

Appendix E: Mid Wales Local Measures

1.0 Introduction

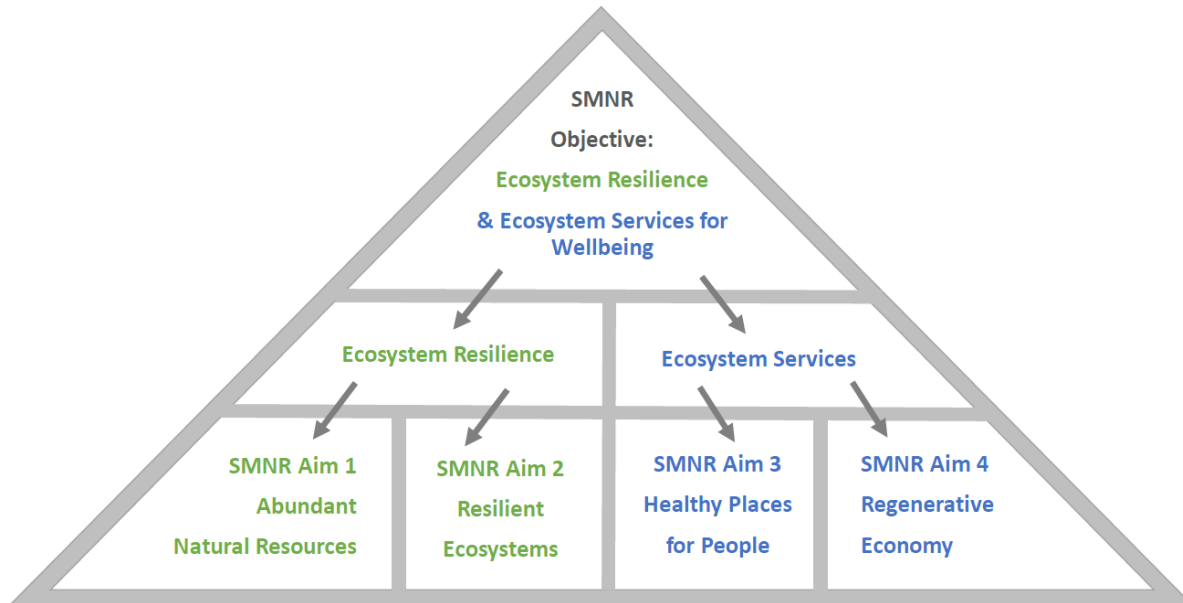
This document will consider the opportunities and constraints associated with the local measures for Mid Wales. The aim of this is to:

- 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 measures are proposed for the communities in Mid Wales that are most at risk of flooding from 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 Mid Wales Place where action is needed to manage and reduce the risk of flooding. For further details refer to the FRMP for Wales: Mid Wales Place.

Community name
Aberystwyth
Borth
Builth Wells
Caersws
Cardigan
Crewgreen
Crickhowell
Guilsfield
Knighton
Llandrinio
Llanfyllin
Machynlleth
Meifod

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

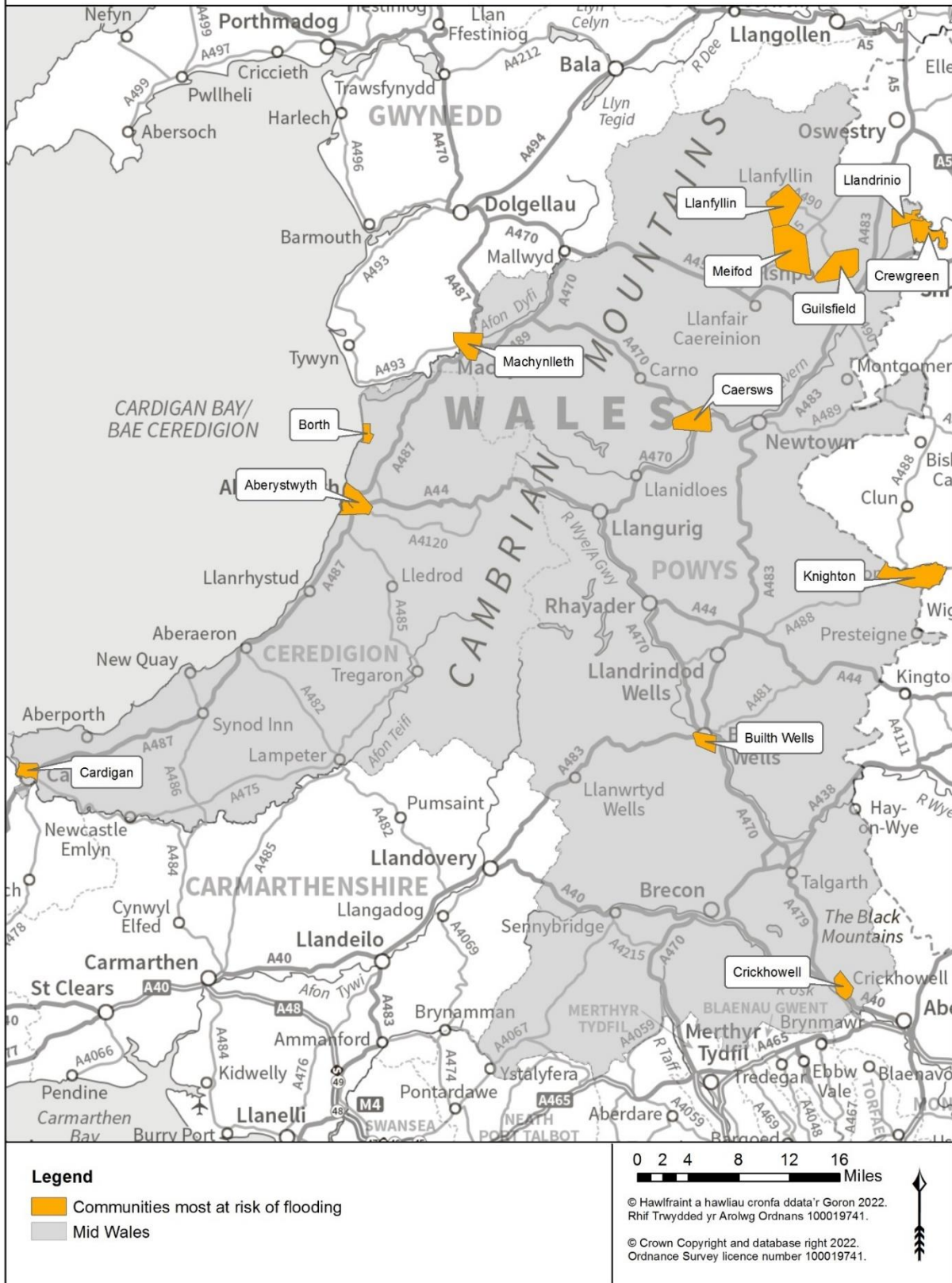


Figure 2 shows the communities across Mid Wales Place where action is needed to manage and reduce the risk of flooding.

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 and managing 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 265 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 Mid 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 Mid 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.

Table 2: Local FRMP measures for Mid Wales

Ref	Location	Source	Measure name	Measure type	Timescale	Scope in to the local assessment
M1	Aberystwyth	River/Sea	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Medium Term	Yes (WA1)
M2	Aberystwyth	River/Sea	Update existing hydraulic model	Review	Medium Term	National (WA4)
M3	Builth Wells	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Medium Term	Yes (WA1)
M4	Builth Wells	River	Update existing hydraulic model	Review	Medium Term	National (WA4)
M5	Builth Wells	River	Improve existing flood warning service	Preparedness	Medium Term	National (WA3)
M6	Caersws	River	Improve existing flood warning service	Preparedness	Long Term	National (WA3)
M7	Caersws	River	Update existing hydraulic model	Review	Long Term	National (WA4)

M8	Cardigan	River/Sea	Design and construction of flood alleviation scheme	Protection	Short Term	No (project level Env Assessment underway)
M9	Cardigan	River/Sea	Improve existing flood warning service	Preparedness	Short Term	National (WA3)
M10	Crewgreen	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Medium Term	Yes (WA1)
M11	Crickhowell	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
M12	Crickhowell	River	Improve existing flood warning service	Preparedness	Short Term	National (WA3)
M13	Crickhowell	River	Update existing hydraulic model	Review	Short Term	National (WA4)
M14	Dyfi Valley (Tidal Dyfi Strategy)	River	Consider future management options and undertake coastal adaptation planning	Review	Short Term	No (project level Env Assessment underway)
M15	Guilfield	River	Update existing hydraulic model	Review	Short Term	National (WA4)
M16	Knighton	River	Build hydraulic model	Review	Short Term	National (WA4)
M17	Knighton	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
M18	Llandinam	River	Update existing hydraulic model	Review	Short Term	National (WA4)
M19	Llandinam	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Long Term	Yes (WA1)
M20	Llandrinio	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Short Term	Yes (WA1)
M21	Llanfyllin	River	Update existing hydraulic model	Review	Long Term	National (WA4)
M22	Llanidloes	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Medium Term	Yes (WA1)

M23	Machynlleth	River	Update existing hydraulic model	Review	Long Term	National (WA4)
M24	Meifod	River	Undertake initial assessment and feasibility work for reducing flood risk	Protection	Medium Term	Yes (WA1)
M25	Meifod	River	Improve existing flood warning service	Preparedness	Long Term	National (WA3)
M26	Meifod	River	Update existing hydraulic model	Review	Medium Term	National (WA4)
M27	Mid Wales Place	River	We will engage with the River Severn Partnership where appropriate and possible to do so	Prevention/Protection/Preparedness/Review	Medium Term	National (WA1)
M28	Mid Wales Place	River/Sea	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	Prevention/Protection/Preparedness/ Review	Short Term	National (WA1)
M29	Mid Wales Place	River/Sea	Maintain existing defences and inspection regime	Protection	Medium Term	National (WA1)
M30	Mid Wales Place	River	Improve existing flood warning service	Preparedness	Long Term	National (WA3)
M31	North Powys – Severn Vyrnwy Confluence	River	Update existing hydraulic model	Review	Short Term	National (WA4)

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 Mid Wales Place can be found in the following Area Statements:

[Natural Resources Wales / Mid Wales Area Statement](#)

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

We have worked with Mid Wales Central 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 projects to maximise delivery against the Aims of SMNR and to inform project level environmental assessment. Where spatially specific information is available we have included it in Table 3 below, 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 Mid 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.

Table 3: Opportunities and constraints

Location	Resilient Ecosystems (Aim 2)	Health & wellbeing, recreation, access (Aim 3)	Cultural Heritage/Arts/ Language (Aim 3)	Fisheries projects / River restoration /Opportunity catchment (Aim 4)
Aberystwyth	Rheidol Shingles and Backwaters SSSI, Gweunydd Pendas SSSI, Allt Wen a Traeth Tanybwlech SSSI, West Wales Marine SAC, North Cardigan Bay SPA, Pendas LNR	Collaboration with Ceredigion County Councils (CCC) Green and Blue Infrastructure strategy for 6 towns in Ceredigion, inc. Aberystwyth. Potential delivery mechanism for the initiatives identified as part of the strategy. Potential links with local authority under Active Travel.	Opportunities to deliver the Ceredigion PSB wellbeing objectives (contact Mid P&P team for more detail). Priority sub-group is 'Decarbonising Aberystwyth'.	No fisheries projects planned at present.

Builth Wells	Upper Wye SSSI, River Wye (Tributaries) SSSI, Afon Irfon SSSI, R. Wye SAC	Opportunities to join up with Powys PSB to help deliver the Powys wellbeing objectives (currently in development) Contact Mid P&P team for more detail. Possible links with Powys CC for active travel (future routes maps)	Opportunities to join up with Powys PSB to help deliver the Powys wellbeing objectives (currently in development) Contact Mid P&P team for more detail	R.Ithon OpC and River Wye SAC projects focussed on improving water quality and biodiversity on the Wye. Possibly scope for collaboration with delivery of 'nature based measures'. OpC lead is Jonathan Gilpin, North Powys Env Team or Peter Elwyn Jones for R. Wye SAC project
Crewgreen		Co-ordination with River Severn Partnerships - contact Mid P&P for more detail. Scope for NFM opportunities in wider upper Severn catchment	Opportunities to join up with Powys PSB to help deliver the Powys wellbeing objectives (currently in development). Contact Mid P&P team for more detail	No fisheries projects planned at present. NRW and partners carrying out various projects in the wider catchment Project needs to consider risks and appropriate mitigation for the fish species present.
Crickhowell	R. Usk SAC 4Rivers4LIFE programme of improvements on the Usk	Opportunities to join up with Powys PSB to help deliver the Powys wellbeing objectives (currently in development) Contact Mid P&P team for more detail	Opportunities to join up with Powys PSB to help deliver the Powys wellbeing objectives (currently in development). Contact Mid P&P team for more detail	NRW and partners carrying out various projects in the wider catchment. Project needs to consider risks and appropriate mitigation for the fish species present. 4 Rivers for LIFE project includes consideration of improving fish passage at Crickhowell Bridge

<p>Knighton</p>	<p>River Teme SSSI. Cross-border considerations</p> <p>Opportunities to join up with Powys PSB to help deliver the Powys wellbeing objectives (currently in development) Contact Mid P&P team for more detail</p>	<p>Opportunities to join up with Powys PSB to help deliver the Powys wellbeing objectives (currently in development) Contact Mid P&P team for more detail</p>	<p>WFD Status for Teme - Moderate (overall)</p> <p>No fisheries projects planned at present.</p> <p>Project needs to consider risks and appropriate mitigation for the fish species present.</p> <p>NRW and partners carrying out various projects in the wider catchment</p> <p>Last year an application from Severn Rivers Trust for an Impoundment Licence in relation to the construction of a fish pass at Knighton Weir was rejected. We would welcome opportunities to improve fish passage at this location as part of the FCRM work.</p>
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Llandinam	Opportunities to join up with Powys PSB to help deliver the Powys wellbeing objectives (currently in development) Contact Mid P&P team for more detail	Opportunities to join up with Powys PSB to help deliver the Powys wellbeing objectives (currently in development) Contact Mid P&P team for more detail	WFD status Severn - conf Afon Dulas to conf R Camlad – Overall moderate
Llandrino	Co-ordination with River Severn Partnerships - contact Mid P&P for more detail. Scope for NFM opportunities in wider upper Severn catchment	Opportunities to join up with Powys PSB to help deliver the Powys wellbeing objectives (currently in development) Contact Mid P&P team for more detail	Would welcome opportunities to discuss/promote de-culverting and fish friendly culvert design if appropriate. (contact Jason Jones, Mid P&P team)
Llandrino	Co-ordination with River Severn Partnerships - contact Mid P&P for more detail. Scope for NFM opportunities in wider upper Severn catchment	Opportunities to join up with Powys PSB to help deliver the Powys wellbeing objectives (currently in development) Contact Mid P&P team for more detail. Listed Buildings/Ironworks	
Llanidloes	Co-ordination with River Severn Partnerships - contact Mid P&P for more detail. Scope for NFM opportunities in wider upper Severn catchment	Opportunities to join up with Powys PSB to help deliver the Powys wellbeing objectives (currently in development) Contact Mid P&P team for more detail	

Meifod	Co-ordination with River Severn Partnerships - contact Mid P&P for more detail. Scope for NFM opportunities in wider upper Severn catchment	Opportunities to join up with Powys PSB to help deliver the Powys wellbeing objectives (currently in development) Contact Mid P&P team for more detail. listed Buildings/
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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 a significant area of peatlands are located in Mid Place.

To determine any opportunities project managers should contact the NPAP team: 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** across Mid Wales. NSN Sites include the Wye SAC and Usk SAC. When local measures are implemented, project level environmental assessment and Habitats Regulations Assessment will consider implications for sites such as those listed in Table 3, 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 Policy 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 Rivers Teifi and Ithon are OpC in Mid Place.

Some waterbodies in Mid might be classified as **Heavily Modified Waterbodies** (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, we 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)

Various species of fish are features of the Rivers Teifi, Usk and Wye SACs and they are also a factor in the ecological status of rivers under the WFD regulations. Opportunities have been identified in Table 3 where FRMP measures could integrate fisheries improvements, for example by **removing culverts, improving habitat or improving fish passage over in river structures**. 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 3. 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. In particular, projects at Builth Wells and Crickhowell might benefit from working with any RRP / Rivers4LIFE projects upstream of the communities.

Rivers 4 Life is a programme of work that is supported through the EU's LIFE Programme and match funded by the Welsh Government. More than nine million pounds will be invested into bringing four Welsh rivers into good condition – the Teifi, Cleddau, Tywi and Usk. An estimated 500km of river will be improved. The Teifi and Upper Usk catchment are both located in Mid Place and where FRM projects, for example in Crickhowell, overlap with planned river restoration work, opportunities to deliver the project in an integrated manner to deliver multiple benefits should be explored.

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 coastal 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, for example where policies move from hold the line to managed realignment in 2025.

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.

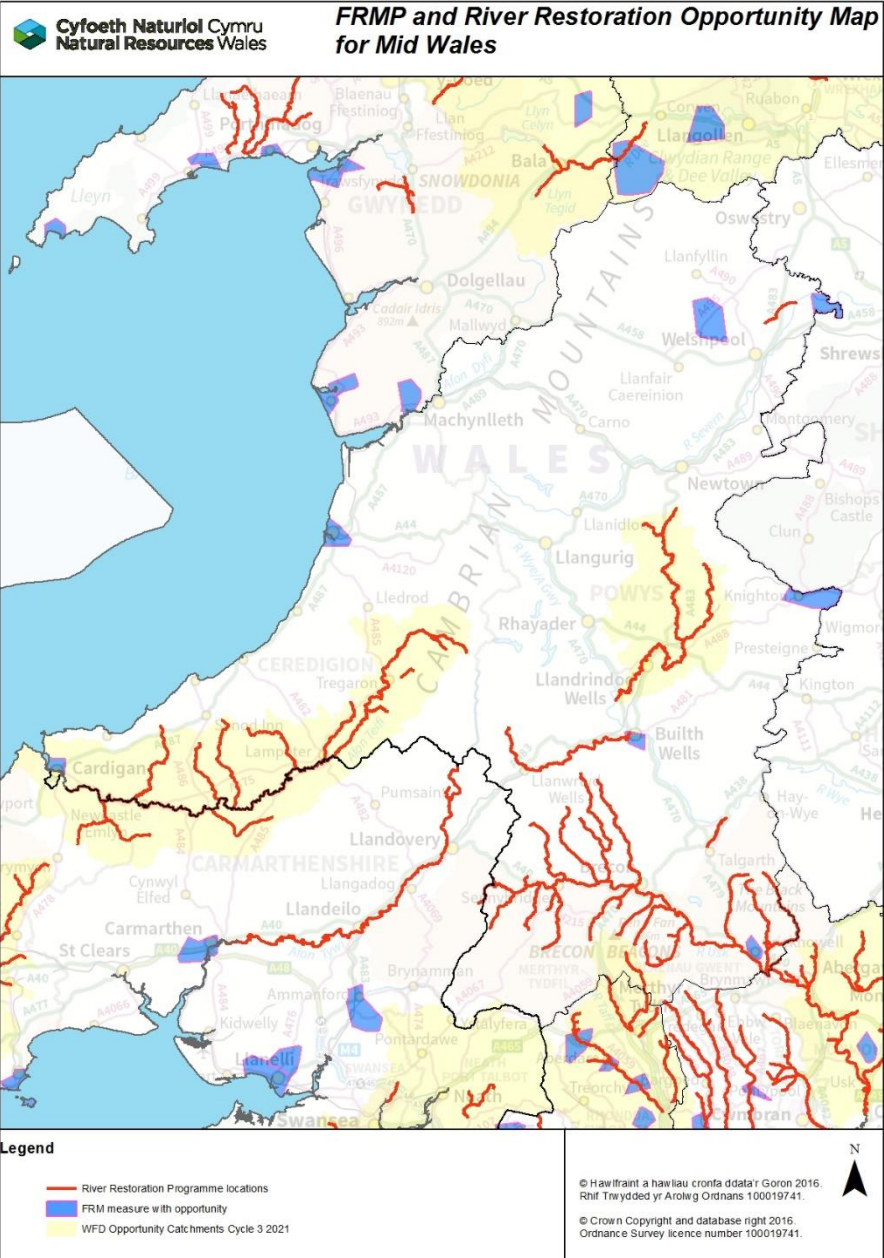


Figure 3: Opportunity catchments and priority catchments for river restoration in Mid Wales

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 Mid Wales are:

[Ceredigion PSB](#)

[Powys PSB](#)

The overall population of Ceredigion is projected to decrease over the next 25 years, including a continuation of trends that have seen the working age population decrease and the outward migration of young people to other parts of Wales and the UK. At the same time the population is ageing. The impacts of these changes will be far reaching, affecting the economic, social, environmental and cultural well-being of the county. For example, affecting the ability of the workforce to meet the skills demands of the local economy, and in protecting the strong cultural traditions of the County.

There are opportunities for local FRMP measures to contribute to local well-being plan objectives. For example: Objective 8 of Powys PSB Well-being plan is to develop a sustainable environment strategy: by strengthening activity to deliver the sustainable management of Powys' natural resources through coordinated conservation work and actions underpinning the Nature Recovery Plan and Natural Resources Wales Area Statement(s). Sustainable access is recognised as key to achieving this objective, by

working together to raise awareness of and improve rights of way and cycle routes. Powys also aims to be a centre of excellence for environmental research, sustainable and green technologies and renewable energy; The sustainable and resilient environment will support employment, improve biodiversity and help mitigate climate change, flooding and other natural events.

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 Mid Wales can be found here:

Powys CC [future routes maps](#)

[Ceredigion CC 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 numerous **designated landscapes** across Mid Wales, including a large proportion of the Brecon Beacons National Park. The Shropshire Hills AONB reaches the Welsh-English border, so has views into Wales. Mid Wales 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.

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.

There are also [Registered Historic Landscapes](#) and multiple **Scheduled Ancient Monuments, Historic Parks and Gardens and listed buildings** in the communities at flood risk in Mid Wales. 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 Clwyd Powys Archaeological Trust (CPAT), under the [Memorandum of Understanding](#) between NRW, Cadw and the Welsh Archaeological Trusts. CPAT 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

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.