 Maintain existing defences and inspection regime	Screen in: Dee Estuary SAC, SPA and Ramsar
Connah's Quay and Shotton	River	NE11 Undertake initial assessment and feasibility work for reducing flood risk	Screen in: Dee Estuary SAC, SPA and Ramsar

Dee	Sea/River	NE14 Maintain existing defences and inspection regime	Screen in: Dee Estuary SAC, SPA and Ramsar
Dee	River	NE15 Develop an integrated catchment approach to flood risk management	Screen In: River Dee and Bala Lake SAC
Dee – Pumping Stations	River	NE16 Design and construction of flood risk asset improvements	Screened out: Project level HRA underway
Dee – Tidal Outfalls	Sea	NE17 Design and construction of flood risk asset improvements	Screen in: Dee Estuary SAC, SPA and Ramsar
Dyserth	River	NE18 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Garden City and Deeside Ind Est	Sea	NE20 Undertake initial assessment and feasibility work for reducing flood risk	Screen In: Dee and Bala Lake SAC, Dee Estuary SAC, SPA and Ramsar, Deeside and Buckley Newt Sites SAC
Glyndyfrdwy	River	NE22 Undertake initial assessment and feasibility work for reducing flood risk	Screened in: Berwyn and South Clwyd Mountains SAC, Berwyn SPA, River Dee and Bala Lake SAC
Holt and Plas Devon	River	NE23 Design and construction of flood risk asset improvements	Screen In: River Dee and Bala Lake SAC
Holt and Plas Devon	River	NE25 Undertake initial assessment and feasibility work for reducing flood risk	Screen In: River Dee and Bala Lake SAC
Lache	River	NE26 Maintain existing defences and inspection regime	Screen In: River Dee and Bala Lake SAC
Llandrillo	River	NE27 Undertake initial assessment and feasibility work for reducing flood risk	Screened in: Berwyn and South Clwyd Mountains SAC, Berwyn SPA, River Dee and Bala Lake SAC
Llangwm	River	NE28 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Pen y Ffordd	River	NE36 Maintain existing defences and inspection regime	Screen in: Dee Estuary SAC, SPA and Ramsar

Pentre-Celyn – Afon Hesbin	River	NE37 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Prestatyn	River	NE38 Maintain existing defences and inspection regime	Screen in: Dee Estuary SAC, SPA and Ramsar, Liverpool Bay SPA
Queensferry-Sandycroft-Manor Lane	Sea	NE41 Design and construction of flood risk asset improvements	Screen In: Dee and Bala Lake SAC, Dee Estuary SAC, SPA and Ramsar, Deeside and Buckley Newt Sites SAC
Rhuddlan	Sea	NE42 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Rhyl	River	NE45 Maintain existing defences and inspection regime	Screen In: Liverpool Bay SPA
Rossett and Burton	River	NE49 Design and construction of flood risk asset improvements	n/a screen out
Ruthin	River	NE53 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Ystrad Communities	River	NE56 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out

Appendix 2.4: North West Local Measures

Location	Source	Measure name	Designated Sites (SAC/SPA/Ramsar)
Aberdaron	River/Sea	NW1 Undertake initial assessment and feasibility work for reducing flood risk	Screen in: Aberdaron Coast and Bardsey Island SPA, Sea Cliffs of Llyn SAC, West Wales Marine SAC, Pen Llyn a'r Sarnau SAC
Abererch	Sea	NW2 Design and construction of flood risk asset improvements – Abererch Bank reprofile	Screened out: Project level HRA underway (Pwllheli FAS)
Abererch	River	NW3 Design and construction of flood risk asset improvements – Dunes Sheet Piling Refurb	Screened out: Project level HRA underway (Pwllheli FAS)

Abergele	River	NW4 Design and construction of flood risk asset improvements	Screen In: Liverpool Bay SPA
Abergele	River	NW5 Design and construction of flood risk asset improvements	Screen In: Liverpool Bay SPA
Abergwyngregyn	Sea	NW6 Consider future management options and undertake coastal adaptation planning	Screen in: Coedydd Aber SAC, Menai Strait and Conwy Bay SAC, Traeth Lavan SPA, Liverpool Bay SPA
Bala	River	NW10 Design and construction of flood risk asset improvements	Screen In: River Dee and Bala Lake SAC
Bala	River	NW11 Maintain existing defences and inspection regime	Screen In: River Dee and Bala Lake SAC
Beddgelert	River	NW13 Undertake initial assessment and feasibility work for reducing flood risk	Screen in: Meirionnydd Oakwoods and Bat Sites SAC
Betws Garmon	River	NW14 Undertake initial assessment and feasibility work for reducing flood risk	Screen in: Afon Gwyrfaï and Llyn Cwellyn SAC
Bontnewydd	River	NW15 Design and construction of flood risk asset improvements	Screen in: Afon Gwyrfaï and Llyn Cwellyn SAC
Bryncrug	River	NW16 Design and construction of flood alleviation scheme	n/a screen out
Caernarfon	River	NW17 Undertake initial assessment and feasibility work for reducing flood risk – Seiont Mill	Screen in: Menai Strait and Conwy Bay SAC
Clwyd	River/ Sea	NW19 Maintain existing defences and inspection regime	n/a screen out
Clwyd - Ffynnon y Ddol	River	NW20 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Clwyd - Old Foryd Road	Sea	NW21 Design and construction of flood risk asset improvements	n/a screen out
Conwy	River/ Sea	NW23 Maintain existing defences and inspection regime	n/a screen out

Criccieth	River	NW24 Design and construction of flood risk asset improvements (Chamber & weedscreen)	Screen in: Pen Llyn a'r Sarnau SAC, North Cardigan Bay SPA
Dwyran	River	NW26 Undertake initial assessment and feasibility work for reducing flood risk.	Screened out: Project level HRA underway
Dysynni	Sea	NW28 Consider future management options and undertake coastal adaptation planning	Screen in: West Wales Marine SAC, Pen Llyn a'r Sarnau SAC, North Cardigan Bay SPA
Eryri Meirionnydd	River/Sea	NW29 Topographic surveys in this area - Design and construction of flood risk asset improvements	n/a screen out at this stage (surveying). Where projects or further work are identified, sites will require screening.
Fairbourne	Sea	NW30 Undertake initial assessment and feasibility work for reducing flood risk	Screen in: Pen Llyn a'r Sarnau SAC, North Cardigan Bay SPA
Gwehelog (Mochras)	River	NW31 Undertake initial assessment and feasibility work for reducing flood risk	Screen in: North Cardigan Bay SPA, Pen Llyn a'r Sarnau SAC, Meirionnydd Oak Woods and Bat Sites SAC
Harlech	Sea	NW 32 Undertake initial assessment and feasibility work for reducing flood risk	Screen in: Morfa Harlech a Morfa Dyffryn SAC, North Cardigan Bay SPA, Pen Llyn a'r Sarnau SAC, Meirionnydd Oak Woods and Bat Sites SAC
Kinmel Bay	Sea	NW 33/4 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Llanbedr	Tidal	NW35 Undertake initial assessment and feasibility work for reducing flood risk	Screen in: North Cardigan Bay SPA, Pen Llyn a'r Sarnau SAC, Meirionnydd Oak Woods and Bat Sites SAC
Llanfair Talhaiarn	River	NW37 Design and construction of flood alleviation scheme	n/a screen out
Llanfair Talhaiarn - Elwy	River	NW38 Design and construction of flood alleviation scheme	n/a screen out
Llanfair Talhaiarn – Nant Barrog	River	NW39 Design and construction of flood alleviation scheme	n/a screen out
Llanfair Talhaiarn – Nant Barrog	River	NW 40 Consider and integrate nature-based solutions including natural flood management in NRW flood risk schemes and activities	n/a screen out

Llanfihangel - y - Traethau	Sea	NW43 Design and construction of flood risk asset improvements	Screen in: Pen Llyn a'r Sarnau SAC,
Llangefni	River	NW 44 Develop scheme appraisal for flood alleviation scheme	n/a screen out
Llyn Tegid	River	NW 45 Design and construction of flood alleviation scheme	Screened out: Project level HRA underway
Malltraeth – maintenance of existing defence	Sea	NW 46 Design and construction of flood risk asset improvements	Screen In: Abermenai to Aberffraw Sand Dunes SAC, Anglesey Coast Saltmarsh SAC, Glantraeth SAC
Pennal	River	NW50 Undertake initial assessment and feasibility work for reducing flood risk	Screen in Aberdyfi SPA, Pen Llyn a'r Sarnau SAC,
Pontllyfni	Sea	NW51 Consider future management options and undertake coastal adaptation planning	Screen in: Glynllifon SAC
Porthmadog	Sea	NW53 Develop scheme appraisal for flood alleviation scheme	Screened out: Project level HRA underway
Pwllheli	Sea	NW55 Develop scheme appraisal for flood alleviation scheme	Screened out: Project level HRA underway
Talsarnau	Sea	NW56 Undertake initial assessment and feasibility work for reducing flood risk	Screen in: Pen Llyn a'r Sarnau SAC, Meirionnydd Oak Woods and Bat Sites SAC
Talsarnau	Sea	NW57 Consider future management options and undertake coastal adaptation planning	Screen in: Pen Llyn a'r Sarnau SAC, Meirionnydd Oak Woods and Bat Sites SAC
Tan Lan	Sea	NW58 Undertake initial assessment and feasibility work for reducing flood risk	Screened out: Project level HRA underway
Towyn	Sea	NW59 Maintain existing defences and inspection regime	Screen In: Liverpool Bay SPA
Trefriw (B5106)	River	NW60 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Trefriw (Crafnant Loop)	River	NW61 Design and construction of flood risk asset improvements	n/a screen out
Trefriw (Princess Street)	River /Sea	NW62 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out

Tywyn – Low level Afon Fathew Aqueduct	River	NW63 Undertake initial assessment and feasibility work for reducing flood risk	Screen in: West Wales marine SAC, Pen Llyn a'r Sarnau SAC
Ynys Mon	River	NW 67 Maintain existing defences and inspection regime	Screen In: multiple

Appendix 2.5: South Central Local Measures

Location	Source	Measure name	Designated Sites (SAC/SPA/Ramsar)
Aberdare	River	SC1 Undertake initial assessment and feasibility work for reducing flood risk	n/a Screen out
Canton	Sea	SC4 Maintain existing defences and inspection regime	Screen in: Severn Estuary SAC, SPA, Ramsar
Cowbridge	River	SC5 Design and construction of flood risk asset improvements	n/a Screen out
Dinas Powys	River	SC7 Consider and integrate nature-based solutions including natural flood management in NRW flood risk schemes and activities	n/a Screen out
Glyntaff	River	SC8 Undertake initial assessment and feasibility work for reducing flood risk	n/a Screen out
Grangetown	Sea	SC11 Maintain existing defences and inspection regime	Screen in: Severn Estuary SAC, SPA, Ramsar
Hirwaun	River	SC12 Undertake initial assessment and feasibility work for reducing flood risk	Screen in: Blaen Cynon SAC (Marsh Fritillary)
Llantwit Major	River	SC15 Design and construction of flood risk asset improvements	n/a Screen out
Mountain Ash	River	SC17 Undertake initial assessment and feasibility work for reducing flood risk	n/a Screen out

Nant Garw	River	SC20 Undertake initial assessment and feasibility work for reducing flood risk	n/a Screen out
Pencoed	River	SC23 Undertake initial assessment and feasibility work for reducing flood risk	n/a Screen out
Pontyclun	River	SC26 Undertake initial assessment and feasibility work for reducing flood risk	n/a Screen out
Pontypridd	River	SC30 Undertake initial assessment and feasibility work for reducing flood risk	n/a Screen out
Rhydyfelin	River	SC32 Undertake initial assessment and feasibility work for reducing flood risk	n/a Screen out
Riverside	Sea	SC35 Maintain existing defences and inspection regime	Screen in: Severn Estuary SAC, SPA, Ramsar
River Taff Catchment	River	SC36 Develop an integrated catchment approach flood risk management	Screen in: Blaen Cynon SAC, Cardiff Beech woods SAC Severn Estuary SAC, SPA, Ramsar
Roath	River	SC37 Maintain existing defences and inspection regime	n/a screen out
St Mellons	Sea	SC38 Maintain existing defences and inspection regime	Screen in: Severn Estuary SAC, SPA, Ramsar
Taffs Well	River	SC39 Undertake initial assessment and feasibility work for reducing flood risk	n/a Screen out
Treforest	River	SC42 Undertake initial assessment and feasibility work for reducing flood risk	n/a Screen out
Ynysybwl	River	SC45 Undertake initial assessment and feasibility work for reducing flood risk	n/a Screen out

Appendix 2.6: South East Local Measures

Location	Source	Measure name	Designated Sites (SAC/SPA/Ramsar)
Bedwas	River	SE1 Undertake initial assessment and feasibility work for reducing flood risk	N/a Screen out
Caerleon	River	SE4 Undertake initial assessment and feasibility work for reducing flood risk	Screen In: River Usk SAC
Caerphilly	River	SE7 Undertake initial assessment and feasibility work for reducing flood risk of tributaries	n/a screen out
Chepstow	River	SE8 Undertake initial assessment and feasibility work for reducing flood risk	Screen In: River Wye SAC
Crindau	Sea	SE9 Maintain existing defences and inspection regime	Screen In: River Usk SAC
Crumlin	River	SE10 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Duffryn	Sea	SE11 Maintain existing defences and inspection regime	Screen In: Severn Estuary SAC, SPA & Ramsar
Goldcliff	Sea	SE12 Design and construction of flood risk asset improvements.	Screen In: Severn Estuary SAC, SPA & Ramsar
Liswerry	Sea	SE13 Maintain existing defences and inspection regime	Screen In: River Usk SAC, Severn Estuary SAC, SPA & Ramsar
Liswerry – Liswerry Pill	Sea	SE14 Develop scheme appraisal for flood alleviation scheme	Screened out: Project level HRA underway
Liswerry – Stephenson Street	Sea	SE15 Design and construction of flood alleviation scheme	Screened out: Project level HRA underway
Llanbradach	River	SE16 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Machen	River	SE19 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Maindee	Sea	SE22 Maintain existing defences and inspection regime	Screen In: River Usk SAC, Severn Estuary SAC, SPA & Ramsar

Monmouth	River	SE23 Undertake initial assessment and feasibility work for reducing flood risk	Screen In: River Wye SAC, Wye Valley Woodlands SAC, Wye Valley & Forest of Dean Bat Sites SAC
Ponthir	River	SE28 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Skenfrith	River	SE29 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Usk	River	SE35 Undertake initial assessment and feasibility work for reducing flood risk	Screen In: River Usk SAC
Ystrad Mynach	River	SE36 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out

Appendix 2.7: South West Local Measures

Location	Source	Measure name	Designated Sites (SAC/SPA/Ramsar)
Aberdulais	River	SW2 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Ammanford	River	SW5 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Briton Ferry	Sea	SW7 Maintain existing defences and inspection regime	Screen in: Crymlyn Bog SAC & Ramsar
Carmarthen	River	SW8 Undertake initial assessment and feasibility work for reducing flood risk	Screen in: River Tywi SAC, Carmarthen Bay and Estuaries SAC
Dafen	River	SW9 Design and construction of flood alleviation scheme	n/a screen out
Glyn-Neath	River	SW12 Undertake initial assessment and feasibility work for reducing flood risk	Screen In: Coedydd Nedd a Mellte SAC
Llanelli	Sea	SW14 Maintain existing defences and inspection regime	Screen In: Carmarthen Bay and Estuaries SAC, Burry Inlet SPA and Ramsar

Llanelli	River	SW15 Undertake initial assessment and feasibility work for reducing flood risk	Screen In: Carmarthen Bay and Estuaries SAC, Burry Inlet SPA and Ramsar
Neath	River	SW16 Consider and integrate nature-based solutions including natural flood management in NRW flood risk schemes and activities	n/a screen out
Pontardawe	River/Sea	SW18 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Port Talbot	River	SW19 Maintain existing defences and inspection regime	n/a screen out
Resolven	River	SW21 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Swansea	River/Sea	SW24 Undertake initial assessment and feasibility work for reducing flood risk	n/a screen out
Tenby	River/Sea	SW26 Design and construction of flood risk asset improvements	Screen In: Carmarthen Bay and Estuaries SAC, Bristol Channel Approaches SAC,