

# Appendix H: South Central Local Measures

## 1.0 Introduction

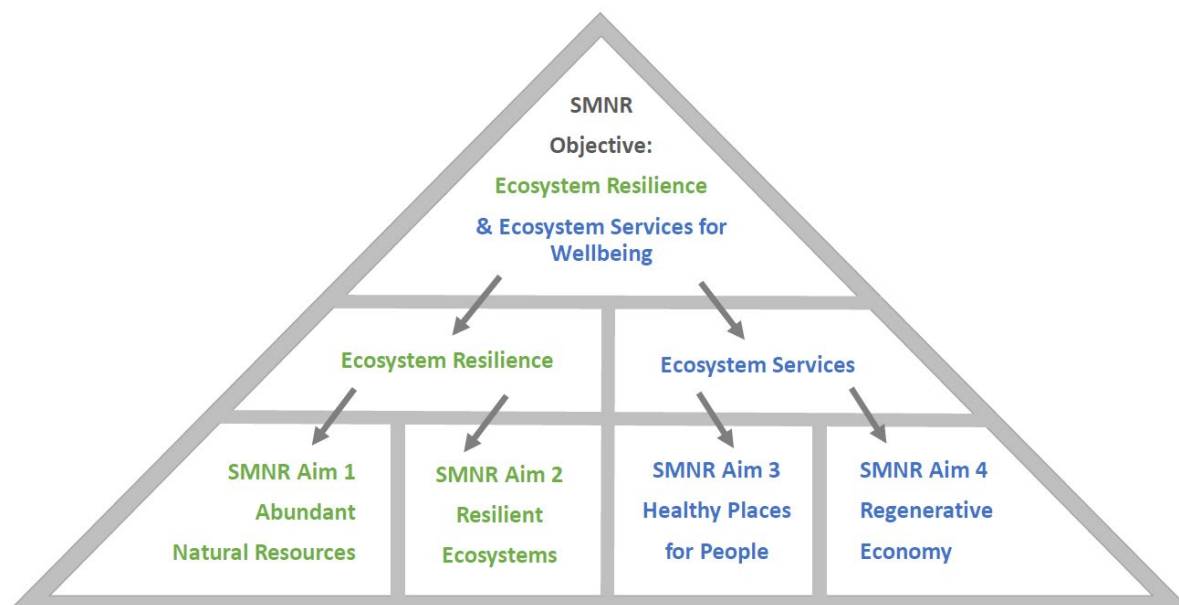
This document will consider the opportunities and constraints associated with the local measures for South Central Wales. The aim of this is to:

- Consider beneficial and adverse impacts of the local measures to feed in to the main Environmental Report.
- Provide a stand-alone reference for local delivery that will identify constraints and opportunities for delivering multiple benefits, contributing to the Aims of SMNR and aligned with the Area Statement and Local Wellbeing Plan.

The Environment Act guidance set out 4 Aims for SMNR which contribute to meeting the SMNR objective set out in the Act. When Wales achieves the aims we will have achieved SMNR and met the objective set out in the Environment Act, and made the maximum contribution nature can make to the Wellbeing goals. The four aims are:

1. Stocks of natural resources are safeguarded and enhanced (Extent and condition of ecosystems)
2. Resilient ecosystems (Diversity, Connectivity, Adaptability of ecosystems)
3. Healthy places for people, protected from environmental risks
4. Contributing to a regenerative economy achieving sustainable levels of production and consumption.

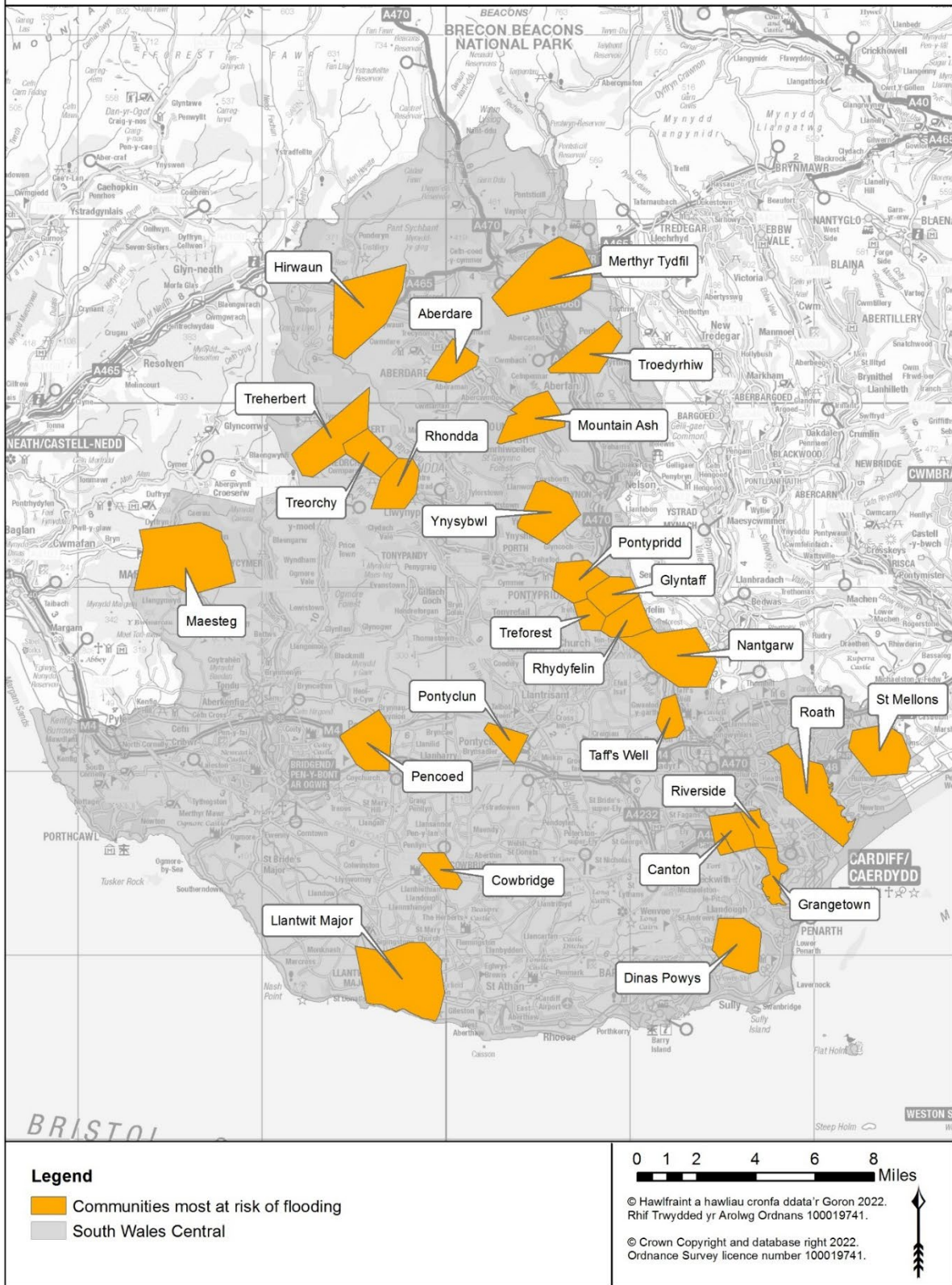
**Figure 1: Objective and Aims of SMNR**



Local FRMP measures are proposed for the communities in South Central Wales that are most at risk of flooding from main rivers and sea and need action to be taken to reduce risk. Lead Local Flood Authorities manage other sources of flood risk which should be considered when measures are implemented. Figure 2 and Table 1 shows the communities across South Central Wales Place where action is needed to manage and reduce the risk of flooding. For further details refer to the FRMP for Wales: South Central Place.

Community name	Community name
Aberdare	Pontyclun
Canton	Pontypridd
Cowbridge	Rhondda
Dinas Powys	Rhydyfelin
Glyntaff	Riverside
Grangetown	Roath
Hirwaun	St Mellons
Llantwit Major	Taff's Well
Maesteg	Treforest
Merthyr Tydfil	Treherbert
Mountain Ash	Treorchy
Nantgarw	Troedyrhiw
Pencoed	Ynysybwl

**Table 1: Communities across South Central Wales Place where action is needed to manage and reduce the risk of flooding**



**Figure 1 shows the communities across South Central Wales Place where action is needed to manage and reduce the risk of flooding.**

## 1.1 Approach

The FRMP is presented as National Measures which are grouped under FRM activities that are undertaken across Wales. These activities are:

WA1 - Management of flood risk assets

WA2 - Reservoir management and regulation

WA3 - Flood forecasting and issuing warnings

WA4 - Hydrometry and telemetry, hydrology and geomorphology,

WA5 - Community engagement and resilience

WA6 - Understanding and analysing flood risk

WA7 - Flood risk advice, permitting, compliance and enforcement

WA8 - Responding to flood incidents

WA9 - Strategic planning and oversight of investment

The national measures that sit under each of these activities have all been scoped into the assessment. The assessment has been undertaken at an activity level and is presented in Appendix D.

The six Place Sections of the FRMP each set out a number of measures for specific communities across Wales. These amount to 269 local measures across Wales. The local measures have been considered in the national scale assessment under the relevant activity (identified in Table 2). For example, the local measure to “Improve existing flood warning service” was assessed under WA3 which demonstrated significant beneficial effects or neutral effects across all receptors. Consideration at a local level would not alter these assessments.

This appendix considers all the local measures in South Central Wales Place and maps the local measures to the national assessment. Further consideration has been given to local measures where they propose to:

- Undertake initial assessment and feasibility work for reducing flood risk, or
- Design and construction of flood risk asset improvement

Whilst these measures have been assessed under WA1 in the national assessment, the spatial alignment has allowed us to further consider constraints and opportunities in these places. These measures could result in physical interventions in these locations to manage flood risk and so they present an opportunity to integrate planning and delivery across different parts of NRW and to inform project level environmental assessment that will be undertaken as each of these measures progress.

Certain local measures are already undergoing project level environmental assessment and where this is the case, it has been identified.

## 2.0 Scoping the Local Measures Assessment

Table 2 lists all the local measures that are proposed for the management of flood risk in South Central Wales Place. We have identified how each measure links to and is considered in the national impact assessment and highlighted which measures we are considering further in this document to identify local constraints and opportunities that align with the Area Statement and Well Being Plan.

Ref.	Location	Source	Measure name	Measure type	Timescale	Scope in to the local assessment
SC1	Aberdare	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
SC2	Aberdare	River	Improve existing flood warning service	Preparedness	Short Term	National (WA3)
SC3	Aberdare	River	Update existing hydraulic model	Review	Short Term	National (WA4)
SC4	Canton	Sea	Maintain existing defences and inspection regime	Protection	Long Term	National (WA1)
SC5	Cowbridge	River	Design and construction of flood risk asset improvements	Protection	Short Term	N (project level Env Assessment underway)
SC6	Dinas Powys	River	Improve existing flood warning service	Preparedness	Short Term	National (WA3)
SC7	Dinas Powys	River	Consider and integrate nature-based solutions including natural flood management in NRW flood risk schemes and activities	Prevention	Short Term	N (project level Env Assessment underway)
SC8	Dinas Powys	River	Undertake catchment monitoring	Review	Short Term	National (WA4)
SC9	Glyntaff	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
SC10	Glyntaff	River	Improve existing flood warning service	Preparedness	Short Term	National (WA3)



<b>Ref.</b>	<b>Location</b>	<b>Source</b>	<b>Measure name</b>	<b>Measure type</b>	<b>Timescale</b>	<b>Scope in to the local assessment</b>
SC11	Glyntaff	River	Update existing hydraulic model	Review	Short Term	National (WA4)
SC12	Grangetown	Sea	Maintain existing defences and inspection regime	Protection	Long Term	National (WA1)
SC13	Hirwaun	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
SC14	Hirwaun	River	Improve existing flood warning service	Preparedness	Short Term	National (WA3)
SC15	Hirwaun	River	Update existing hydraulic model	Review	Short Term	National (WA4)
SC16	Llantwit Major	River	Design and construction of flood risk asset improvements	Protection	Short Term	Yes (WA1)
SC17	Maesteg	River	Improve existing flood warning service	Preparedness	Long Term	National (WA3)
SC18	Mountain Ash	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
SC19	Mountain Ash	River	Improve existing flood warning service	Preparedness	Short Term	National (WA3)
SC20	Mountain Ash	River	Update existing hydraulic model	Review	Short Term	National (WA4)
SC21	Nant Garw	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
SC22	Nant Garw	River	Improve existing flood warning service	Preparedness	Short Term	National (WA3)
SC23	Nant Garw	River	Update existing hydraulic model	Review	Short Term	National (WA4)
SC24	Pencoed	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Medium Term	Yes (WA1)
SC25	Pencoed	River	Improve existing flood warning service	Preparedness	Medium Term	National (WA3)
SC26	Pontyclun	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
SC27	Pontyclun	River	Improve existing flood warning service	Preparedness	Short Term	National (WA3)
SC28	Pontyclun	River	Build hydraulic model	Review	Short Term	National (WA4)
SC29	Pontypridd	River	Update existing hydraulic model	Review	Short Term	National (WA4)
SC30	Pontypridd	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
SC31	Pontypridd	River	Improve existing flood warning service	Preparedness	Short Term	National (WA3)

<b>Ref.</b>	<b>Location</b>	<b>Source</b>	<b>Measure name</b>	<b>Measure type</b>	<b>Timescale</b>	<b>Scope in to the local assessment</b>
SC32	Rhydyfelin	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
SC33	Rhydyfelin	River	Improve existing flood warning service	Preparedness	Short Term	National (WA3)
SC34	Rhydyfelin	River	Update existing hydraulic model	Review	Short Term	National (WA4)
SC35	Riverside	Sea	Maintain existing defences and inspection regime	Protection	Long Term	National (WA1)
SC36	River Taff Catchment	River	Develop an integrated catchment approach flood risk management	Prevention/ Protection/ Review	Short Term	Yes (WA1)
SC37	Roath	River	Maintain existing defences and inspection regime	Protection	Long Term	National (WA1)
SC38	St Mellons	Sea	Maintain existing defences and inspection regime	Protection	Long Term	National (WA1)
SC39	Taffs Well	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
SC40	Taffs Well	River	Improve existing flood warning service	Preparedness	Short Term	National (WA3)
SC41	Taffs Well	River	Update existing hydraulic model	Review	Short Term	National (WA4)
SC42	Treforest	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
SC43	Treforest	River	Improve existing flood warning service	Preparedness	Short Term	National (WA3)
SC44	Treforest	River	Update existing hydraulic model	Review	Short Term	National (WA4)
SC45	Ynysybwl	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
SC46	Ynysybwl	River	Investigate feasibility for new flood warning service	Preparedness	Short Term	National (WA3)
SC47	Ynysybwl	River	Build hydraulic model	Review	Short Term	National (WA4)
SC48	South Central Wales Place	River/ Sea	Work with RMAs where we have a joint interest, to plan and undertake activities that reduce the risk of flooding to communities	Prevention/Protection/ Preparedness/Review	Short Term	National (WA1)

### 3.0 Key environmental constraints and opportunities

The FRMP Scoping Report provides a full overview of the environmental baseline at a national level, and the Environmental Report summarises the baseline and key issues relevant to the FRMP. This section will not repeat this information. A greater level of detail and background into South Central Wales Place can be found in the Area Statement:

[Natural Resources Wales / South Central Wales Area Statement](#)

[Natural Resources Wales / Introduction to Wales' Marine Area Statement](#)

We have worked with South Central Wales People and Places team to identify particular opportunities and constraints in each of the communities scoped in to this assessment. The aim is to inform and encourage cross functional planning of delivery projects and to inform project level environmental assessment. We have focussed on spatially specific key environmental receptors, this supplements the fuller description of the environmental baseline as documented in the Scoping Report and Environmental Report. In undertaking this exercise other place based information that applies throughout South Central Wales, that is of relevance for FRM activities was gathered and is set out under the four aims of SMNR. This information is not exhaustive and is meant as a prompt to encourage early and integrated planning.

Ref	Location	Resilient Ecosystems (Aim 2)	Healthy Places WFD Status / Heavily Modified Waterbody (Aim 2)	Fisheries projects / River restoration /Opportunity catchment (Aim 4)
SC1	Aberdare	Tir mawr a Dderi Hir, Llwydcoed SSSI  Caeau Nant y Groes SSSI Aberdare Nature Reserve	No HMWB GB109057033110 Afon Cynon. Overall Moderate	There is a River Restoration Plan scheme in the upper Dare - near the Dare Valley Country park.
SC8	Glyntaff	n/a	HMWB GB109057027270 Taff – conf of Rhondda River to Castle Street Overall Moderate	



Ref	Location	Resilient Ecosystems (Aim 2)	Healthy Places WFD Status / Heavily Modified Waterbody (Aim 2)	Fisheries projects / River restoration /Opportunity catchment (Aim 4)
SC12	Hirwaun	Blaen Cynon SAC, Cors Bryn-y-Gaer SSSI	No HMWB GB109057033110 Afon Cynon. Overall Moderate	
SC15	Llantwit Major	n/a	No HMWB GB110058021020 Afon Colhuw – Headwaters to tidal limit Overall Good	
SC17	Mountain Ash	n/a	No HMWB GB109057027140 Cynon – conf Aman R to conf of Taff R Overall Good	Natural flood management area on WGWE Sierra Pines to improve surface water run- off
SC20	Nant Garw	Gwaun Gledyr SSSI Ely Valley SSSI	HMWB GB109057027270 Taff – conf of Rhondda River to Castle Street Overall Moderate	
SC23	Pencoed	Brynna a Wern Tarw SSSI Coedymwstwr Woodlands	No HMWB GB110058026290 Ewenny – headwaters to conf with the Ewenny Fach Overall Good	
SC25	Pontyclun	Ely Valley SSSI	No HMWB GB109057027260 Ely River – conf Nant Clun to Allot Gardens Ely Overall Poor	River Restoration assessments throughout the Ely catchment. Ely part of the Opportunity Catchment and catchment wide action plan being written.
SC29	Pontypridd	Craig Yr Hesg LNR	HMWB GB109057027270 Taff – conf of Rhondda River to Castle Street Overall Moderate	

Ref	Location	Resilient Ecosystems (Aim 2)	Healthy Places WFD Status / Heavily Modified Waterbody (Aim 2)	Fisheries projects / River restoration /Opportunity catchment (Aim 4)
SC31	Rhydyfelin	n/a	HMWB GB109057027270 Taff – conf of Rhondda River to Castle Street Overall Moderate	
SC35	River Taff Catchment	Blaen Cynon SAC, Cardiff Beech woods SAC Severn Estuary SAC, SPA, Ramsar	These are HMWBs with Flood Protection as a ‘use’ (have not listed the ‘urban’ ones which can also have flood protection features but tend to be local authority not NRW assets)  GB109057027270 Taff - conf Rhondda R to Castle Street; GB109057033140 Taff Bargoed (specifically the ‘fish ladder’ at bottom end which is LA asset I think).  GB530905415401 Severn lower (estuary) GB30947042 Cardiff Bay	The Taff is part of the Opportunity Catchment. River restoration plans in Merthyr sub catchments and Taff Bargoed. Merthyr Network established.
SC38	Taffs Well	Cwarru Ton Mawr a Ffynnon Taf SSSI and Garth Wood SSSI	HMWB GB109057027270 Taff – conf of Rhondda River to Castle Street Overall Moderate	
SC41	Treforest	n/a	HMWB GB109057027270 Taff – conf of Rhondda River to Castle Street Overall Moderate	

Ref	Location	Resilient Ecosystems (Aim 2)	Healthy Places WFD Status / Heavily Modified Waterbody (Aim 2)	Fisheries projects / River restoration / Opportunity catchment (Aim 4)
SC44	YnysybwI	Coed Cwm LNR	No HMWB GB109057027250 Nant Clydach – source to conf R Taff Overall Moderate	

## Aim 1: Stocks of natural resources are safeguarded and enhanced

*Tackling overexploitation to ensure that natural resources are safeguarded, and where possible enhanced, to meet the needs of current and future generations and to contribute to ecosystem resilience. Non-renewable natural resources (such as, aggregates, fossil fuels) are used in a sustainable manner and, where depletion is unavoidable, substitutes are put in place to meet future needs.*

The **National Peatland Action Programme** is a 5 year plan (2020-2025) of peatland restoration in Wales. Welsh peatlands need urgent action to reverse habitat loss and their poor condition. They support a variety of habitats and species, and have an important role in:

- capturing and storing carbon
- regulating greenhouse gases
- maintaining biodiversity
- regulating water

The programme will have direct and indirect benefit for FRM in terms of mitigating and adapting to climate change. Where local FRMP measures are delivered downstream of NPAP projects opportunities could be identified to work together to align delivery and maximise benefits.

The Wales Environmental Information Portal contains the new [peat map](#) showing the locations of all Peatlands in Wales. This is being developed further to detail what restoration has happened and where. The portal also includes a layer for [opportunities for bog restoration for FRM](#). The maps show peatlands located in South Central Place.

The uplands area between Neath Port Talbot and Rhondda Cynon Taf in the North West boundary of South Central is home to Pen y Cymoedd Wind Farm. This site has a 25year Habitat Management Plan which will involve strategic felling within a 1500Ha area of conifer plantation and ground works to restore natural hydrological process on those sites. Habitat restoration includes blocking drainage channels to restore the hydrology of the underlying peat bog. Peatlands in good condition can reduce greenhouse gas emissions and are a huge store of carbon. In addition, they improve storage of water and reduce rapid surges along erosion channels and so can have flood risk benefit.

To determine any opportunities project managers should contact the NPAP team: [npap@naturalresourceswales.gov.uk](mailto:npap@naturalresourceswales.gov.uk).

## **Aim 2: Ecosystems are resilient to expected and unforeseen change**

*Building ecosystem resilience to safeguard and enhance supporting ecosystem services and tackling the impacts of habitat change, climate change, pollution, invasive alien species and other identified pressures resulting in Wales having resilient ecosystems*

There are numerous **nationally protected sites** (SSSI's) across South Central Wales. The only NSN site in proximity to the scoped in FRMP communities is Blaen Cynon SAC, which is an extensive complex of damp pastures and heaths that support the largest metapopulation of marsh fritillary butterfly. When local measures are implemented, project level environmental assessment and Habitats Regulations Assessment will consider implications for these sites, as well as considering whether projects can restore or improve any features.

The third cycle **River Basin Management Plan** (RBMP) established ten **Opportunity Catchments** across Wales. Opportunity Catchments (OpC) have been agreed as the delivery mechanism for the third cycle River Basin Management Plans (RBMP) (2021-27). The focus of OpC is to maximise multiple benefits for waterbodies, health and well-being, delivered through partnership working. OpC are a delivery mechanism to integrate RBMP with other work streams and to deliver the Natural Resources Plan priorities, such as delivery through nature-based solutions. Area Statements provide an important local steer having identified the local challenges and opportunities for each area. The Taff and Ely is one such OpC.

The work seeks to address many long standing environmental impacts resulting from historic land use, managing the pressures associated with new development and urbanisation and seeking opportunities to improve ecosystem resilience and deliver associated well-being benefits. Key areas for the Taff and Ely OpC are:

- Collaboration
- Physical modification
- Urbanisation
- Restoring natural processes.

There is an opportunity for FRM measures, whether it be specific projects or the Taff Strategic Masterplan to integrate into wider plans, projects and strategic planning, through all statutory organisations. It is the shared ambition that, by working with people and communities, opportunities will be identified and that improvements in the freshwater environment will be an integrated part of local regeneration to support tackling the nature and climate emergencies in addition to the additional local challenges of health and economic deprivation and inequalities.

Table 3 identifies the Water Framework Directive (WFD) status of relevant waterbodies in South Central Wales. Some of these are classified as **Heavily Modified Waterbodies** (HMWB). Some waterbodies might be classified as a HMWB as a result of their function as a flood risk asset. These might provide valuable social and economic benefits which it is vitally important to protect, so they have been designated as such under Article 4.3 of the WFD. There can still be opportunities to deliver mitigation measures in HMWB to help achieve Good Ecological Potential. Where FRMP measures are delivered in a HMWB, must seek opportunities to **deliver mitigation measures** identified for the HMWB.

Mitigation measures can include:

- Remove obsolete structure
- Removal of hard bank reinforcement / revetment, or replacement with soft engineering solution
- Preserve/restore habitats
- In-channel morphological diversity
- Re-opening existing culverts
- Alter culvert channel bed
- Flood bunds (earth banks, in place of floodwalls)
- Set bank embankments
- Floodplain connectivity

- Structures or other mechanisms in place and managed to enable fish to access waters upstream and downstream of the impounding works.
- Management of the risk of fish entrainment in intakes for hydropower turbines or water resource purposes (or pumping stations) where there is downstream fish migration.
- Preserve and where possible enhance ecological value of marginal aquatic habitat, banks and riparian zone
- Operational and structural changes to locks, sluices, weirs, beach control, etc
- Selective vegetation control regime
- Appropriate vegetation control technique
- Appropriate timing (vegetation control)
- Appropriate techniques (invasive species)
- Retain marginal aquatic and riparian habitats (channel alteration)
- Sediment management strategies
- Appropriate channel maintenance strategies and techniques - minimise disturbance to channel bed and margins
- Appropriate channel maintenance strategies and techniques - e.g. remove woody debris only upstream of, or within, areas of urban flood risk. Can also include the use of gravel traps and maintaining sediment within the river system
- Appropriate water level management strategies, including timing and volume of water moved
- Appropriate techniques to align and attenuate flow to limit detrimental effects of these features (drainage)
- Educate landowners on sensitive management practices (urbanisation)

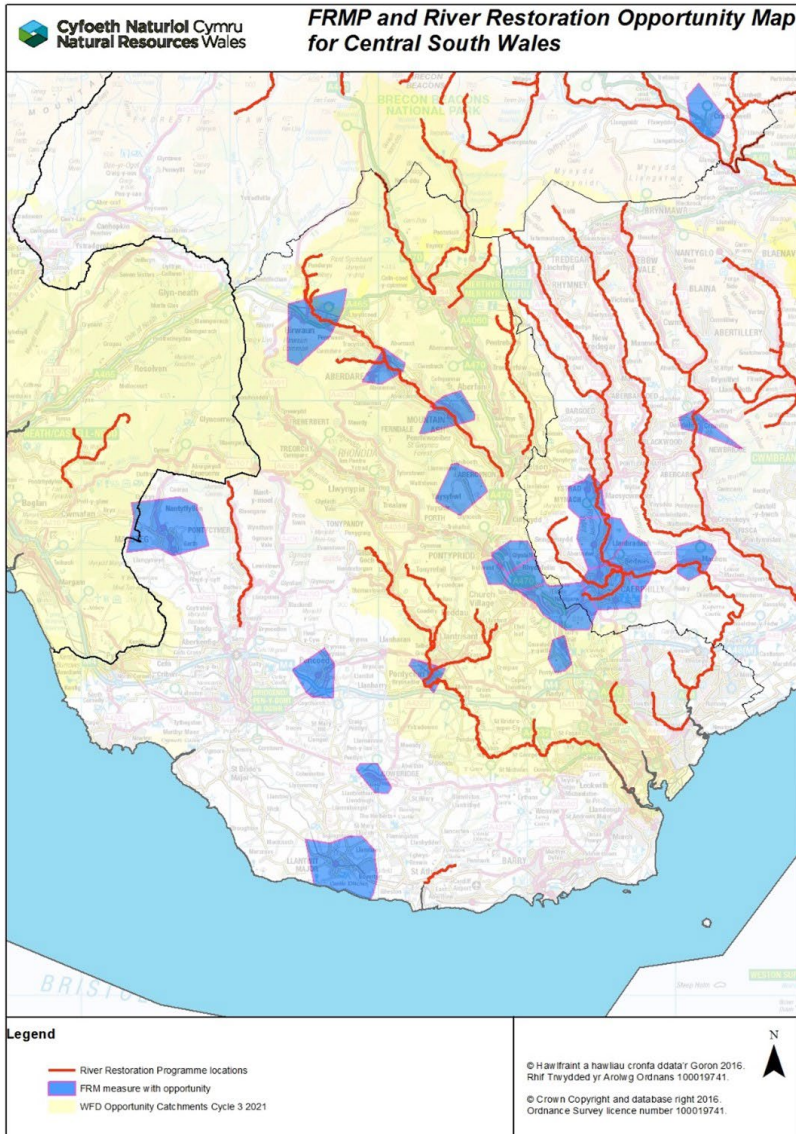
When projects are progressed there should be early discussion with the People and Places team to identify possible mitigation measures specific to each site. Through early consideration in the options appraisal there may be opportunities to include within the project design and business case.

**All projects being undertaken in the fluvial, estuarine or coastal environment must undergo WFD compliance assessment under OGN 72.**

The **River Restoration Programme** (RRP) identifies options that look to address physical modifications by naturalising watercourses and improving the resilience of habitats and biodiversity, as well as potentially reducing the local risk of flooding and improving water quality. NRW will work with partners and these gains will contribute towards the watercourses achieving their objectives under the WFD Regulations 2017.



The priority catchments for river restoration are shown in Figure 2. The blue polygons show the communities where FRMP local measures propose to Undertake initial assessment and feasibility work for reducing flood risk, or Design and construction of flood risk asset improvement. In some communities there is correlation with the RRP priority catchments, showing opportunities for FRM projects to deliver multiple benefits by working with the RRP. Conversely, some RRP activities include Natural Flood Management, aiming to restore hydromorphology and improve habitats and biodiversity. These projects will offer multiple benefits to FRM by slowing run off. Figure 2 shows there is a good opportunity for FRM priority work in the Taff catchment to work with the RRP to deliver multiple benefits.



**Figure 3: FRMP and River Restoration Opportunity Map**

The coastal communities included in Table 2 are largely maintenance and inspection of existing defences. The Marine Area Statement acknowledges that there are many locations around Wales which we must continue to defend in the future. This gives us many opportunities to consider using nature-based solutions for our coastal defences. In the options appraisal and design of local measures there must be consideration of **coastal adaptation** in line with SMP policy and where we are investing in a coastal defence, nature-based solutions must be considered and implemented where appropriate. The Area Statement supports the implementation of SMP policies.

Where coastal defences must be maintained because of existing infrastructure and communities, nature based solutions must be considered. For instance, beach replenishment or saltmarsh development are natural coastal defences. Saltmarshes also offer the multiple benefit of being efficient carbon stores. Green-grey infrastructure solutions such as the use of ecological enhancement features can help to support improvements in biodiversity of coastal structures. [OGN 185 “Guidance to support the use of ecological enhancement features on coastal defence structures and assets”](#) should be considered for all coastal and estuarine projects.

### **Aim 3: Wales has healthy places for people, protected from environmental risks**

*Environmental regulation protects people from risks, such as air, water and noise pollution, flooding etc.*

*Regulating and cultural ecosystem services are managed to increase wellbeing resulting in the provision of a healthy environment for all.*

Fundamentally, the FRMP local measures aim to manage flood risk in the communities considered at greatest risk. Many factors have an influence on our health and well-being, such as genetics, the environment, the society in which we live and work, income, behaviour patterns, and access to services. These significant and sustainable factors relate to what are known as the "Wider determinants of health", and should be considered as part of the commitment to the well-being of future generation and tackling inequalities. **The FRMP will contribute to Aim 3 by seeking to reduce the risk of flooding in these communities and consequently increasing well-being.**

Key to our understanding of populations and human health is the levels of deprivation experienced by local communities which can be explored through the Welsh Index of Multiple Deprivation: [WIMD - Home Page \(gov.wales\)](#)

Public Service Boards are responsible for producing **Well-being Assessments** and **Well-being Plans** that allow local organisations, including NRW, to work together to improve the well-being of people who live in their area. The plans prioritise what the PSB will focus on. In 2022 PSB's undertook / are undertaking an assessment of local well-being. The new draft Local Wellbeing Plans are due for public consultation in summer 2022, with an aim of publishing in 2023. PSBs relevant for South Central Wales are:

[Bridgend PSB Well-being Plan](#)

[Cardiff PSB Well-being Plan](#)

[Cwm Taf Well-being Plan](#)

[Vale of Glamorgan Well-being Plan](#)

There are opportunities for local FRMP measures to contribute to local well-being plan objectives. For example: Objective 2 of Cwm taf Morgannwg PSB Well-being plan is to help people live long and healthy lives and overcome any challenges. In order to achieve this we must work together as public services and with our communities to reduce levels of obesity. One way of doing this is identified as using our Local Development Plans, planning laws and publicly owned land to increase safe access to the outdoors, walking and cycling with a healthy range of food outlets. FRM assets can provide opportunities for access and recreation. Projects can seek to deliver access improvements and working with partners to link to existing footpaths and trails.

This is just one example. Each project level environmental assessment will consider the relevant Well-being Plan and identify opportunities to contribute.

The [Active Travel Act Guidance](#) has been produced by Welsh Government and is aimed at encouraging and facilitating walking and cycling. By encouraging such activities there can be direct benefits to health and well-being as well as providing alternatives to car travel. Achieving modal shift by displacing private car journeys with walking and cycling and public transport is at the heart of Llwybr Newydd, the Wales Transport Strategy. FRM projects should also seek to deliver opportunities such as designing in multi-user paths onto flood embankments.

Each Local Authority has an Active Travel Plan and the relevant ones for South Central Wales can be found here:

[Bridgend Active Travel](#)

[Cardiff Active Travel](#)

## [Rhondda Cynon Taf Active Travel](#)

## [Vale of Glamorgan Council Active Travel](#)

At the early stages of a project we must check if there are plans for an active travel route in the area that could be accommodated or enabled by any flood risk engineering works.

There are **important landscapes** across South Central Wales such as The Valleys Regional Park, part of the Brecon Beacons National Park and the Glamorgan Heritage Coast. The Valleys Regional Park champions the iconic landscape and people of the South Wales Valleys, working with partners to maximise the environment and social benefits for local communities and future generations.

Dwr Cymru Welsh Water (DCWW) are leading a project titled Brecon Beacons A Megacatchment for Everyone. The project recognises the role communities, biodiversity, agriculture, forestry and tourism play in making it such an iconic landscape. The project aims to help the Brecon Beacons continue to thrive and build resilience for future generations by encouraging stakeholders to recognise how much this area provides for us at a landscape scale rather than working on single issue projects within boundaries nature doesn't recognise.

South Central also contains numerous **Special Landscape Areas** (SLA). This is a non-statutory designation applied by the local planning authority to define areas of high landscape importance within their administrative boundary. Areas of high landscape importance may be designated for their intrinsic physical, environmental, visual, cultural and historical value in the contemporary landscape. Landscapes designated as a SLA may be unique, exceptional or distinctive to the local authority area.

Any projects located within these areas must be designed sensitively with their surroundings and in discussion with the relevant authorities to ensure the landscape is safeguarded and enhanced where possible.

There are multiple **Scheduled Ancient Monuments, Historic Parks and Gardens and listed buildings** in the communities at flood risk. There is also potential for **buried archaeology** which needs consideration in the delivery of projects. At initial assessment stage of projects it is standard practice to seek screening advice from the Glamorgan Gwent Archaeological Trust (GGAT), under the [Memorandum of Understanding](#) between NRW, Cadw and the Welsh Archaeological Trusts. GGAT will scrutinise the Historic Environment Register and provide advice on the sensitivity of the study area for cultural heritage. This is done very early in the project to ensure the project can be appraised and designed to avoid impact on the historic environment.

## **Aim 4: Contributing to a regenerative economy, achieving sustainable levels of production and consumption**

*Reducing the environmental impact of production and consumption and our environmental footprint in Wales and beyond, meeting the Wellbeing Goals of delivering a prosperous and globally responsible country. Our aim is for Wales to use no more than its fair share of global resources in order for our economy to operate within the regenerative capacity of the Earth's ecosystems and make a positive contribution to global wellbeing.*

Welsh Government has an aspiration to create 43,000 hectares of new woodland by 2030 (and 180,000ha by 2050) to help Wales meet its carbon emission reduction targets. Woodlands provide many benefits to society, including slowing the flow of water and consequently moderating flood events. On the other hand, forest management practices such as cultivation, drainage, road construction and harvesting can have the opposite effect if not appropriately managed. The UK Forestry Standard (UKFS) recognises the potential of forestry to affect downstream flooding and includes a set of requirements and guidelines to ensure that forests, forestry management and woodland creation make a positive contribution. A new UKFS Practice Guide on designing and managing woodlands and forests to reduce flood risk is due for publication in 2022/23. FRM capital projects, by their nature, often result in the removal of trees to make space for access and/or construction. The project environmental assessment will seek to minimise such loss and to mitigate, where necessary, by planting trees. There might also be opportunities to further enhance the environment and contribute to Welsh Government's ambition for **woodland creation** through capital project delivery, particularly if they are in locations that might reduce run-off. FRM projects, by their nature are often in urban environments and securing land for tree planting is often high risk and high cost. Delivering tree planting and woodland creation more strategically through NRW's **Woodland Creation Programme**, as well as **Welsh Government's National Forest programme** and the Sustainable Farming Scheme in due course, could provide benefits for both FRM and Wales as a whole. For further opportunities at a project level, contact NRW's woodland creation hub: [\*\*WoodlandCreation.Hub@cyfoethnaturiolcymru.gov.uk\*\*](mailto:WoodlandCreation.Hub@cyfoethnaturiolcymru.gov.uk)

**Forest Resource Plans (FRPs)** are 30year plans that set out the framework for management of the WGWE. They detail what work will be carried out and when. These programmes of work are developed to meet the forest objectives, which are created based on policy guidance and Area Statements. They are refined through coupe plans and detailed site plans for operational delivery. Following the 2020 floods NRW's Land Estate Management Review found that forests influence water in a mostly positive way, evidence suggests that they do not have a significant modifying effect during major flood events, regardless of management practice. However, in some smaller catchments where forestry is the dominant land use, woodland can have a positive effect during less extreme conditions. Work we can carry out on our land to hold and delay the release of water could contribute positively to flood management downstream, especially when combined with other catchment wide actions and when considering the future



implications of climate change. The FRMP identifies those communities at greatest flood risk across Wales and linking with the relevant [Forest Resource Plan](#) at a strategic or local scale could encourage integrated planning and delivery of wider benefits, in line with the recommendations of the review.