Cyngor Castell-nedd Port Talbot
Neath Port Talbot Council



Strategaeth Rheoli Perygl Llifogydd Lleol
Local Flood Risk Management Strategy and Plan

www.npt.gov.uk

Strategaeth Rheoli Perygl Llifogydd Lleol

Local Flood Risk Management Strategy and Plan

Document Verification

Project title	Lead Local Flood Risk Management Strategy and Plan
Document title	Lead Local Flood Risk Management Strategy and Plan
Job number	N/A
Document ref	REV E
File reference	Data and Documents

Revision	**Date**	**Filename**	NPTCBC FRM Strategy.docx		
REV A	20/03/2024	**Filename**	NPTCBC FRM Strategy and Plan - Final Rev A		
		Description	Lead Local Flood Authority Flood Risk Management Strategy and Plan		
			Prepared by	**Checked by**	**Approved by**
		Name	R Colman	M Roberts	N/A
REV B	09/07/2024	**Description**	Lead Local Flood Authority Flood Risk Management Strategy and Plan - Final Rev B		
			Prepared by	**Checked by**	**Approved by**
		Name	R Colman	S Owen	N/A
REV C	14/10/2024	**Filename**	NPTCBC FRM Strategy and Plan - Final Rev C		
		Description	Lead Local Flood Authority Flood Risk Management Strategy and Plan		
			Prepared by	**Checked by**	**Approved by**
		Name	R Colman	S Owen	N/A
REV D	09/04/2025	**Filename**	NPTCBC FRM Strategy and Plan - Final Rev D		
		Description	Lead Local Flood Authority Flood Risk Management Strategy and Plan		
			Prepared by	**Checked by**	**Approved by**
		Name	R Colman	S Owen	N/A
REV E	09/07/2025	**Filename**	NPTCBC FRM Strategy and Plan - Final Rev E		
		Description	Lead Local Flood Authority Flood Risk Management Strategy and Plan		
			Prepared by	**Checked by**	**Approved by**
			R Colman	R Colman	N Pearce

Table of Contents

Document Verification 2

Table of Contents 3

Tables and Figures 6

Acronyms 8

Foreword 10

1. Introduction 11

1.1 The need for a Local Strategy 11

1.2 The purpose of this Local Strategy 12

1.3 Structure of this Local Strategy 12

1.4 Targets within this Local Strategy – Objectives, Measures and Actions 13

1.5 Progress since first Strategy and Plan 13

2. How this strategy responds to climate change 14

2.1 Climate change risk in our area 14

2.2 Regional Climate Outlook 14

2.3 Future Flood Risk 14

2.4 Implications for Flood Risk 15

2.5 Adapting to Change 16

2.6 How our strategy addresses these risks 16

3. Coordination 20

3.1 How this strategy aligns with our other strategic local plans 20

3.2 Coordination with other RMAs and Legislation 20

3.3 Working Groups within FCERM 21

4. Roles and responsibilities for managing flood risk in our area 22

4.1 Overview 22

4.2 Risk Management Authorities and their functions 22

4.3 Other responsible Stakeholders 28

4.4 Sources of flooding 29

4.5 Key points of contact 34

4.6 How we manage flooding in our area 35

5. Our strategic Objectives 37

5.1 National Strategy Objectives 37

5.2 Objectives in our area 37

6. Flood Measures 40

6.1 Introduction to flood measures 40

6.2 Summary of how we select and prioritise measures 41

6.3 Our Measures 42
6.3.1 Development Planning and Adaptation 42
6.3.2 Flood Forecasting, Warning, and Response 44
6.3.3 Land, Cultural and Environmental Management 46
6.3.4 Asset Management and Maintenance 48
6.3.5 Studies, Assessments, and Plans 53
6.3.6 High Level Awareness and Engagement 57
6.3.7 Monitoring 60
7. What is the risk of flooding in our area? 61
7.1 Background 61
7.2 Approach of Strategic Flood Consequence Assessment (SFCA) 65
7.3 Property Count Methodology 68
7.4 Overview of flood risk in our area 68
7.5 County Wide Flood Risk Conclusion 69
7.6 Flood risk in your community 74
7.6.1 River Afan Catchment 79
7.6.2 River Corrwg Catchment 82
7.6.3 Afon Pelenna Catchment 85
7.6.4 River Ffrwdwyllt Catchment 88
7.6.5 River Kenfig Catchment 91
7.6.6 Neath Vale Catchment 94
7.6.7 Afon Pryddin Catchment 97
7.6.8 River Dulais Catchment 99
7.6.9 River Neath Catchment 102
7.6.10 River Clydach Catchment 108
7.6.11 River Tawe Catchment 111
7.6.12 River Twrch Catchment 115
7.6.13 River Clydach (Lower) Catchment 117
7.6.14 River Clydach (Upper) Catchment 118
7.6.15 River Amman Catchment 120
8. Flood Actions 123
8.1 Introduction to flood Actions 123
8.2 Our Flood Action Plan 123
9. Funding and prioritisation 125
9.1 Funding options 125
9.2 How we prioritise Actions 126
10. Environmental Assessments 129
10.1 Strategic Environmental Assessment (SEA) 129
10.2 Habitats Regulations Assessment (HRA) 132

10.3 Water Framework Directive (WFD) Assessment 132
11. Monitoring progress 134
11.1 How we measure progress 134
11.2 How regularly we monitor progress 134
12. Appendices 135
Appendix A1 – Our Previous Flood Action Plan (Update) 135
Appendix A2 – Our 2024 Flood Action Plan 138
Appendix A3 – Our Business as Usual Flood Action Plan 141
Appendix B - Legislative context 144
Appendix C - Public consultation 146
Appendix D – Review of the Document 146
Appendix E - Glossary of Terms 146
Appendix F – Consultation Feedback Comments 149
Appendix G – Property Count Ranking 154
Appendix H – Critical Flood Risk Assets (CFRAs) 157
Appendix J – Prioritised Pipeline of Flood Alleviation Schemes 161
Appendix K – Extract from SMP2 162
Appendix L – Consultation Questionnaire 170
Appendix M – Consultation Questionnaire Responses 176

Tables and Figures

Figure 1: Extract from DARE Action Plan 17
Figure 2: Influence of Local Plans and Strategy's 20
Figure 3: Influence of RMA Plans and National Legislation 20
Figure 4: Welsh FCERM Working Groups (Extract from National Strategy) 21
Figure 5: Overview of Roles and Responsibilities (Extract from National Strategy) 22
Figure 6: Internal Stakeholders 29
Figure 7: Other External Stakeholder 29
Figure 8: Map of NRW Rivers in NPTCBC 30
Figure 9: Map of Canals in NPTCBC 32
Figure 10: Key Responsible Contacts 34
Figure 11 - WG National Strategy Objectives 37
Figure 12: NRWs Flood Risk Areas (Cycle 2**)** 62
Figure 13: NRWs communities at 'most risk' of flooding 63
Figure 14: NRWs communities at 'future risk' of flooding 64
Figure 15: Strategic Flood Risk Areas' (SFRA) 66
Figure 16: Strategic Flood Risk Areas (RANKED) 74
Figure 17: Flood Map of River Afan (All Sources) 79
Figure 18: Flood Map of River Corrwg (All Sources) 82
Figure 19: Flood Map of Afon Pelenna (All Sources) 85
Figure 20: Flood Map of River Ffrwdwyllt (All Sources) 88
Figure 21: Flood Map of River Kenfig (All Sources) 91
Figure 22: Flood Map of Neath Vale (All Sources) 94
Figure 23: Flood Map of Afon Pryddin (All Sources) 97
Figure 24: Flood Map of River Dulais (All Sources) 99
Figure 25: Flood Map of River Neath (All Sources) 102
Figure 26: Flood Map of River Clydach (All Sources) 108
Figure 27: Flood Map of River Tawe (All Sources) 111
Figure 28: Flood Map of River Twrch (All Sources) 115
Figure 29: Flood Map of River Clydach (Lower) (All Sources) 117
Figure 30: Flood Map of River Clydach (Upper) (All Sources) 118
Figure 31: Flood Map of River Amman (All Sources) 120
Figure 32: Prioritisation of FCERM Funding 127
Figure 33: FCERM Scheme and Activity Funding Streams 128

Table 1: SMP2 Policies for NPTCBC 18
Table 2: National Strategy's, Plans and Guidance 19
Table 3: RMA Roles from Source of Flooding 23
Table 4: Scoring for minor and capital highway and land drainage works 36
Table 5: NPTCBC Flood Risk Objectives 39
Table 6: NPTCBCs Strategic Flood Risk Areas (SFRA) 65
Table 7: Datasets used to inform property count 67
Table 8: NPTCBC Property Count Summary 69
Table 9: County wide results for flooding from Rivers and Large Watercourses 71
Table 10: County wide results for flooding from Surface Water and Small Watercourses 72
Table 11: County Wide Results for Flooding from the Sea 73
Table 12: Fluvial and Pluvial catchments link to wards 75
Table 13: SFRA Residential property counts for flooding from rivers and large watercourses 76
Table 14: SFRA Residential property counts for flooding from surface water and small watercourses 77
Table 15: SFRA Residential property counts for flooding from the sea 78
Table 16: River Afan SFRA Property Count 80
Table 17: River Corrwg SFRA Property Count 83
Table 18: Afon Pelenna SFRA Property Count 86

Table 19: River Ffrwdwyllt SFRA Property Count 89
Table 20: River Kenfig SFRA Property Count 92
Table 21: Neath Vale SFRA Property Count 95
Table 22: Afon Pryddin SFRA Property Count 98
Table 23: River Dulais SFRA Property Count 100
Table 24: River Neath SFRA Property Count 105
Table 25: River Clydach SFRA Property Count 109
Table 26: River Tawe SFRA Property Count 113
Table 27: River Twrch SFRA Property Count 116
Table 28: River Clydach (Lower) SFRA Property Count 117
Table 29: River Clydach (Upper) SFRA Property Count 119
Table 30: River Amman SFRA Property Count 121

Acronyms

Acronym	Meaning
AMP	Asset Management Plan
BCR	Benefit Cost Ratio
BDP	Biodiversity Plan
BJC	Business Justification Case
CaRR	Communities at Risk Register
CFRA	Critical Flood Risk Assets
CIL	Community Infrastructure Levy
CPA	Coast Protection Authority
CRMP	Coastal Risk Management Programme
DAM	Development Advice Map
DCWW	Dwr Cymru Welsh Water
GIS	Geographic Information System
HA	Highway Authority
FAS	Flood Alleviation Scheme
FBC	Full Business Case
FCERM	Flood and Coastal Erosion Risk Management
FMfP	Flood Map for Planning
FRA	Flood Risk Assessment
FRAW	Flood Risk Assessment Wales
FRM	Flood Risk Management
FRMP	Flood Risk Management Plan
FRMS	Flood Risk Management Strategy
FRR	Flood Risk Regulations
FWMA	Flood Water Management Act
LA	Local Authority
LDA	Land Drainage Act
LDP	Local Development Plan
LLFA	Lead Local Flood Authority
LLPG	Local Land & Property Gazetteer
LNP	Local Nature Partnership
LNR	Local Nature Reserve
NBS	Nature Based Solutions
NFM	Natural Flood Management
NNR	National Nature Reserve
NPT	Neath Port Talbot
NPTCBC	Neath Port Talbot County Borough Council
NR	Network Rail
NRW	Natural Resources Wales
OBC	Outline Business Case
PAR	Preliminary Appraisal Report
RBD	River Basin District
RMA	Risk Management Authority
RRF	Resilient Road Fund
SAB	Sustainable Drainage Approval Body
SAC	Special Area of Conservation
SAM	Scheduled Ancient Monument
SCBCEG	Swansea and Carmarthen Bay Coastal Engineering Group
SEA	Strategic Environmental Assessment
SFCA	Strategic Flood Consequence Assessment
SFRA	Strategic Flood Risk Area

Acronym	Meaning
SINC	Sites of Importance for Nature Conservation
SMP2	Shoreline Management Plan 2
SOC	Strategic Outline Case
SOP	Standard of Protection
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage System
SWWFRMG	Southwest Wales Flood Risk Management Group
SWTRA	South Wales Trunk Road Authority
TAN15	Technical Advice Note 15
UKCP	United Kingdom Climate Projections
WCMC	Wales Coastal Monitoring Centre
WFD	Water Framework Directive
WG	Welsh Government
WRc	Water Research Centre

Foreword

"This Local Flood Risk Management Strategy and Plan sets out how we intend to deal with flood risk from surface water, ordinary watercourses, and groundwater within the Neath Port Talbot County Borough Council (NPTCBC). It describes how we, as the Lead Local Flood Authority (LLFA) will mitigate the risk of flooding to local communities and businesses across the county, with the aim to improve resilience to our communities, infrastructure, and the wider environment. This document will clarify roles and responsibilities, describe how we have come to our priorities, explain what the council is doing to mitigate flood risk in your area, and how we can support you from the risk of flooding. Our long-term objective is to leave a legacy for future generations and for NPTCBC to remain an attractive place to live, work and visit.

We are all feeling the effects of climate change and the impacts are becoming ever more noticeable, particularly in the last 4 years where we have seen significant flood events across the county. Records for NPTCBC show 300 properties have suffered from internal flooding since 2020 compared to 130 flooded properties between years 2013-2020. Rainfall events are becoming more unpredictable, intense, and frequent, causing significant disruption and heartache to many local communities. Whilst it is not possible to prevent all flooding, it is possible to consider the risks and take a pro-active approach to manage these risks, likelihoods, and consequences.

This Strategy and Plan therefore considers how various activities by the LLFA can assist in managing flood risk, including better planning policies to ensure new development does not increase flood risk, the effective management of surrounding landscapes to reduce flooding at the source, and to ensure that emergency services respond to where they are needed the most.

We want to promote wider catchment approaches to managing risk, cross border and multi-agency working and the sharing of ideas. This document intends to be usable, referable, and informative for communities and practitioners alike. It seeks to raise awareness in the community and encourage a partnership approach with other Risk Management Authority's (RMA's) such as Natural Resources Wales (NRW) and Dwr Cymru Welsh Water (DCWW) who also have duty to mitigate against flood risk. Only with close community engagement and partnership working with external organisations can we overcome the challenges that lay ahead."



Frances O'Brien – NPTCBC Chief Executive

Prepare for flooding and what to do if your home or business has been flooded.

The Welsh Government provides guidance on what to do before, during and after a flood.

Who to contact for further information.

For further information on Flood Risk Management please visit our website.

Should you have any queries on Flood Risk Management or Drainage within Neath Port Talbot CBC please email environment@npt.gov.uk or telephone 01639686868.

1. Introduction

1.1 The need for a Local Strategy

The **Flood and Water Management Act 2010** requires all 22 Lead Local Flood Authorities (LLFAs) in Wales to produce Flood Risk Management Strategies (Local Strategy).

The Welsh Government's National Strategy for Flood and Coastal Erosion Risk Management (FCERM) in Wales (National Strategy) sets out that over 245,000 properties across Wales are at risk of flooding from rivers, the sea and surface water, with almost 400 properties also at risk from coastal erosion. The National Strategy explains that, as the climate changes, we can expect those risks to increase with more frequent and severe floods, rising sea levels and faster rates of erosion of the coast.

The National Strategy sets out the legislative context to FCERM activities in Wales. A summary of the legislative context to FCERM activities in Wales is provided in Appendix B – legislative context.

Different Risk Management Authorities (RMAs) in Wales are responsible for various sources of flood risk. LLFAs are responsible for "local flood risk" which is defined as flood risk from: Surface water runoff; Groundwater; and Ordinary watercourses (smaller watercourses)

This Local Strategy focuses on these local sources of flood risk but acknowledges and considers other sources of flood risk (including the sea, larger watercourses, and sewers) and the roles of other RMA's in managing Flood Risk.

The Local Flood Risk Management Strategy is a statutory document which will have an impact on activities carried out by all Flood Risk Management Authorities – i.e. Local Authorities, Natural Resources Wales, Highway Authorities, and Internal Drainage Boards. The **Flood and Water Management Act 2010** requires that Neath Port Talbot County Borough Council take a leading role in managing local flood risk, working in partnership with other relevant authorities and the public.

Neath Port Talbot CBC already forms part of a Flood Risk Management partnership in the Southwest Wales Region comprising of management authorities. These groups are fundamental to the delivery of a coordinated and consistent approach to local flood and coastal risk management ensuring we work alongside various stakeholders and the public to make a real difference across the county borough.

The Neath Port Talbot Flood and Coastal Erosion Risk Management team are engaged with the following: -

- **Regional Flood and Coastal Committees:** Southwest Wales Flood Risk Management Group (SWWFRMG) & Swansea and Carmarthen Bay Coastal Engineering Group (SCBCEG)
- **Neighbouring Authorities:** City and County of Swansea, Carmarthenshire County Council, Bridgend County Borough Council, Powys County Council and Rhondda Cynon Taff Council.
- **Stakeholders:** Welsh Government (WG), Natural Resources Wales (NRW), Dŵr Cymru Welsh Water (DCWW), Network Rail (NR), Police, Fire Brigade, Utility Companies, Port of Neath, Associated British Ports (ABP) Canal Companies, i.e. the Neath Canal Company, the Port Tennant Canal Company, and Neath Port Talbot CBC.
- **Internal departments** of Neath Port Talbot County Borough Council, such as Planning, Highways Development Control and Biodiversity.

Neath Port Talbot CBC contains 3 flood risk areas out of the 33 identified by Natural Resources Wales (NRW) and we face tough decisions on how to defend these low laying coastal and fluvial floodplains of Neath, Briton Ferry, and Port Talbot. Through internal investment and funding from Welsh Government (WG) we intend to deliver our Flood and Coastal Erosion Risk Management programme of works, which is driven by a risk-based approach, to protect these vulnerable communities and mitigate against flood risk.

Over the course of the last 10 years since the first publication of the LFRMS, records show 430 properties have suffered from internal flooding from surface water and ordinary watercourses at various locations around the county borough.

There are five main sources of flooding in Neath Port Talbot County Borough, from surface water; groundwater; sewers; canals and ordinary watercourses, and the interaction with main rivers and the sea. This is important in Neath Port Talbot's case as it is also a Maritime Authority. Furthermore, the County Borough Council also has a role in Highway and Land Drainage and emergency planning to effectively mitigate against and respond to flooding. These roles, responsibilities and sources of flooding are described in more detail in chapter 4.

1.2 The purpose of this Local Strategy

We published our first Local Strategy in 2014, setting out our overarching approach to managing local flood risk. Alongside our Local Strategy, we published a Flood Risk Management Plan (FRMP) in 2015. Our FRMP developed the objectives, measures and actions outlined in our Local Strategy into a more detailed plan for managing flooding in our communities, based on political wards. This document is our second Local Strategy and whilst we previously published our Local Strategy and FRMP separately, this new Local Strategy and Plan integrates the two documents into one. This reduces complexity, duplication, and will enable us to communicate and manage local flood risk more effectively. This document will work alongside other strategic plans for shoreline management, infrastructure, and planning to set out the direction we want to take.

Since our first Strategy was published, legislation has been passed which affects the way we work. The Well-being of **Future Generations (Wales) Act 2015** and **Planning (Wales) Act 2015** encourage partnership working, collaboration and a long-term approach. **The Environment (Wales) Act 2016** introduced the sustainable management of natural resources approach and duties to enhance biodiversity, reduce carbon emissions, promote natural measures and catchment approaches.

In this document we explain how flooding will be managed across our Local Authority area, consistent with the objectives, measures and related policies and legislation set out in the National Strategy. This Strategy and plan (Appendix A) published on [Insert Date] will be reviewed and updated every two (2) years.

1.3 Structure of this Local Strategy

This document is structured as follows:

Chapter 1 Introduces the background and purpose of the Local Strategy and Plan

Chapter 2 gives an overview of climate change flood risk in our area and how this Local Strategy and Plan seeks to address these risks.

Chapter 3 gives a legislative context and summarises how this Local Strategy and Plan aligns with our other strategic plans; it also summarises how we have developed our Strategy in coordination with other stakeholder plans.

Chapter 4 sets out the roles and responsibilities for managing flood risk in our area. It also highlights some of the key policies we have in place for managing local flood risk.

Chapter 5 describes our strategic objectives or ambitions for managing flood risk in the coming years, and how these align with the objectives set out in the National Strategy.

Chapter 6 sets out our flood risk management Measures. These are broad activities and ways of working which help us to meet our strategic objectives.

Chapter 7 presents an assessment of the risk of flooding across our Local Authority.

Chapter 8 sets out our flood risk management Action Plan. This is a focused plan, detailing specific actions required to meet our measures.

Chapter 9 summarises the diverse ways in which flood risk management activities can be funded, as well as how we prioritise these activities.

Chapter 10 outlines how the strategy and plan will contribute to the wider environmental objectives.

Chapter 11 describes how we will measure and monitor our progress in delivering the objectives, measures and actions set out in this Local Strategy and Plan.

1.4 Targets within this Local Strategy – Objectives, Measures and Actions

This Local Strategy and Plan sets out our flood risk management Objectives, Measures and Actions. These three groupings provide various levels of detail on how flood risk will be managed. The meaning of each is summarised below:

Objectives

- Overarching targets or outcomes of flood risk management during, or beyond, the Local Strategy cycle.
- Statements of Local Authority ambition for flood risk management.
- Specific to the Local Authority, but linked to the National Strategy Objectives.
- Example: Reduce number of residential properties exposed to flood risk.

Measures

- Broad activities and ways of working to meet the Objectives.
- Typically apply to the Local Authority area rather than specific communities/locations within it.
- Are loosely time-bound and are measurable at a high-level, with indicative costs and benefits.
- Example: Increase our use of natural flood risk management processes to reduce flood risk.

Actions

- Specfic tasks, activities or initiatives, planned and tracked, to meet the Measures.
- Reviewed and updated on a regular basis, reporting on progress *every 2 years*.
- Short, medium and long term with clearly defined outputs/outcomes.
- Typically location-specific within the local authority area.
- Example: Implementation of *Glynneath* flood scheme in the *Neath Vale SFRA*.

1.5 Progress since first Strategy and Plan

NPTCBC have built on the strategy and plan since 2015, implementing new methods of management, adopting changes to accommodate new policies and guidance, and using advances in technology to make managing flood risk more effective.

Across the last 10 years the council has invested over £3 million on capital projects and £1.18 million on revenue projects and essential maintenance, benefitting hundreds of properties. Additionally, Welsh Government have grant funded £1.4m into revenue works and £7.7m into Capital Works in NPTCBC, which represents a significant investment.

Our asset management has evolved, and our mapping now covers approximately 1/3rd of the authority, complete with ownership details. This has led for better response times and quicker resolution to flooding issues as operatives, officers and engineers all have asset information readily available in the office and on site.

We have recognised the role of Nature-Based Solutions (NBS) and Natural Flood Management (NFM) in providing cost effective and efficient interventions to resolve flooding. The council has already completed two (2) projects in Gnoll Country Park and aim to build on this success with a further three (3) projects proposed to be completed in the next 2 years.

The Council has improved its preparation, response, and recovery performance to flood risk incidents by adopting the latest technology, investing in personnel, and streamlining processes and procedures to ensure risks and consequences of flooding are managed effectively.

Appendix A1 illustrates in more detail the improvements and tasks that have been completed since 2015.

2. How this strategy responds to climate change

2.1 Climate change risk in our area

The Senedd was the first Parliament in the world to declare a climate emergency. Climate change is likely to increase the risk of flooding across Wales, not only through sea level rise but also from more frequent, intense, and unpredictable storms, flash flooding, storm surges and vulnerable aging infrastructure. There is clear scientific evidence that global climate change is happening now, and it cannot be ignored.

Over the past century around the UK, we have seen some sea level rise and more of our winter rain falling in intense wet spells. Seasonal rainfall is becoming increasingly variable, and it seems to have decreased in summer and increased in winter, although winter amounts have changed little in the last 50 years. Some of the changes might reflect natural variation however, the broad trends are in line with projections from climate models. In Neath Port Talbot Council records show 300 properties have suffered from internal flooding since 2020 compared to 130 properties between 2013-2020. This marked rise illustrates the seriousness of the challenge we are facing and the need for a revised Strategy and Plan to set out measures and actions to combat the climate change crisis.

2.2 Regional Climate Outlook

There are three river districts within Wales as referred to in the River Basin Management Plan 2021-2027, Neath Port Talbot is identified to fall within the Western Wales River Basin District. The Plan primarily covers the management of water and environmental issues.

In Wales by 2050 it is projected that:

- Summer average temperatures rise by an estimated 1.34ºC
- Winter precipitation increases by an estimated 5%
- Summer precipitation decreases by an estimated 16%
- Sea level rise of an estimated 24 cm (at Cardiff)

The United Kingdom Climate Projections (UKCP18) projections are broadly consistent with previous UKCP09 outputs but provide a finer resolution of data down to 2.2km scale so providing better assessment of fine-scale storm convective processes and consequently rainfall patterns. It remains the case that it is expected that there will be;

- More intense rainfall events.
- More flooding of low-lying coastal areas
- Hotter, drier summers
- More heatwaves
- Milder and wetter winters
- Less snowfall and frost
- Lower groundwater levels

2.3 Future Flood Risk

Recent reports into the likely consequences of climate change are categoric in showing that we are experiencing more frequent and more extreme weather events, with the inevitability of increasingly severe floods in the future. Keeping pace with climate change and reducing future flood risk to communities across Wales will require increased and sustained investment in flood defences, yet not all locations at risk will be economical to defend. Figures from NRW show that over the next 100 years, and considering the projected

impacts of climate change, 24% more properties will be at risk from river flooding and 47% more from tidal flooding. 34% more properties will also be at risk of surface water flooding.

Out of the communities within Southwest Wales Place (as defined by NRW), climate change by 2120 projects the below communities to experience the biggest change in danger from the risk of flooding from the sea are:

- Briton Ferry (NPTCBC)
- Llanelli
- Neath (NPTCBC)
- Port Talbot (NPTCBC)
- Swansea

And the five communities in Southwest Wales that are projected to experience the biggest change in danger from the risk of flooding from rivers are:

- Llanelli
- Margam (NPTCBC)
- Morfa Glas (NPTCBC)
- Neath (NPTCBC)
- Port Talbot (NPTCBC)

It is noted an exercise in the most at-risk communities from Climate Change from surface water flooding has not been undertaken by NRW. Based on future flooding in the 2025 Climate Change CaRR the top 5 locations in NPTCBC at risk from Surface Water and Small Watercourse are Neath; Briton Ferry; Ystalyfera; Margam and Morfa Glas.

2.4 Implications for Flood Risk

Climate changes have and will continue to affect local flood risk in several ways. Impacts will depend on local conditions and vulnerabilities. Current flooding 'Hot Spots' will be exacerbated by climate change and cause new locations to emerge. We are already noting wetter winters and more of this rain falling in intense 'cloud bursts' which may increase surface water and ordinary watercourse flooding especially in the steep, rapidly responding catchments, which are typical in Neath Port Talbot. More intense and prolonged rainfall causes high ground saturation levels which results in more surface runoff, increasing localised flooding and erosion. In turn, this may increase pressure on drains, sewers, and water quality. Storm intensity in summer months could increase even in drier summers, so we need to be prepared for the unexpected. Evidence of this can be seen on our records which show major storm events occurring in August 2021, 2022, and 2023.

Rising sea or river levels may increase local flood risk inland or away from major rivers because of interactions with drains, sewers, and smaller watercourses. Areas like Port Talbot, Aberavon, Neath, and Briton Ferry are identified as being susceptible to flood risk from slight changes to the water table heights, high tides, and prolonged rainfall.

Where appropriate, local studies will be needed to understand climate impacts in detail, including effects from other factors like land use. Sustainable development implemented through the Sustainable Drainage Approval Body (SAB) will be crucial to adapt to climate change and manage the risk of floods in the future, which is fundamental to effective future flood risk management.

Flood risk is intricately linked with other climate change risks like droughts and landslides, creating a complex web of challenges. For instance, prolonged droughts can lead to soil degradation and reduced vegetation cover, making landscapes more susceptible to landslides when heavy rains occur. Additionally, the increased frequency and intensity of floods can exacerbate soil erosion and destabilize slopes, further heightening landslide risks. This interplay underscores the need for integrated risk management strategies that consider the cascading effects of multiple climate hazards.

2.5 Adapting to Change

Past carbon emissions mean some climate change is inevitable. It is essential to respond by planning ahead and to prepare by understanding the current and future vulnerability to flooding, developing plans for increased resilience, and building infrastructure with the capacity to adapt. Regular review and adherence to these plans is the key to achieving long-term, sustainable benefits.

Although the broad climate change picture is clear, local decisions must be made against deeper uncertainty. Therefore, a range of measures need to be considered to retain flexibility to adapt to these changes. This approach, embodied within flood risk appraisal guidance, will help ensure that the vulnerability to flooding is not increased.

When considering flood risk, it is important to recognize that the increased risk of both fluvial and coastal erosion can pose significant threats to existing and planned developments. Erosion risks may impact areas not currently identified as flood-prone, necessitating separate assessments to address these potential hazards.

To manage the effects of Climate Change there is a need to avoid vulnerable developments in areas that are at risk from flooding or that may increase the risks of flooding elsewhere.

Several strategic policies are identified which will deliver the LDP objectives, among these are, to: -

- Avoid siting vulnerable developments within areas of noise and air pollution or flood risk;
- Address the impacts of climate change through the sustainable design and location of development (i.e. low carbon and mitigation).

Over the last 10 years there has been 829 properties constructed (counts from sites with 10 or more properties only) in NPTCBC, taking up forty-one (41) ha of Greenfield land. This loss of greenfield land will only increase the flood risk challenges that local communities and RMAs are facing, so ensuring housing and commercial developments are meeting SAB standards is essential for mitigating against flood risk.

This Local Strategy will help to manage some of the effects of climate change in our area. The objectives, measures, and actions it identifies will help us to reduce the risk of flooding where we can, as well as adapt our communities and infrastructure to become more resilient to flooding when it occurs.

2.6 How our strategy addresses these risks

Through aligning this strategy with other plans, strategies, and policies within the council we are ensuring the council meets its wider aims, objectives, and ambitions as a collective. By working together, we can reduce the effects climate change will have on our environment and flood risk and mitigate against the potential impacts that will have on day-to-day life throughout the county borough in the future.

The below plans, strategies and policies are local to NPTCBC but incorporate national objectives and ambitions. For more information on National Strategies, plans and guidance please see Table 2 and The Welsh Government's National Strategy for Flood and Coastal Erosion Risk Management (FCERM) in Wales (National Strategy)

DARE – Decarbonisation and Renewable Energy Strategy

The Council is currently pursuing the creation and sustainable management of Green Infrastructure (GI) and wider ecosystems to sequester carbon, address pollution and flood alleviation and provide wider benefits such as health and well-being.

In addition to the benefits for carbon sequestration and biodiversity recovery, projects such as these are an excellent example of how biodiversity related projects can deliver multiple benefits for our communities. The re-wetting of peat will reduce fire risk, whilst better management of our upland habitats will increase water retention capabilities, reducing runoff and flooding. Furthermore, the community engagement element of the project will encourage greater use of the countryside, leading to health and well-being benefits.

2.12	***Urban Green Infrastructure (GI) / Ecosystems*** - identify and seek external funding opportunities, or adapt current work practices, to enable the delivery of GI schemes across the County Borough	CM	Comprehensive schemes to address insufficient provision of Green Infrastructure within urban areas will be designed and delivered. These will improve the health and well-being of the associated communities by improving the urban landscape and access to green space, enhancing biodiversity; mitigating against, and supporting adaptation to climate change; and providing solutions for air quality and flooding.	2019-2022

Figure 1: Extract from DARE Action Plan

LDP – Local Development Plan

The **Planning and Compulsory Purchase Act 2004** requires the Council to prepare a LDP for the County Borough, setting out the Council's strategy and objectives for the use and development of land in Neath Port Talbot, together with its policies to implement them over a 15-year period (2011 – 2026). The LDP recognises and identifies the key issues and challenges facing the authority with respect to flooding. *'KI 1: The cause and consequences of climate change will need to be addressed, including the increased risk of flooding'*.

To manage the effects of Climate Change, the council needs to avoid vulnerable developments in areas that are at risk from flooding or that may increase the risks of flooding elsewhere.

Several strategic policies are identified which will deliver the LDP objectives, among these are, to: -

- Avoid siting vulnerable developments within areas of noise and air pollution or flood risk;
- Address the impacts of climate change through the sustainable design and location of development (i.e. low carbon and mitigation).

The LDP will identify how: new development will be located to minimise the risk from flooding; how land will be safeguarded to provide flood capacity, and how developments will be assessed against the need to provide Sustainable Urban Drainage Systems.

Policy SP 1 - Climate Change

The causes and consequences of climate change will be addressed by implementing the following measures.

In relation to the causes of climate change:

- The efficiency and sustainability of the County Borough's settlements will be enhanced through developing more cohesive and efficient settlements and settlement patterns, and consequently more sustainable travel patterns;
- Greenhouse gas emissions from transport will be minimised through encouraging freight /commercial transport by alternatives to road (e.g. rail or sea);
- Dependence on the private car and the need to travel in general will be reduced through promoting alternative means of transport and more efficient use of existing facilities, co-location, and joint use of facilities;
- Provision will be made for the County Borough's appropriate contribution to renewable and low carbon energy generation.

In relation to the consequences of climate change:

- Likely increased flood risk will be considered and addressed by ensuring that there is greater resilience by avoiding development on land that is at risk from flooding in the first instance in accordance with the sequential approach set out in national guidance or in locations that could increase the risk of flooding elsewhere;

- The fragmentation of habitats will be minimised, and opportunities made for habitat and species change and migration where possible.

LDP Objective: OB 1 and OB 2

SMP2 – Shoreline Management Plan 2

Shoreline Management Plans are strategic plans for the long-term management of the coastline. The section of shoreline in NPTCBC forms part of the SMP2 that considers the South Wales shoreline from Penarth in The Vale of Glamorgan to St. Anne's Head in Pembrokeshire.

This Plan identifies areas at risk of flooding directly from the sea and places actions on the Coastal Protection Authority (CPA) to manage these risks and changes with respect to climate change and coastal adaptation.

The Neath Port Talbot coastline falls within Policy Scenario 8 of SMP2, and the following policies can be seen in Table 1 below. The council continues to monitor, maintain, and improve the coastline on an annual basis as defined in the SMP2, from undertaking erosion rate surveys to undertaking construction works by improving the coastal defences and erosion protection, as seen at Aberavon Promenade, completed in 2020.

For further Information, an extract from the SMP2 can be seen in Appendix K.

SMP Policy Unit	Short Term (2005-2025) Policy	Medium Term (2025-2055) Policy	Long Term (2055-2105) Policy
8.2	Hold the Line (Maintain/Replace)	Hold the Line (Maintain/Replace)	Hold the Line (Maintain/Replace)
8.3	Hold the Line (Maintain/Replace)	Hold the Line (Maintain/Replace)	Hold the Line (Maintain/Replace)
8.4	Hold the Line (Maintain/Replace)	Hold the Line (Maintain/Replace)	Hold the Line (Maintain/Replace)
8.5	Managed Realignment (Natural Features)	Managed Realignment (Natural Features)	Managed Realignment (Natural Features)
8.6	Hold the Line (Maintain/Replace)	Hold the Line (Maintain/Replace)	Hold the Line (Maintain/Replace)
8.7	Managed Realignment (Natural Features)	Managed Realignment (Natural Features)	Managed Realignment (Natural Features)

Table 1: SMP2 Policies for NPTCBC

BDP - Biodiversity Duty Plan 2023 – 2026

NPTCBC has a legal duty to maintain and enhance biodiversity, and in so doing, promote the resilience of ecosystems under the **Environment (Wales) Act 2016**. As well as align with the National Strategy it is committed to protecting and enhancing biodiversity in carrying out all its functions, and in doing so, can have a positive knock-on effect to flood risk. Already biodiversity enhancement has become embedded in FCERM Project development within NPTCBC and examples of this can be seen at Varteg Road FAS and Glynneath FAS in recent years.

Biodiversity and the natural environment provide us with many important ecosystem services. Our peatlands and wetlands capture and store atmospheric carbon dioxide. Floodplains in the valleys help dissipate water during high rainfall events, reducing flooding downstream. Woodlands help clean the air of pollutants, provide flood alleviation, reduce the heat island effect in urban environments, provide oxygen and timber products. The varied habitats also bring job opportunities and ways to improve health and well-being.

NFM is highlighted as an action relevant to the Local Nature Partnership (LNP) Nature Recovery Action Plan, which is already well underway in NPTCBC. The council has already delivered on two (2) projects in the Gnoll Country Park to alleviate flood risk to Neath town centre with a further three (3) planned to be delivered by 2025.

Corporate Plan 2022-2027

Our strategic change programme describes the changes we aim to make over the next 12 months, the next 5 years, and the longer term. In this programme one of the 4 key focuses is for our local environment, culture, and heritage to be enjoyed by future generations, which will involve restoring the natural processes and develop resilience to climate change,

In a recent survey of local residents on 'what matter to you in the future? The climate crisis was the fourth most mentioned topic discussed. This shows the importance of it to local people and the need for NPTCBC to act and mitigate against its effects.

Aims of the corporate plan include;

- Next 12 Months - Increase the engagement of the workforce and citizens in the climate change agenda;
- Next 5 Years - Work with partners to further develop flood and pollution mitigation measures;
- In 20 years' time - People will have restored natural processes to mitigate and develop greater resilience to the effects of climate change.

Title of National Strategy and Plan	Description of how it addresses climate change and Flood Risk
Welsh Government's guidance on Adapting to Climate Change	FCERM Business Case guidance notes that the impacts of climate change need to be considered within the economic assessment to support a scheme appraisal.
Welsh Government's Guidance on Climate Change Allowances and Flood Consequence Assessments	To take account of the potential impact of climate change over the lifetime of development. Development should be resilient to future flood risks and must demonstrate that such risks can be appropriately managed to provide a safe and secure living and /or working environment throughout its lifetime
Technical Advice Note 15: Development, Flooding and Coastal Erosion (TAN15)	It provides a framework within which the flood risks arising from rives, the sea and surface water, and the risk of coastal erosion can be assessed. It also provides advice on the consequences of the risks and adapting to and living with flood risk and climate change. TAN15 outlines ways in which the planning system can support communities and people to avoid being affected by flooding, and to develop more resilience where it cannot be avoided.
NRW's Flood Map for Planning	The Development Advice Map (DAM) and associated planning policy TAN15: Development and Flood Risk is the current framework for assessing flood risk to and from new development. The Development Advice Map is used as a screening tool by Local Authorities to understand where further assessment of flooding may be needed. It shows how climate change will affect flood risk extents over the next century. The map shows the potential extent of flooding assuming no defences are in place.
Well-being of Future Generations (Wales) Act 2015	The Well-being of Future Generations Act requires public bodies in Wales to think about the long-term impact of their decisions, to work better with people, communities, and each other, and to prevent persistent problems such as poverty, health inequalities and climate change.

Table 2: National Strategy's Plans and Guidance

3. Coordination

3.1 How this strategy aligns with our other strategic local plans

Some of council's key strategies and plans that have informed the development of our local Flood Risk Management Strategy and Plan have been illustrated below.

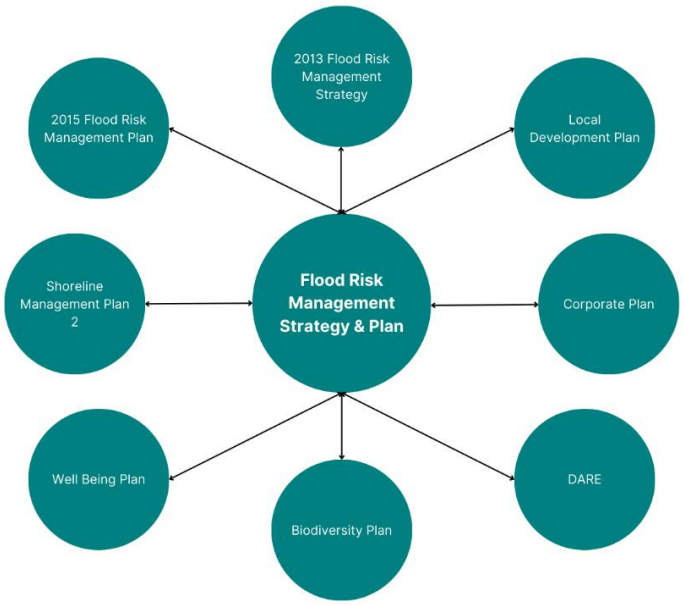


Figure 2: Influence of Local Plans and Strategy's

3.2 Coordination with other RMAs and Legislation

NPTCBC are committed to working closely with other RMAs to ensure flood risk objectives, measures and actions are achieved. A summary of other plans and legislation that have influenced this strategy can been seen below.

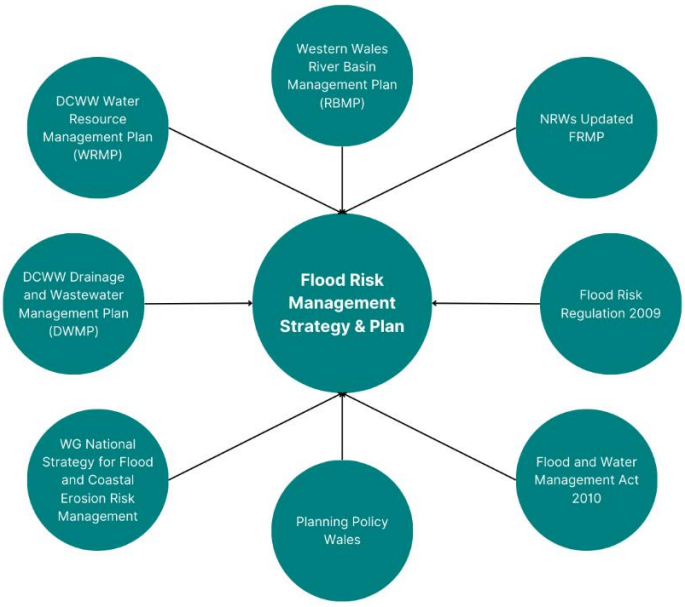


Figure 3: Influence of RMA Plans and National Legislation

(Note: Flood Risk Regulations 2009 legislation was revoked as part of the Retained EU Legislation Bill on the 31 December 2023.)

3.3 Working Groups within FCERM

The below is an extract taken from the national strategy which illustrates how informative discussions and debates are held around FCERM and how this is fed back to Welsh Ministers in order for them to make vital decisions on Flood Risk and Coastal Erosion Risk Management. NPTCBC representatives sit on the Swansea and Carmarthen Bay Coastal Engineering Group (Regional Coastal Group), Southwest Wales Flood Risk Management Group (Regional Flood Group), and Flood & Coastal Risk Programme Board (National Board).

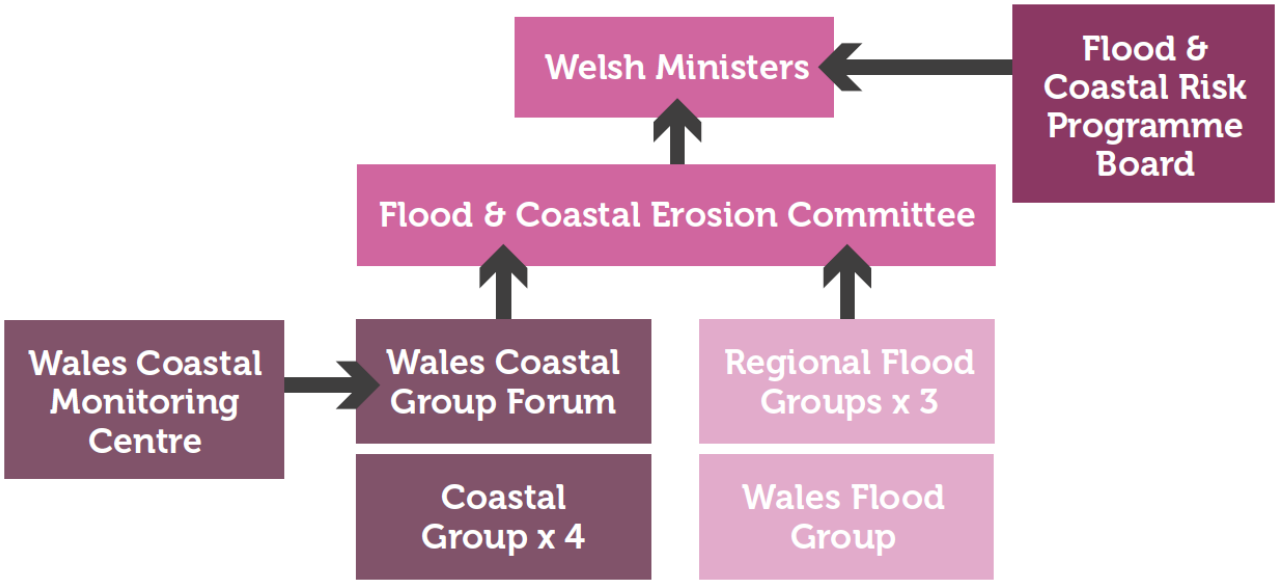


Figure 4: Welsh FCERM Working Groups (Extract from National Strategy)

4. Roles and responsibilities for managing flood risk in our area

4.1 Overview

The below figure is an extract taken from the national strategy which summarises the roles and responsibilities across Wales. NPTCBC is identified as a Risk Management Authority (RMA) and is defined as a Lead Local Flood Authority (LLFA) within the County Borough. Although there is a management chain and hierarchy, all parties have a role to play and must work collaboratively to deliver the national strategy objectives. All RMAs have different powers and responsibilities however, some interact with each other, and some are shared. This is explained in more detail in section 4.2.

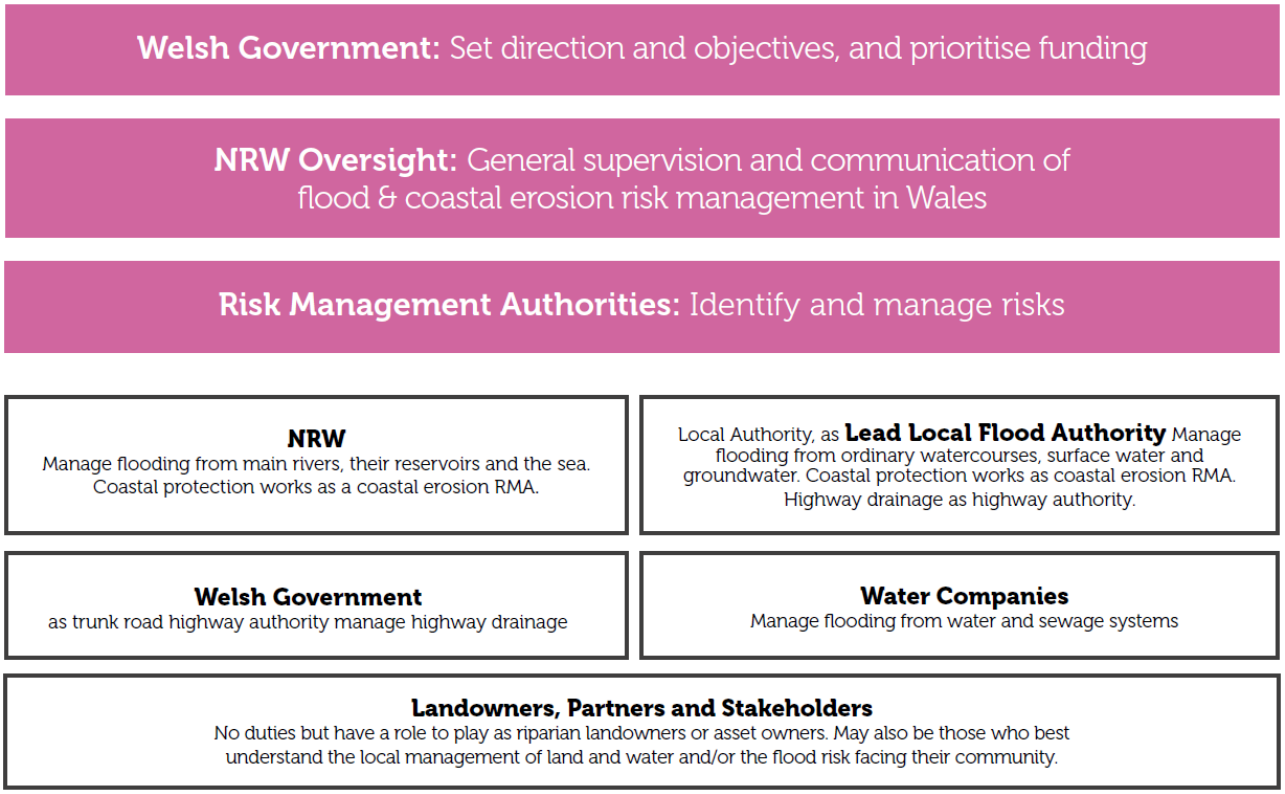


Figure 5: Overview of Roles and Responsibilities (Extract from National Strategy)

It is for NPTCBC, as LLFA to assess and then, where viable and appropriate, bring forward projects or interventions for funding to WG to support those communities at greatest risk from flooding. This may be evidenced by the FRAW Map, Flood Risk Management Strategy and Plans, or other modelled risk and asset information. It can also be informed by actual flood or coastal erosion events, including the need for repairs or improvements which become apparent after an incident. It is important to note that there is no duty placed upon the authority to undertake such works, but we do have statutory powers to manage risks from certain sources. Furthermore, under various legislation the LLFA has powers at its disposal to enforce upon those who are responsible for flooding, as not all flood risk is the responsibility of the LLFA to directly address.

4.2 Risk Management Authorities and their functions

Risk Management Authorities (RMA's) across Wales include NRW, the 22 Local Authorities, water companies, and the Welsh Government. Each RMA is required to fulfil several statutory duties, as defined under the **FWMA, 2010**. In addition to these statutory duties, the act sets out a range of permissive powers for RMAs, enabling them to undertake defined activities if they so wish.

Co-operation between these RMA's take place through a number of different forums, for NPTCBC these include; The Southwest Wales Flood Risk Management Group (SWWFRMG) and the Swansea Carmarthen Bay Coastal Engineering Group (SCBCEG)

Table 3 Below outlines which RMAs operate in NPTCBC and their flood risk responsibilities based on the various sources as outlined in section 4.4. It is important to note that some sources of flooding have involvement from more than one RMA and each RMA has their own functions. It is also worth noting that the functions of the Lead Local Flood Authority (LLFA), Coastal Protection Authority (CPA) and the Highway Authority (HA) all fall under the same department that manages flood risk in NPTCBC which helps streamline responses and actions. The roles and responsibilities of each RMA are described further within this chapter.

Source of Flooding	Lead Local Flood Authority (LLFA)	Natural Resources Wales (NRW)	Welsh Water (DCWW)	Highway Authority (HA)	SWTRA (WG)	Coastal Protection Authority (CPA)
Main River		✓				
Ordinary Watercourse	✓			✓ *	✓ *	
Surface Water	✓			✓ **	✓ **	
Ground Water	✓					
Sewer			✓			
Interaction between River and Sea		✓				
Coastal Flooding and Erosion	✓	✓				✓
Reservoir		✓				

Table 3: RMA Roles from Source of Flooding

* Where it passes beneath their land ** On or coming from the highway

Lead Local Flood Authority

Neath Port Talbot CBC is designated as a LLFA, and it has a key role to play as the strategic leader for local flood risk management across the County Borough. This involves developing this strategy and plan; ensuring that all organisations involved in flood risk management are aware of their responsibilities; Implementing measures and actions; involving other RMAs and Stakeholders; monitoring flood risk progress and activity by all parties; and coordinating communications with the public and between organisations.

The **Flood Risk Assessment Regulations 2009** and The **Flood and Water Management Act 2010** identifies Neath Port Talbot County Borough Council as the LLFA for the County Borough, and it has a duty to reflect the National Strategy for Flood and Coastal Erosion Risk Management in Wales, within its local Strategy and Plan. Neath Port Talbot CBC has responsibilities under these legislations as the: -

- Lead Local Flood Authority;
- Highways Authority;
- Coast Protection Authority;
- Emergency Planning Authority;
- SuDS Approval Body;
- Planning Authority; and has
- Historical and natural environment responsibilities.

Under the **Flood Risk Regulations 2009**, Neath Port Talbot CBC are required: to identify and assess the risk of flooding in the County Borough; to prepare flood risk management plans for each flood risk area, and to ensure these are all regularly updated to consider climate change.

The **Flood and Water Management Act 2010** gives the County Borough Council the following duties and powers without any associated timing imperatives. For clarity, a **duty** is something the County Borough Council is legally obliged to do; a **power** can be used if appropriate but does not have to be used.

Duties

- The strategic leadership of local Flood Risk Management Authorities;
- The development, maintenance, application, and monitoring of a strategy for local flood risk management;
- To investigate and publish reports on flooding incidents, identifying which authorities have relevant flood risk management functions and what they have done or intend to do;
- To maintain an assets register of structures or features which have a significant effect, in the view of the LLFA, on flood risk in their area;
- The responsibility as a SuDS Approval Body (SAB) for the approval, adoption, and maintenance of most new SuDS
- The decision-making responsibility for whether works on ordinary watercourses, affecting water flow, can take place.
- To exercise flood and coastal risk management functions in a manner consistent with the national and local strategies;
- To aim to contribute towards the achievements of sustainable development in the exercise of flood or coastal erosion risk management functions, having regard to the Ministerial guidance on this topic;
- To do works to manage flood risk from surface water runoff and groundwater. This includes powers under section 25 of the **Land Drainage Act 1991**, to require a person obstructing the proper flow of water in an ordinary watercourse to remedy that condition; and

Powers

- To designate structures and features that affect flood or coastal erosion risk.
- To request information from any person in connection with the Authority's flood and coastal erosion risk management functions.
- Expansion of powers to undertake works to include broader risk management actions.

NPTCBC have further flood risk responsibilities in a number of pieces of other legislation. The **Land Drainage Act 1991** outlines the responsibilities and identifies those responsible for the management of land drainage for a number of bodies including Local Authorities. Duties under this act allow the LLFA to regulate ordinary watercourses to ensure an unimpeded flow of water and has powers to act upon private landowners found in breach of this, for the purpose of preventing flooding or mitigating against any damage caused by flooding.

Furthermore, in 2019 NPTCBC took on the role of SuDS Approving Body (SAB) in relation to the management of sustainable drainage systems. In this role the council has a duty to ensure newly developed surface water drainage systems are built in accordance with mandatory national standards for Sustainable Drainage Systems (SuDS)

Under the **Highways Act 1980** the council, acting as the Highways Authority (HA), has a duty to maintain the adoptable public highway to ensure it is adequately drained. This is discussed more in the section below.

Under the **Coast Protection Act 1949** and **Marine and Coastal Access Act 2009** NPTCBC is designated as a Coastal Erosion Management Authority. The council is therefore required to manage this role by;

- Producing a shoreline management plan in conjunction with Natural Resources Wales and undertaking associated actions.
- Delivering coastal erosion risk management activities.
- Coordinating with National Resources Wales to develop and maintain coastal flood and erosion risk information.

- Maintaining a register of assets and features that help to manage coastal risk.
- Implementing, managing, maintaining and monitoring shoreline management plans to understand and manage coastal flood and erosion risks.
- Assisting communities in planning for the future and taking appropriate steps to adapt to changing coastal erosion risks.

Natural Resources Wales

Natural Resources Wales (NRW) are responsible for managing flood risk from main rivers, reservoirs and the sea and has a key strategic overview role of all flood and coastal erosion risk management. It also has a vital role in providing flood warnings to the public, protecting, and improving the environment, monitoring coastal erosion, and promoting sustainable development. For more information https://naturalresources.wales/flooding/check-flood-warnings/?lang=en

Under its strategic overview role NRW provides support to Welsh Government, assisting them with the delivery of national policies on Flood and Coastal Erosion Risk Management. Furthermore, they lead on national initiatives and act as a central contact for flood information and enquiries, which is crucial for awareness raising amongst the public.

NRW have a strategic oversight role to understand and communicate flood risk across Wales. Within their oversight role they provide data, information and supporting advice to enable those at risk of flooding in Wales to understand their flood risk and to increase their flood Resilience. Flood information and queries will differ by remit and responsibility, so NRW will always signpost to the relevant organisations based on the source of flooding and who is responsible for managing that risk. NRW are one of many organisations with a responsibility to communicate flood risk.

Advice and information are available on their website for those at risk of flooding. This includes personal flood plans, business flood plans, and community flood plans. Or you can call the 24/7 call centre Floodline (Call 0345 988 1188 or Type Talk 0345 602 6340), and through leaflets and templates to help prepare for flooding. Copies can be downloaded or requested by the public and partners at Online form (including school flood plans). NRW also organise and facilitate network events for flood volunteers or those interested in the flood risk in their community, to give them the opportunity to meet with others and those involved in flood risk. Future events will be promoted within the quarterly newsletter Flooding Matters. NRW have a position statement focused on NRW's role engaging the public about flood risk and advice on actions to take to mitigate the impact of flooding on their homes, businesses, and communities.

NRW provides technical advice and support on flooding matters and under its duties in the **Flood Risk Regulations 2009** provides the LLFA with updated flood mapping. The most recent iteration, Flood Risk Assessment Wales (FRAW) is a dataset used by the LLFA to produce Flood Risk Management Plans (FRMPs), which are contained within this document (Chapter 7) and set out the flood risk from Surface Water and Ordinary Watercourses in catchment areas.

A national FRMP was prepared by the Natural Resources Wales in 2023, as required by the National Strategy. It sets out national Wales-wide Objectives, Priorities and Measures for managing the risk of flooding and provides further information on the level of risk, including what is planned for the communities with the greatest flood risks. This is necessary so the right investment is made in the future to prepare for the impact of climate change.

The plan sets the direction for Flood and Coastal Erosion Risk Management and assists Flood Risk Management Authorities in delivering their responsibilities. Natural Resources Wales will collate and review the assessments, plans, and maps that Neath Port Talbot CBC (the LLFA), produces and, in addition, aid the Council in delivering its responsibilities. This will involve providing data, information, and the tools to disseminate Government policy.

Natural Resources Wales has identified and agreed policies for sustainable flood risk management in the Neath Port Talbot County Borough. NPTCBC falls within NRWs '*Southwest Wales Places*' in their latest Flood Risk Management Plan. **Here** you can find out more information about NRWs roles and responsibilities within Southwest Wales and NPTCBC.

The **Flood and Water Management Act 2010** gives NRW the following duties and powers without any associated timing imperatives. For clarity, a **duty** is something NRW are legally obliged to do; a **power** can be used if appropriate but does not have to be used.

Duties

- Establish Regional Flood and Coastal Committees.
- Co-operate with other RMA's, consult, and take account any representations made by the Regional Flood and Coastal Committees.
- Share data
- Report to the minister on flood and coastal erosion risk in Wales and assist with the preparation of the national Strategy and;

Powers

- Powers to request information.
- Raise levies to undertake flood risk management works through Regional Flood and Coastal Committees.
- To designate structures or features that affect flood and coastal erosion risk.
- Expansion of powers to undertake works to include broader risk management actions.
- Cause flooding or coastal erosion under certain conditions.

Natural Resources Wales also manages a National Flood Asset Database. This database has been built up over many years, recording all flood defence assets on main rivers, ordinary watercourses, and the coast; these include NRW assets, Local Authority assets and those in private ownership that are considered critical to flood risk. The information is publicly available, and more information can be found **here**

Dŵr Cymru Welsh Water

Dŵr Cymru Welsh Water (DCWW) is a water and sewerage company, responsible for the provision of foul and surface water sewerage across the County Borough. It is a company privately owned by Glas Cymru since 2001, with no shareholders and run solely for the benefit of its customers.

Their primary role in flood risk is to prevent flooding from both mains water and sewerage networks, which can include sewer flooding, burst water mains or floods caused by system failures such as Pumping Stations, treatment works and reservoirs. Water companies such as DCWW are legally required to provide information to Ofwat on flooding experienced on the public sewerage network, referred to as DG5 information. One aspect of their duties is to invest in flood alleviation schemes to remove at risk properties from the DG5 register.

The LLFA identifies DCWW as a major stakeholder in the county borough. Many instances of highway flooding have interactions with the sewerage network, which in South Wales is often combined systems conveying both foul and surface water, making the flood risk in many situations a shared responsibility. It is noted that both DCWW and NPT have network capacity challenges ahead due to climate change, so open and regular engagement is key to successfully reducing flooding. Information sharing with DCWW and NPTCBC is well established and both parties meet regularly to discuss flood risk issues.

The main roles of DCWW have in managing flood and coastal erosion risks are to:

- Make sure their drainage systems have the appropriate level of resilience to flooding and maintain essential services during emergencies.
- Maintain and manage their water supply and sewerage systems to manage the impact and reduce the risk of flooding and pollution to the environment. They have a duty under section 94 **Water Industry Act 1991** to ensure that the area they serve is "effectually drained". This includes drainage of surface water from the land around buildings as well as provision of foul sewers.
- Provide advice to LLFAs on how water and sewerage company assets impact on local flood risk.

- Work with developers, landowners and LLFAs to understand and manage risks – for example, by working to manage the amount of rainfall that enters sewerage systems.
- Work with NRW, LLFAs and district councils to coordinate the management of water supply and sewerage systems with other flood risk management work.

The **Flood and Water Management Act 2010** places the following duties on DCWW.

Duties

- To act consistently with the National Strategy for Flood and Coastal Erosion Risk Management in Wales.
- Have regard to the content of relevant local strategies and guidance; and
- Co-operate with other RMA's, including data sharing

For more information on DCWW's roles and responsibilities in Flood Risk please visit **here.**

Highway Authority

All Highway Authorities are RMA's as stated in the **Flood and Water Management Act 2010** and must adhere to all the responsibilities of Risk Management Authorities. The County Borough Council is the Highway Authority for all the county's public highways, except motorway and trunk roads for which the Welsh Government is the relevant Highway Authority and their Agents, the South Wales Trunk Roads Agency (SWTRA), have operational responsibility.

Under the **Highways Act 1980**, a Highway Authority has a duty to maintain the highway, including highway drainage and blockage clearance. As part of this duty, drainage infrastructure on roads is regularly inspected, monitored and maintained.

The Highway Authority has powers to deliver works that they consider necessary to protect the highway from flooding. These works can be on the highway or on adjacent land which may be acquired by the Highway Authority in the exercise of land acquisition powers.

Highway Authorities may divert parts of a watercourse or carry out any other works on any form of watercourse if it is necessary for the construction, improvement, or alteration of the highway, or provides a means of access to any premises from a highway.

South Wales Trunk Road Authority

Welsh Government are the Highway Authority for Motorways and Trunk Roads in Wales and SWTRA are their agents in the South Wales region. They have the lead responsibility for providing and managing highway drainage and roadside ditches under the **Highways Act 1980** on all their roads.

As above, SWTRA has powers to deliver works that they consider necessary to protect the highway from flooding. These works can be on the highway or on adjacent land which has been acquired by the Highway Authority in the exercise of land acquisition powers.

SWTRA may divert parts of a watercourse or carry out any other works on any form of watercourse if it is necessary for the construction, improvement, or alteration of the highway, or provides a means of access to any premises from a highway.

Coastal Protection Authority

There are 15 local authorities in Wales categorised as Coastal Protection Authorities (CPA's). They lead on coastal erosion risk management activities in their respective area and are responsible for developing Shoreline Management Plans (SMPs) which provide a long-term holistic framework for managing the risk of coastal change.

Neath Port Talbot CBC is a CPA and is required to manage this role by: -

- Shoreline management planning in conjunction with Natural Resources Wales.
- Delivering coastal erosion risk management activities.

- Coordinating with National Resources Wales to develop and maintain coastal flood and erosion risk information.
- Maintaining a register of assets and features that help to manage coastal risk.
- Implementing, managing, maintaining and monitoring shoreline management plans to understand and manage coastal flood and erosion risks.
- Assisting communities in planning for the future and taking appropriate steps to adapt to changing coastal erosion risks.

NRW has a strategic overview to ensure that decisions about the coast are made in a joined-up manner which is one function of the SWWFRMG.

4.3 Other responsible Stakeholders

In the past, the way that flooding was managed was not fully coordinated. In the Pitt Report, 2007, issues were identified which were believed to have contributed to communication and responsibility problems. One primary issue was the absence of a single organisation having an overarching responsibility for surface water management, and the outcome of this was the identification of Lead Local Flood Authorities. Some of these responsibilities are to identify (where possible) the responsible RMA or other stakeholder for floods and the causes of flooding. The LLFA can then use its powers to ensure the responsible individual/s are held to account. Stakeholders can be defined as an individual or organisation that may be affected or interested by the problem or solution.

The administration of surface water has been simplified by recent implemented legislation, but the average non-professional is still likely to find it difficult to develop an understanding of some of the more complex issues and there is a need to provide concise and clear guidance to address this. There are several areas where clarification will be required, most notably in respect to the role of the riparian owners and land managers.

Riparian Landowners

Land Drainage law stipulates that a landowner is responsible for the land drainage of their land. Furthermore, it states that a landowner is responsible for an ordinary watercourse that passes through or adjacent their land or property. A watercourse as defined in the land drainage act is every river, stream, ditch, drain, pipe, cut, dyke, sluice, sewer (other than public sewers) and passage through which water flows, and does not form part of a main river. The landowner is responsible for its maintenance and flow within it. More information on riparian responsibilities can be found **here** and here.

If riparian owners or other bodies wish to culvert an ordinary watercourse or insert any obstruction, consent is required from the county borough council. This consenting process is to ensure that no obstructions are placed in a watercourse that could create a flood risk. Where obstructions are inserted without consent or in a manner contrary to consent, the Council has the powers to enforce their removal or take remedial action and reclaim costs from the landowner.

Neath Port Talbot CBC have records of its own assets on ordinary watercourses, plus recognised riparian owner assets. These records are available by contacting the council.

Riparian responsibilities also apply equally to main rivers and permission required under the Environmental Permitting Regulations (England & Wales) 2016, NRW responsible for regulating these flood risk activities Natural Resources Wales / Check if you need a flood risk activity permit (FRAP)

Additional Stakeholders

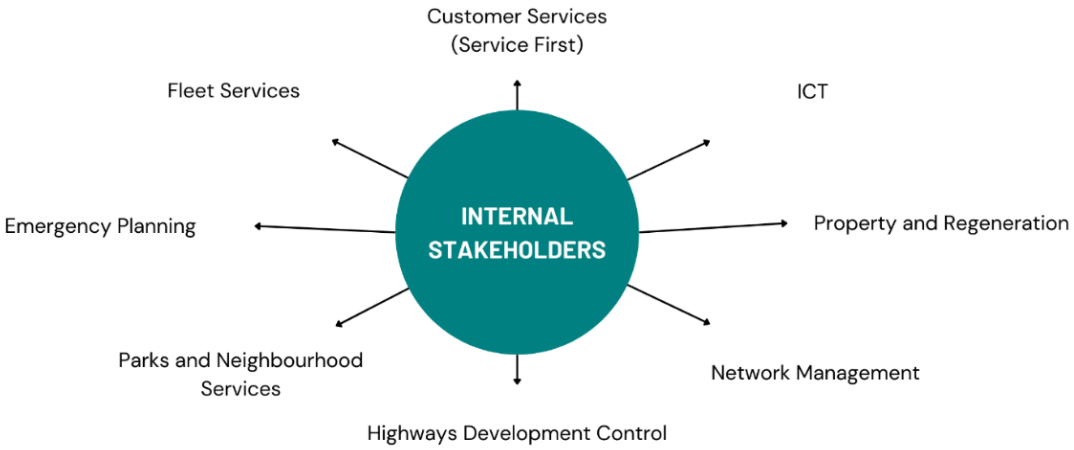


Figure 6: Internal Stakeholders



Figure 7: Other External Stakeholder

4.4 Sources of flooding

Neath Port Talbot County Borough Council is susceptible to number of different flood sources, many of which are experienced on an annual basis. On occasions the county borough has experienced a combination of these flood sources at particular sites and LLFA's need to be mindful of their accumulative effects, particularly with interactions between main rivers and the sea.

Surface Water Flooding

Surface water flooding occurs when heavy rainfall exceeds the capacity of local drainage networks and water flows across the ground. Surface water flooding often presents itself in the form of 'Highway' flooding across the county, and users of the highway and footway are often inconvenienced by this form of flooding more than any other. Although this form of flooding can be significant at times, surface water flooding is often less severe and less prolonged in comparison to River or Ordinary Watercourse Flooding. Generally speaking, in urban areas major surface water flooding events are almost always affected by interactions with sewerage networks and highway drainage systems. Investigations into these interactions will be an essential element of future work in known 'hot spot' locations.

The Flood Risk Assessment for Wales (FRAW) maps which are assessed in more detail from **Chapter 7** onwards assesses flooding from this particular source of flooding.

Ordinary Watercourse Flooding

An ordinary watercourse is a watercourse that is not part of a main river (as defined by NRW) and includes rivers, streams, ditches, brooks, drains, cuts, culverts, dikes, sluices, sewers (other than public sewers within the meaning of the **Water Industry Act 1991**) and passages, through which water flows. Flooding from an ordinary watercourse is often significant particularly on watercourses with larger catchments and usually occurs during periods of prolonged and excessive rainfall. It can occur due to a few reasons such as, blockage or blinding of a trash screen, culvert incapacity, and bank overtopping which often results in excessive flooding of residential and commercial properties and infrastructure.

The Flood Risk Assessment for Wales (FRAW) maps which are assessed in more detail from **Chapter 7** onwards assesses flooding from this particular source of flooding.

River Flooding

River flooding occurs when the volume of water being conveyed between the banks of main rivers becomes greater than its capacity. This leads to the river spilling out into the surrounding landscape which can often cause significant flooding due to the water volumes and velocities associated with main rivers. This is particularly acute when water spills out into urban areas where dense populations quickly become inundated, causing major damage and disruption. The main rivers in NPT County Borough include; Tawe, Neath, Afan.

The Flood Risk Assessment for Wales (FRAW) maps which are assessed at in more detail from **Chapter 7** onwards assesses flooding from this particular source of flooding.



Figure 8: Map of NRW Rivers in NPTCBC

Groundwater Flooding

Groundwater flooding occurs because of water rising from the underlying aquifer or from water flowing from abnormal springs. Geological conditions can also cause surface water which has infiltrated into the ground to

emerge at apparent random locations. This tends to occur after prolonged periods of sustained rainfall, and the areas at most risk are often low-lying where the water table is more likely to be at shallow depth. Groundwater flooding is known to occur in areas underlain by major aquifers, although increasingly it is also being associated with more localised floodplain sands and gravels. There is, however, no specific areas of large-scale historical groundwater flooding recorded in the NPT area with only localised instances on record.

Sewer Flooding

Sewer flooding is often caused by excess surface water entering the foul and combined drainage networks which are the responsibility of the sewerage undertakers, Dŵr Cymru Welsh Water (DCWW). As part of the Preliminary Flood Risk Assessment, the Sewer Flooding Register maintained by DCWW was assessed to investigate the level of sewage flood-risk across the County Borough. As of December 2023, there are 23 properties deemed at risk of internal flooding, with a further 261 properties/areas at risk of external flooding. DCWW have a rolling programme of investigations and investment to reduce flood-risk, prioritising those with highest frequency/impact. They expect to complete schemes to resolve risk of sewer flooding for 9 of the worst-affected properties by March 2024, and are currently finalising their plans for the next 5-year investment period (starting in April 2025).

Canal Flooding

Inland Waterways Association shows details of the canal network through the NPT area, including the location of canals, weirs, sluices, and locks. A map can be viewed **here.** Inland Waterways also provide details of historic breaches or overtopping events that have occurred across the county. There are 3 canals within the NPT area, the Swansea canal, the Neath Canal, and the Tennant Canal, although it is acknowledged that the topography of these latter two canals is vastly different from the Swansea canal. In the Pontardawe area the Swansea canal is perched above part of the town and could be viewed as a ‘significant’ flood risk to the area under certain circumstances. There are separate organisations responsible for the various canals in the County Borough which are: -

- The Company of Proprietors of the Neath Canal Navigation (c/o St Modwen), responsible for the whole of the Neath Canal, from Briton Ferry to Glynneath;
- The Tennant Canal Company, responsible for the Tennant Canal that starts at Aberdulais and extends to Swansea docks;
- The Canal and River Trust, covering the Swansea Canal from Pontardawe and up the Tawe Valley to Ynysmeudwy, including the feeder channel and;
- Neath Port Talbot CBC for the Swansea Canal from Ynysmeudwy to Godre’r-graig.

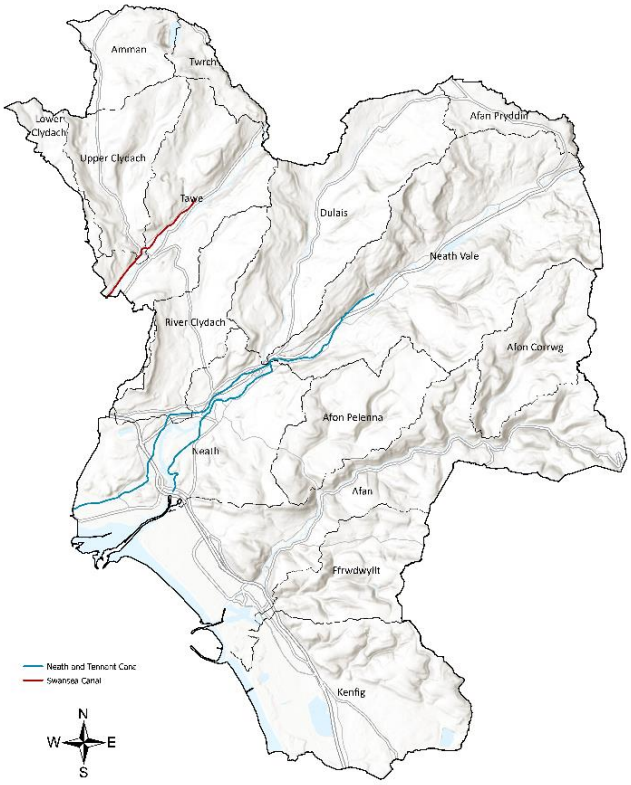


Figure 9: Map of Canals in NPTCBC

Interaction with Main Rivers and the Sea

There is good anecdotal evidence to suggest that surface water flooding may be exacerbated in some areas such as the Neath Abbey and Milland Road areas during high tidal cycles when gravity drains and outfalls are blocked with high tidal waters. The main rivers that are affected by the tidal cycle are the Rivers Neath, Afan and Ffrwydwyllt although the effects of the latter two are somewhat restricted by the Green Park Street Weir and Port Talbot Dock, respectively.

Important consideration should be given to any drainage system discharging into the river Neath (Downstream of Aberdulais) as these tidal interactions play a pivotal role in Flood Risk in these fluvial flood plain areas.

Coastal Flooding and Erosion

Coastal flooding and erosion is caused by extreme tidal conditions that occur because of three main mechanisms, either individually or in combination.

- **High tide levels** – variations in tidal levels due to gravitational effects of the sun and moon can result in higher sea levels – there is an approximate twice daily variation between high and low tide, onto which is superimposed a spring-neap tide cycle when extra high and low tides occur.
- **Storm Surge** – an increase in sea level above tidal level caused by low atmospheric pressure which may be exacerbated by the wind acting on the sea.
- **Wave action** – dependent on wind speed and direction, local topography, and exposure.

NRW are responsible for flood risk from the sea, though as NPTCBC is a Coastal Authority it also has duties to manage this flood risk and erosion at a local level particularly where the council owns lengths of the sea front, such as at Aberavon Promenade. More information can be found in the Southwest Wales Shoreline Management Plan (SMP2) where actions are defined for the length of coastal line in NPTCBC. (Appendix K)

Reservoir Flooding

Reservoir flooding occurs if a reservoir and the associated retaining structure were to fail causing a release of the water it holds. Reservoir flooding is extremely rare and very unlikely to happen. There has been no loss of life in the UK from reservoir flooding since 1925 however, uncontrolled releases from reservoirs can cause flooding that can be catastrophic and cause extensive damage to land and properties both in the immediate and neighbouring areas.

In Wales, Natural Resources Wales are the regulator for all large raised reservoirs, namely those that are capable of holding 10,000 cubic metres, or more, above the natural level of any part of the surrounding land. In NPTCBC there are 11 reservoirs that fall within the definition with 3 of those being owned by the council. Whilst the responsibility for ensuring reservoir owners observe and comply with the law, sits with NRW, it is the owner that holds the liability to minimise that risk as low as reasonably practicable. NPTCBC holds the responsibility for managing the flood risk from its own reservoir assets (and for compliance with law) including flooding from its reservoirs.

For more information, please visit **here**

Summary

Whilst the primary focus of this Strategy and Plan is local flooding (surface water, ground, and ordinary watercourses), it is important to note that flooding can arise from a number of various sources, not all of which are the responsibility of the council. To members of the public suffering from flooding, the source of water may seem irrelevant but for each source there may be a different responsible organisation or riparian landowner, so it is important to get this message across clearly to the public.

Where the source can be clearly identified, the responsible organisation will be the main point of contact. However, as is often the case, where it is not easy to ascertain the source or where multiple sources are involved, the LLFA will take the lead and work with partners to investigate and deal with the issue in a manner appropriate to the level of risk.

The figure below has been taken from the National Strategy. It summarises the distinct types of flooding and the key points of contact in each case. More information can be found on our council **website**.

4.5 Key points of contact

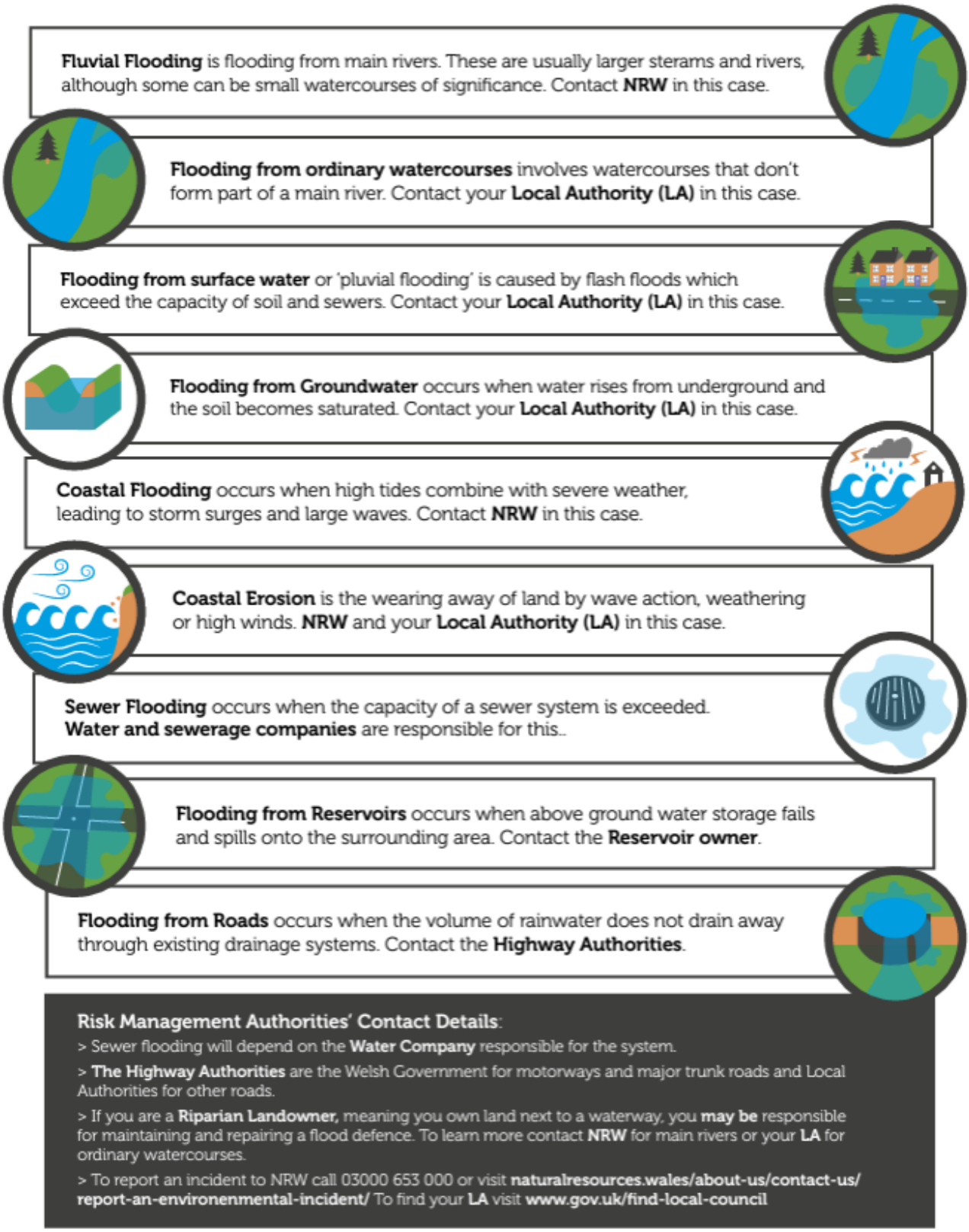


Figure 10: Key Responsible Contacts

4.6 How we manage flooding in our area

Neath Port Talbot County Borough Council undertakes a number of different Flood Risk Management activities that range from constructing large capital flood alleviation schemes to attending smaller day to day flooding nuisance calls received from the public. Statutory duties such as those placed upon the authority by the **Flood and Water Management Act 2010**, the **Flood Risk Regulations 2009** and the **Land Drainage Act 1991** are given high priority, along with measures and actions outlined in this strategy and plan. Alongside strategic duties our operational procedures such as maintenance of gully's, culverts, intakes, outfalls, and ditches have been developed over years through good working practices and are critical at managing flood risk on a daily basis. NPTCBC will continue to take a proactive approach through good management, implementing new working methods and modern technology to achieve our flood risk aims and objectives set out within this FRMS and Plan.

Existing flood risk management practices include:

- The pro-active and routine maintenance of existing council structures, watercourses, drainage systems and other related infrastructure, to ensure the systems already in place work as efficiently as possible.
- Utilising advanced weather warnings of significant rainfall events to provide a proactive and targeted approach to cleansing by our operational teams.
- Expanding our Geographical Information System dataset by mapping existing infrastructure and maintaining an asset record and register. Logging repairs, flooding incidents, and recording any new systems or infrastructure as they become active.
- Reactive maintenance and or cleansing, including responding to reported problems or incidents.
- Monitoring and maintaining culvert trash screens with the use of remote CCTV imagery to target worst affected areas during periods of heavy rainfall.
- Development of catchment wide flood alleviation projects to protect communities from flooding in our highest risk communities.
- Development of capital highways flood alleviation projects to ensure nuisance flooding to the highway is reduced.
- Development of small scale/minor flood alleviation projects to protect residential and commercial properties from nuisance flooding.
- Implementing measures that were included in the previous FRMS & FRMP.
- Utilising powers given to the authority and meeting relevant requirements under the; **Flood and Water Management Act, Flood Risk Regulations, Land Drainage Act, Highways Act & Coast Protection Act.**
- Provide an emergency response to flooding during the day and out of hours.
- Undertake post flood investigations and produce S19 Reports for floods that have internally flooded over 5 properties per location, per event.
- Carry out detailed structural inspections of the structures list on the council's critical flood risk asset register and prioritise recommended repairs.

How we prioritise our work

Assets located within areas that have historically experienced flooding are given high priority along with those that drainage officers have identified through experience such as those listed in Appendix H of this plan.

The authority's prioritisation of potential flood alleviation schemes is largely based on the findings in the 2015 Flood Risk Management Plan which have been reviewed and revisited in this report in Chapter 7. Please refer to Appendix J and our action plan in Appendix A1, A2 and A3

The authority's prioritisation of potential minor and capital highways flood alleviation scheme is a summation of a Rating and an Adjustment Factor, taking into consideration the type and location of the incident; the frequency with which they occur. Table 4 below sets out this approach.

Rating	Description
1	Flooding Inside Buildings and jointly Highway Safety
2	Flooding outside but adjacent to buildings
3	Flooding of Highways and footways / culvert problems
4	Maintenance costs
5	Watercourse Bank Stability
6	Flooding of Garden Areas / Wet Gardens
7	Flooding of Communal Areas
8	Flooding of Fields
9	Landscaping Improvement
Adjustment Factor	**Description**
0	Problem has been reported more than once in the last twelve months
1	Problem has been reported once in the last twelve months
2	Problem has been reported once in the last two years
3	No problems reported within the last two years
4	Problem being monitored

Table 4: Scoring for minor and capital highway and land drainage works

5. Our strategic Objectives

5.1 National Strategy Objectives

The **National Strategy** sets out an overarching aim to reduce the risk to people and communities from flooding and coastal erosion. It identifies 5 objectives for delivering this aim. These are summarised below. The National Strategy describes how the implementation of these objectives will be the responsibility of everyone involved in or affected by, flood and coastal erosion risk management, from the Welsh Government to the Welsh Flood Risk Management Authorities, and the people of Wales themselves.



Figure 11 - WG National Strategy Objectives

5.2 Objectives in our area

Table 5 below shows the councils strategic objectives which reflect our local context and priorities and how each of these aligns with the overarching National Strategy objectives.

Objective No.	Local Strategy Objectives	Description of Objective	National Strategy Objectives				
			A	B	C	D	E
1	Reducing the threat to life by reducing the number of properties at risk of flooding.	Removing risk to residential and commercial properties from high and medium flood risk areas by investing in flood mitigation solutions.	X	X	X	X	X
2	Reducing the consequences for individuals, communities, businesses, and the environment from flooding and coastal erosion.	Reduce distress, disruption and associated physical receptors to improve health and wellbeing within local communities.	X	X	X	X	X

Objective No.	Local Strategy Objectives	Description of Objective	National Strategy Objectives				
			A	B	C	D	E
3	Provide strategic leadership and direction at a local level.	LLFA to act responsibly and in line with legislation, policy, and guidance to ensure flood risk is management effectively and holistically.	X	X	X	X	X
4	Improve our understanding of local flood risk and how climate change will affect standards of protection in the future.	Develop our knowledge and understanding of local flood risk within the county borough. Advance our understanding on how future flood risk will increase with climate change and where practicable develop projects to account for this future risk.	X	X	X	X	X
5	Ensure RMA's & Stakeholders work together to effectively manage Flood Risk & Coastal Erosion	Continual engagement with all RMA's and selected stakeholders will ensure a unified and integrated approach to flood risk locally and nationally. Aligning projects with other RMA's where aims and objectives overlap or shared, will streamline achievements.	X	X		X	X
6	Prioritising projects and investment using a risk-based approach	Ensuring the LLFA identifies risk on a qualitative and quantitative approach and invest in communities that are at greatest risk of flooding.	X		X	X	
7	Reduce disruption to critical services, transport, and infrastructure network within the county borough	Focusing resources on ensuring major highways are free from flooding and protecting infrastructure and services that are vital to societal needs.	X	X	X	X	X
8	Raise awareness of flooding and engaging with people in the response to flood and coastal erosion risk	Ensure information is readily available to build community level resilience. Ensure correct informative information can be found and distributed locally to the population.	X	X		X	
9	Develop policies for effective land use management and enhanced development control procedures to ensure future developments incorporate effective surface water management	Produce appropriate planning and SAB policies that match the objectives of the councils Flood Risk Management Strategy and Plan.	X			X	
10	Improve regular maintenance schedules and improve existing flood and coastal erosion risk management assets.	Efficiently and effectively manage the councils flood risk assets and upgrade existing structures to ensure they are fit for purpose and build resilience to climate change.		X	X	X	

Objective No.	Local Strategy Objectives	Description of Objective	National Strategy Objectives				
			A	B	C	D	E
11	Providing an effective and sustained response to flood and coastal erosion events.	Ensure the preparation and testing of Emergency Plans. Respond to flood events in a timely and appropriate manner and facilitate recovery from flooding within the shortest possible timescales.		X			X
12	Develop a local programme of investment for flood and coastal erosion risk management.	Develop a pipeline of projects for the next 10 years that focuses on investment needs and identify alternative sources of funding for flood and coastal erosion risk management projects.		X	X		
13	Ensure Flood Risk Management Projects are delivered in a responsibly sustainable way with a focus on environmental benefits and enhancements.	Produce sustainably responsible construction projects that match the aims and objectives of the councils' various internal policies. Ensuring our projects enhance the environment and add value to the community.	X	X			
14	Identify locations where flood risk can be reduced by working with or enhancing the natural environment.	Develop more projects that incorporate Natural Flood Management solutions and manipulate nature and the natural landscape to better manage floods on a catchment wide approach.		X		X	

Table 5: NPTCBC Flood Risk Objectives

6. Flood Measures

6.1 Introduction to flood measures

The measures identified within this plan have been selected to achieve the objectives contained within Chapter 5. The foremost outcome that is hoped to be achieved through implementing these wide-ranging measures is a reduction in flood risk across the borough. As in the council's previous strategy and plan we have categorised all local measures under the following high-level themes: -

- **Development planning and adaptation** (encompassing both new and adaptations to existing developments/landscapes);
- **Flood forecasting, warning, and response**;
- **Land, cultural and environmental management**;
- **Asset management and maintenance**;
- **Studies, assessments, and plans**;
- **High level awareness and engagement** (to increase individual and community resilience); and
- **Monitoring** (of the flood risk issues).

The measures contained overleaf have been selected with a view to reduce flood risk throughout the authority in line with the National Strategy. These measures will be applied to the fifteen (15) Strategic Flood Risk Areas (SFRA) within Neath Port Talbot. The authority understands that flood risk is not restricted just to the flood risk areas identified by NRW and has therefore evaluated the flood risk, and applied measures to all its communities, ensuring a fair and equal approach to flood risk management throughout the authority.

The authority requires additional and continual funding to allow for sufficient resources to fulfil legislative requirements and achieve the measures outlined below. If this funding is not forthcoming the authority is unlikely to be able to fulfil the measures leading communities to be at greater risk.

The time scales and costs for implementing the measures have been identified below and will continue until 2030 which is the life span of this report. The authority will strive to action all the measures identified within the community areas over the life of this plan; however, this will only be possible if sufficient resources are made available. It is important to note that where you read 'Core Activity' this usually indicates that these measures relate to statutory duties that the LLFA are duty bound to carry out and action.

Timescales References

- Short Term (1-3 Years)
- Medium Term (3-6 Years)
- Long Term (6+ Years)
- Core Activity (Continual)

Costs References

- Very Low (<25k)
- Low (£25k – £100K)
- Medium (£100 - £250k)
- High (£250k – £1m
- Very High (>£1m)
- Core Activity (Within current revenue funding)

6.2 Summary of how we select and prioritise measures

All the measures have been selected to achieve the foremost outcome of reducing the risk of flooding to our communities, the environment, and the economy. The measures have been selected to ensure:

- Our communities are prepared for potential flood events;
- Prevention and protection measures are in place to reduce the associated risks and hazards, and
- A recovery and review process is established to aid those in need and help the authority and communities to learn from their experiences.

Prioritising the delivery of the measures that have been proposed is essential to ensure the effective delivery of this flood risk management strategy and plan. As identified within Appendix G the number of properties at risk within an area gives a good indication of the level of flood risk. However, it is important to note that the number of properties at risk of flooding is not the only measure of flood risk. Infrastructure, the natural and historic environment, and the economy can also be at risk of flooding.

Priorities are ever changing and there are many ways in which we prioritise the various functions that the section undertakes. For the purpose of delivering this strategy and plan, resources will be focused in those areas at highest risk of flooding, considering the risk posed to human health, the environment, cultural heritage, and economic activity. It cannot be ignored that the regulations only require measures to be implemented for Flood Risk Areas however, the authority understands that flooding can be experienced by all communities within the borough.

Measures that produce the greatest reduction of flood risk are those that will be implemented first. Those that satisfy multiple objectives will be given a higher priority than those that only satisfy a few. Additionally, any measures which have beneficial environmental impacts such as those that fulfil Water Framework Directive objectives and link with the measures contained within the Western Wales River Basin Management Plan will also be given priority.

The measures that have been identified for actioning generally fulfil more than one objective. In delivering the measures, officers will explore delivery approaches that will achieve multiple benefits in line with the Well-being of Future Generations Goals set out in the **Well-being of Future Generations (Wales) Act 2015**. Details on which Future Generations Goals are associated to each measure can be seen in each measure table.

6.3 Our Measures

6.3.1 Development Planning and Adaptation

Measure 1	SuDs Development
Description	SuDS, which stands for Sustainable Drainage Systems, have become increasingly important in flood risk management in NPTCBC over the past decade. SuDS are a collection of techniques and practices designed to manage surface water runoff in a more sustainable and environmentally friendly manner. They aim to mimic natural drainage processes, reducing flood risk, improving water quality, and enhancing biodiversity. The development of Sustainable Drainage Systems (SuDS) in flood risk management in the UK has evolved through several key stages. Initially, the recognition of flooding issues drove the need for effective strategies. Subsequently, policy initiatives like the Flood and Water Management Act 2010 emphasized sustainable approaches to drainage and flood risk management. SuDS became integrated into planning policies, ensuring their incorporation from the design phase of new developments. Research and innovation have driven the evolution of SuDS technologies, including new drainage systems and green infrastructure.
Benefits incl. multiple/wider benefits	Sustainable Drainage Systems (SuDS) offer a multitude of benefits, making them a valuable tool in urban water management. SuDS effectively mitigate flood risk by managing surface water runoff, improving water quality through natural filtration processes, and promoting biodiversity by incorporating green infrastructure elements. They also contribute to urban cooling, enhance the aesthetic appeal of urban areas, and provide recreational spaces for residents. SuDS support sustainable urban development by aligning with water-sensitive design principles and enhancing community resilience to climate change. Moreover, they offer long-term cost savings by reducing reliance on traditional drainage infrastructure and minimizing flood damage. Overall, SuDS represent a holistic approach to water management that delivers environmental, social, and economic benefits for communities
Measure Location	County Wide
Indicative timescale	Core Activity (Continual)
Indicative cost	Core Activity
Related objectives (Local)	9 and 13
Related objectives (National)	B and C Measure: 16
Well Being Goals	A Prosperous Wales, A Resilient Wales, A more Equal Wales, A Healthier Wales, A wales of Cohesive Communities and A Globally Responsible Wales
Funding option(s)	None
Delivery partners	Internal Departments
Type(s) of flood management	Prevention and Preparedness
Other Links	https://beta.npt.gov.uk/planning-and-building-control/suds-approval-body-sab/ https://beta.npt.gov.uk/planning-and-building-control/planning-policy/
Status	In Progress

Measure 2	SAB and Planning Consultee
Description	The LLFA is responsible for ensuring that drainage systems in new developments meet national standards for sustainable drainage, established under the Flood and Water Management Act 2010. The SAB approves drainage designs, enforces compliance, and provides guidance on best practices for SuDS implementation. The Planning Authority, alongside the NRW acting as specialist consultee, play a critical role in flood risk management through strategic planning, development control, integration, coordination, and ensuring long-term maintenance. It is essential they review Local Plans and Strategic Flood Consequence Assessments (SFRAs) proposed by developers to ensure they align with national policies and identify flood-prone areas. Developers must conduct site-specific Flood Consequence Assessments (FRAs) and incorporate Sustainable Drainage Systems (SuDS) in new developments, with planning authorities working closely with the SuDS Approving Body (SAB) for approval. Additionally, planning authorities ensure that long-term maintenance plans for SuDS are established, often as conditions in planning permissions.
Benefits incl. multiple/wider benefits	With both the SAB and Planning authorities working together it ensures that new developments are resilient to flooding and contribute positively to managing surface water in a sustainable manner. Furthermore, at the very initial stages of planning and development both parties promote the use of resilient design and adaptation measures to cope with the impacts of climate change, including increased rainfall and flood events ensuring flood risk is at the forefront of design development. Their collaborative efforts ensure that surface water is managed effectively, reducing the likelihood of flooding, protecting water quality, enhancing biodiversity, and providing economic and social benefits. These efforts are essential in building resilient communities that can adapt to the challenges posed by climate change
Measure Location	County Wide
Indicative timescale	Core Activity (Continual)
Indicative cost	Core Activity
Related objectives (Local)	9
Related objectives (National)	B and C Measure: 16
Well Being Goals	A Prosperous Wales, A Resilient Wales, A more Equal Wales , A Healthier Wales, A wales of Cohesive Communities and A Globally Responsible Wales
Funding option(s)	None
Delivery partners	Internal Departments
Type(s) of flood management	Prevention and Preparedness
Other Links	https://beta.npt.gov.uk/planning-and-building-control/suds-approval-body-sab/ https://beta.npt.gov.uk/planning-and-building-control/planning-policy/
Status	In Progress

6.3.2 Flood Forecasting, Warning, and Response

Measure 3	Flood Action Plan
Description	The Flood Risk Regulations (2009) mandate Local Lead Flood Authorities (LLFAs) to prepare and publish Flood Risk Management Plans (FRMPs) in areas where local flood risk is deemed significant according to the Preliminary Flood Risk Assessment (PFRA). These plans aim to evaluate, map, and formulate action plans for mitigating flood risk. While we previously issued our Local Strategy and FRMP as separate documents, our new Local Strategy and Plan now integrates these into a single document. Consequently, NPTCBC has developed a Flood Action Plan (see Appendix A1, A2 and A3) outlining actions and tasks for managing flood risk within specified time frames, ensuring alignment with the objectives and measures defined in this Local Strategy. The Flood Action Plan adopts a comprehensive approach to flood risk management, incorporating such solutions as NFM approaches, improving information delivery, effective asset management and meaningful stakeholder engagement.
Benefits incl. multiple/wider benefits	Under the Flood Risk Regulations 2009, flood action plans are essential for systematically assessing, managing, and mitigating flood risks to ensure the safety of people, property, and the environment. Flood action plans also focus on coordinated response and recovery efforts, establishing emergency plans, early warning systems, and post-flood recovery strategies to enable quick restoration of normalcy. These plans ensure regulatory compliance with the Flood Risk Regulations 2009 and the EU Floods Directive, involving ongoing monitoring and updates to reflect new data and changing conditions.
Measure Location	County Wide
Indicative timescale	Short Term (1–3 Years)
Indicative cost	Very Low (<25k)
Related objectives (Local)	2, 3, 5 and 11
Related objectives (National)	B and E Measure: 5
Well Being Goals	A Prosperous Wales, A Resilient Wales, A Healthier Wales, A More Equal Wales, A Wales of Cohesive Communities and A Globally Responsible Wales
Funding option(s)	Internal Revenue and Flood Revenue Grant
Delivery partners	None
Type(s) of flood management	Prevention, Protection, Preparedness, and Recovery and Review
Other Links	None
Status	In Progress

Measure 4	Adaptation and Resilience
Description	Community adaptation and resilience refers to the strategies and capacities communities develop to effectively manage and recover from flood events. Adaptation involves proactive measures like constructing flood defences, implementing early warning systems, and planning land use to mitigate flood risk. These actions aim to reduce vulnerability and enhance the community's ability to withstand floods. Resilience encompasses a community's capacity to recover swiftly after a flood. It includes rebuilding physical infrastructure and addressing social, economic, and psychological impacts. Resilient communities typically possess strong social networks, effective governance structures, access to resources, and knowledge of flood response and recovery strategies. Together, community adaptation and resilience in flood risk management emphasise local engagement, knowledge sharing, and collaboration among stakeholders. By integrating these principles into planning and policymaking, communities can better prepare for future floods, minimise losses, and promote sustainable development despite ongoing flood risks.
Benefits incl. multiple/wider benefits	Promoting adaptation and resilience in flood-prone communities offers several advantages. It boosts readiness through improved infrastructure, early warning systems, and disaster response plans, thereby lessening the immediate impact of floods. It also lowers long-term vulnerability by encouraging sustainable land-use practices and constructing resilient infrastructure that can withstand future flood events. Furthermore, it enhances social cohesion and community networks, promoting solidarity and mutual aid during crises. Economically, it reduces property damage, lowers recovery expenses, and safeguards livelihoods. Overall, these efforts contribute to environmental sustainability by implementing measures that protect ecosystems and natural resources, ensuring communities can thrive despite periodic flood risks.
Measure Location	County Wide
Indicative timescale	Core Activity (Continual)
Indicative cost	Very Low (<25k)
Related objectives (Local)	1, 2, 3, 4, 9, 13 and 14
Related objectives (National)	A and B
Well Being Goals	A Resilient Wales, A Healthier Wales, A More Equal Wales, A Wales of Cohesive Communities and A Globally Responsible Wales
Funding option(s)	Internal Revenue and Flood Revenue Grant
Delivery partners	Internal Departments, Local Community Councils, Local Councillors, Other Community Groups
Type(s) of flood management	Preparedness
Other Links	None
Status	Not Started

6.3.3 Land, Cultural and Environmental Management

Measure 5	Natural Flood Management (NFM) and Nature Based Solutions (NBS)
Description	Both NFM and NBS offer innovative approaches to managing flood risk that leverage the inherent resilience of natural ecosystems. By integrating these approaches into flood risk management strategies, communities can enhance their resilience to flooding while also realising a range of additional social, economic, and environmental benefits. NPTCBC will develop Natural Flood Management and Nature Based Solution projects at locations that lend themselves to using this engineering approach. Projects that utilise NFM will look at flooding in a holistic approach and will often be used in as part of a larger project looking at fluvial catchments as a whole. NFM has been used successfully by NPTCBC in the Gnoll Country Park, where the upper catchment incorporates NFM techniques to adapt the behaviour of peak flow rates before water reaches Neath town centre.
Benefits incl. multiple/wider benefits	Working with nature to provide alleviation from flooding creates less disruption to the natural environment. These solutions aim to mimic the natural hydrological processes where possible but still increase the standard of protection to the local community. Both NFM and NBS offer compelling benefits for flood risk reduction and broader environmental resilience. They are cost-effective, environmentally friendly, and enhance community resilience by leveraging natural processes, such as habitat restoration. They can both provide multi-functionality, contributing to climate resilience, improving social well-being, and generating economic value through job creation and enhanced property values. Together, these approaches offer holistic solutions to flood risk management while promoting sustainable development and resilience in the face of environmental and climate challenges.
Measure Location	County Wide
Indicative timescale	Short Term (1-3 Years), Medium Term (3-6 Years) & Long Term (6+ Years)
Indicative cost	Low (£25k – £100K)
Related objectives (Local)	1, 2, 6, 9, 13 and 14
Related objectives (National)	A, B and C Measure: 13, 14 and 15
Well Being Goals	A Resilient Wales, A Healthier Wales, and A Globally Responsible Wales
Funding option(s)	Capital Grant Funding
Delivery partners	Other RMAs and Private Landowners
Type(s) of flood management	Prevention and Protection
Other Links	https://www.gov.wales/natural-flood-management-guidance-undertake-natural-flood-management-works-html#120586
Status	In Progress

Measure 6	Environmental and Biodiversity Enhancements
Description	This will involve integrating ecological considerations into flood control measures to create multifunctional landscapes. This approach not only mitigates flood risks but also promotes environmental sustainability and biodiversity conservation. Some key aspects and strategies for achieving these enhancements for consideration would be NFM (Measure), SuDS (Measure X), coastal habitat restoration, integrated catchment management, biodiversity focused design, monitoring and adaptive management and community engagement and education.
Benefits incl. multiple/wider benefits	Integrating environmental and biodiversity enhancements into flood risk management creates synergistic benefits, reducing flood risks while promoting ecological health and resilience. By adopting a holistic and multi-functional approach, FRM can contribute to sustainable development and the preservation of natural ecosystems. Benefits of Environmental and Biodiversity Enhancements include; Enhanced Ecosystem Services such as improved water quality, soil health, and carbon sequestration; Increased Resilience such as diverse ecosystems that are more resilient to climate change and extreme weather events; and Recreational and Aesthetic Values such as natural landscapes that provide recreational opportunities and enhance the aesthetic appeal of the region
Measure Location	County Wide
Indicative timescale	Short Term (1-3 Years), Medium Term (3-6 Years) and Long Term (6+ Years)
Indicative cost	Low (£25k – £100K)
Related objectives (Local)	13 and 14
Related objectives (National)	B
Well Being Goals	A Resilient Wales, A Healthier Wales and A Globally Responsible Wales
Funding option(s)	Internal Funding, Capital Grant Funding, Small Scale Works Grant and Flood Revenue Grant.
Delivery partners	Internal Departments, Community Groups and other RMAs
Type(s) of flood management	Prevention and Protection
Other Links	None
Status	In Progress

6.3.4 Asset Management and Maintenance

Measure 7	Asset Surveys
Description	Locate, record, and map every part of the county's drainage infrastructure, using GPS RTK and Digital Tablets. Identify how drainage networks interact with Highway apparatus, Dŵr Cymru Welsh Water, and riparian systems. Record the physical details, condition, and ownership of each component. Continuously update and maintain the Authority's Geographical Information System (GIS).
Benefits incl. multiple/wider benefits	Continue to build a detailed asset management database by completing a drainage map of the county. This will allow a better understanding of where flooding may likely occur, and why. With understanding comes the ability to improve maintenance and inspection programmes, reducing costs and improving resilience to flooding on a county wide scale, particularly in emergency situations. NPT have already created Pluvial and Fluvial Catchment plans off the back of 10 years of successful asset management. This information will continue to improve our understanding of Flood Risk across our 15 SFRA's and enable Operatives, Officers, and Engineers to correctly resource areas at highest risk of flooding more accurately and effectively. Detailed ownership and asset location information has made addressing Riparian Flood Risk issues more effective, making it clearer to landowners what their roles and responsibilities are. Additionally, knowing who owns certain apparatus has enabled for quicker response times during flood events, as clear information is passed between RMA's and emergency services. This measure also aids in the improvement in quality of water bodies as set out under the Water Framework Directive, as misconnections are resolved bringing benefits to the environment.
Measure Location	County Wide
Indicative timescale	Core Activity (Continual)
Indicative cost	Core Activity
Related objectives (Local)	1, 2, 3, 4, 6, 7, 10 & 14
Related objectives (National)	A, B, C, D, and E Measures: 5, 6 and 7
Well Being Goals	A Healthier Wales and a More Resilient Wales
Funding option(s)	Revenue (Internal & WG)
Delivery partners	None
Type(s) of flood management	Preparedness
Other Links	None
Status	In Progress

Measure 8	S21 Asset Register
Description	Maintain a register of flood risk assets as required under the **Flood and Water Management Act 2010.** List locations of structures and features that are considered to have a significant effect on flood risk and associated attribute data such as ownership, condition, cleansing frequency and control features. These are known as 'Critical Flood Risk Assets' (CFRA) in NPTCBC.
Benefits incl. multiple/wider benefits	This information is shared with other RMAs and included on the national asset database maintained by NRW. Information enables practitioners to develop maintenance and inspection regimes for assets in high and medium risk locations. Records held on this database owned by the authority are maintained on a weekly basis and are inspected on an annual frequency to ensure the structures are in good condition. Any repairs identified are actioned as a priority to ensure flood risk in minimised. Any private landowners that own assets held of this register are provided with guidance on their role and responsibility in minimising flood risk and are contacted regularly to maintain open lines of communication.
Measure Location	County Wide
Indicative timescale	Core Activity (Continual)
Indicative cost	Core Activity
Related objectives (Local)	1, 2, 3, 4, 5, 6, 7, 10, 11 & 14
Related objectives (National)	A, B, C, D and E Measures: 5, 6 & 7
Well Being Goals	A Healthier Wales and a More Resilient Wales
Funding option(s)	Revenue (Internal & WG)
Delivery partners	NRW
Type(s) of flood management	Protection & Preparedness
Other Links	None
Status	In Progress

Measure 9	Critical Flood Risk Asset Inspections
Description	Continue to undertake a structured inspection programme of Critical Flood Risk Assets (separate to regular maintenance regimes) in accordance with T98 Asset Inspection guidelines. Detailed inspections to be carried out will involve identifying the general condition of the flood structure/features and making recommendations based on the outcomes. Flood Risk structures mainly include Intakes and Trash screens dotted around the authority but also their associated culvert (pipe) structures that convey water to their discharge location.
Benefits incl. multiple/wider benefits	Critical assets within areas of know flood risk are kept well maintained to ensure flood risk is minimised. Visual Inspections of intake and Trash screen structures are carried out to a T98 national standard and culvert structures are surveyed to WRc Manual of Sewer Condition Classification to ensure a unified approach. All structures are surveyed after significant rainfall events to ensure structures are operating effectively, not damaged, and show no signs of failure.
Measure Location	County Wide
Indicative timescale	Core Activity (Continual)
Indicative cost	Core Activity
Related objectives (Local)	1, 2, 3, 10 & 11
Related objectives (National)	B, C & E Measure 5, 6 & 7
Well Being Goals	A Resilient Wales, a Healthier Wales, and a Wales of Cohesive Communities
Funding option(s)	Revenue (Internal & WG)
Delivery partners	None
Type(s) of flood management	Prevention
Other Links	None
Status	In Progress

Measure 10	Critical Flood Risk Asset Maintenance and Repairs
Description	Scheduling and undertaking the maintenance of NPTCBC's flood defence and conveyance assets. This will involve activities such as grid cleansing, de-silting, and channel clearance to allow for the drainage systems to work at maximum capacity. Scheduling the maintenance regime will ensure those areas most at risk are prioritised to minimise the flood risk. Furthermore, repair work will be carried out on the back of recommendations set out under Measure 9.
Benefits incl. multiple/wider benefits	Maintaining the counties flood defence assets will ensure the clear passage for water to enter underground drainage systems i.e. culverts and highway drains. This will mitigate the flood risk illustrated on the flood maps which were unable to incorporate underground conveyance structures into the flood model.
Measure Location	County Wide
Indicative timescale	Core Activity (Continual)
Indicative cost	Core Activity
Related objectives (Local)	1, 2, 3, 7, 10 & 11
Related objectives (National)	B, D and E Measure: 6 & 7
Well Being Goals	A Resilient Wales, a Healthier Wales, and a Wales of Cohesive Communities
Funding option(s)	Revenue (Internal & WG)
Delivery partners	None
Type(s) of flood management	Prevention & Protection
Other Links	None
Status	In Progress

Measure 11	Construction of Flood Alleviation Schemes
Description	Construct flood alleviation schemes after completing business cases to protect properties from flooding up to and including 1 in 100-year rainfall events. Where possible projects should increase the standard of protection to multiple residential and commercial properties and provide a BCR of greater than 1. Construction projects will be delivered under NEC3 Contract terms and project managed and supervised by NPT Flood Officers and Engineers to ensure continuity and control of projects, ensuring delivery standards at met.
Benefits incl. multiple/wider benefits	Constructing flood alleviation projects offers numerous benefits that contribute to the safety, sustainability, economic stability, environmental health, and quality of life for those living in affected areas around the county borough. Large-scale flood alleviation projects provide crucial benefits by reducing flood risk, enhancing community resilience, and protecting infrastructure. By implementing measures such as improved intakes, trash screens, floodwalls, and diversion channels, these projects effectively minimise the impact of flooding on lives, property, and economic activities. They also offer environmental advantages, including habitat restoration and improved water quality management. Economically, flood alleviation schemes mitigate damage costs and support sustainable development by fostering safer conditions for businesses and encourage investment in flood-prone areas. Moreover, these projects contribute to enhanced water management and community well-being, ensuring safer and more secure environments for residents and businesses alike. Overall, large-scale flood alleviation schemes represent a significant investment in public safety, environmental stewardship, and economic resilience. They play a crucial role in sustainable development by balancing the needs of communities with the preservation of natural resources.
Measure Location	County Wide
Indicative timescale	Medium Term (3-6 Years) & Long Term (6+ Years)
Indicative cost	Very High (>£1m)
Related objectives (Local)	1, 2, 5, 6, 7, 12, 13 and 14
Related objectives (National)	C & D
Well Being Goals	A Resilient Wales, A Healthier Wales and A Wales of Cohesive Communities
Funding option(s)	Capital Grant Funding, Small Scale Works Grant, Flood Revenue Grant.
Delivery partners	WG and other RMAs
Type(s) of flood management	Prevention and Protection
Other Links	None
Status	In Progress

6.3.5 Studies, Assessments, and Plans

Measure 12	Flood Risk Assessments (FRAs)
Description	Carry out an assessment of flood risk in each Strategic Flood Risk Area in greater detail to better understand the drainage characteristics of each fluvial and pluvial catchment.
Benefits incl. multiple/wider benefits	These reports will build on the works carried out in Chapter 7 and will focus on local measures and recommend appropriate flood risk management techniques to be used in each area. This will enable Engineers and Officers to better prioritise and focus resources based on probability and impact of flooding from local sources. The assessments will highlight the short, medium, and long-term strategies in each catchment, as each vary and require different resources. Recommendations and details such as; asset maintenance frequency's; known hotspot areas; environmental enhancement opportunities; socio-economic characteristics; community groups; RMA responsibilities; SuDS opportunities; and critical flood risk assets will act as a reference for community residents and future practitioners to ensure a consistent holistic approach to FRM. These assessments will bring about collaborative working with other RMA's, Private Landowners, Emergency Services, and Internal Departments.
Measure Location	County Wide
Indicative timescale	Core Activity (Continual)
Indicative cost	Very Low (<£25k)
Related objectives (Local)	All
Related objectives (National)	A, B, C, D and E Measures: 15 & 24
Well Being Goals	A Prosperous Wales, a Resilient Wales, and a Wales of Cohesive Communities
Funding option(s)	Revenue (Internal & WG)
Delivery partners	None
Type(s) of flood management	Prevention, Protection, Preparedness & Recovery & Review
Other Links	Other RMA's, Private Landowners, Emergency Services & Internal Departments Climate Change Strategy https://www.npt.gov.uk/30350 Local Development Plan https://beta.npt.gov.uk/planning-and-building-control/planning-policy/adopted-ldp-2011-2026/ Emergency Plan http://www.jointresilience.co.uk/
Status	In Progress

Measure 13	S19 Investigation into Flooding
Description	As the LLFA, Neath Port Talbot must investigate flooding that occurs within the Borough. Section 19 of the **Flood and Water Management Act 2010** outlines that: On becoming aware of a flood in its area, a lead local flood authority must, to the extent that it considers it necessary or appropriate, investigate: -Which risk management authorities have relevant flood risk management functions, and -Whether each of those risk management authorities has exercised, or is proposing to exercise, those functions in response to the flood. Where an authority carries out an investigation it must; publish the results of its investigation and notify any relevant risk management authorities. The need to investigate a particular flood is determined case-by-case considering factors such as the number of properties affected and the likely source of flooding. NPT currently have a trigger of 5 or more properties flooded in one location at any given time.
Benefits incl. multiple/wider benefits	S19 Reports provide vital information on the causes of flooding, they can be used as evidence of flooding when applying for grant funding to WG and provides the authority with vital background information for any future events, further assessments, and feasibility studies. They will enable collaboration with other RMAs and emergency services through development of emergency response plans and action plans.
Measure Location	County Wide
Indicative timescale	Core Activity (Continual)
Indicative cost	Core Activity
Related objectives (Local)	3, 4, 5, 8, 10 & 11
Related objectives (National)	A, C and E Measures: 21
Well Being Goals	A Prosperous Wales, a Resilient Wales, a More Equal Wales, a Healthier Wales, and a Wales of Cohesive Communities
Funding option(s)	Revenue (Internal & WG)
Delivery partners	All RMAs
Type(s) of flood management	Recovery & Review
Other Links	None
Status	In Progress

Measure 14	Feasibility Studies
Description	Carry out feasibility studies on areas of the FRAW map that have been identified in Chapter 7 and that show high or medium flood risk from Ordinary Watercourses and Surface Water. High level modelling can inform our understanding on the sources of flooding where it is not obvious and validate the need for further investigation works. These reports will be used to assess the feasibility of a project so that practitioners can decide whether or not to develop a flood alleviation project, using the 5-case business model is required (Measure 15)
Benefits incl. multiple/wider benefits	Deriving accurate hydrological information and carrying ground investigations/surveys will not directly reduce flood risk but will indicate if the flood risk has been overstated or understated in the FRAW Maps. Furthermore, it will highlight if further work should be prioritised or if simple local measures may be identified, such as incorporating assets into regular inspection and maintenance practices (Measure 9 & 10) these can then be included in the associated Strategic areas FRA reports (Measure 12).
Measure Location	County Wide
Indicative timescale	Short Term (1-3 Years)
Indicative cost	Low (£25k-£100k)
Related objectives (Local)	3, 4, 6, 12 & 14
Related objectives (National)	A, B and C Measure: 22
Well Being Goals	A Resilient Wales and a Wales of Cohesive Communities
Funding option(s)	Revenue & Capital (Internal) & WG
Delivery partners	None
Type(s) of flood management	Prevention & Preparedness
Other Links	None
Status	Not Started

Measure 15	Business Case Development
Description	Develop Business Cases using the 5-case model approach for new Flood Alleviation Schemes (FAS), or Improvement works to existing structures. Each business case assesses the Strategic, Economic, Commercial, Financial and Management case of a project from the first stages of Strategic Outline Case (SOC) to construction, ensuring a project is viable through each stage of development. This work is grant funded by WG and managed through the WG Flood and Coastal Erosion Risk Management Investment Programme. NPT have an excellent record of securing funding to produce business cases and investing in flood risk infrastructure across the county. Please see Appendix A1, A2 and A3. At its core, the approach of the business case development should include wider well-being benefits such as environmental enhancements, regeneration, improved transport infrastructure, tourism initiatives and softer Natural Flood Management solutions. (Measure 5)
Benefits incl. multiple/wider benefits	Projects are prioritised effectively in the most at-risk communities. The council's rolling 10-year pipeline of works has been underway since 2015 which continues to drive future planning. Each project is staggered so that they are on various stages of development, ultimately leading to a conveyor belt of construction projects to alleviate flooding on an annual basis. Investment is secured from both internal resources and WG grant applications. The aim is to remove thousands of properties and people from high and medium risk flood areas and provide wider economic, social, and environmental improvements, in line with national ambitions.
Measure Location	County Wide
Indicative timescale	Short Term (1-3 Years) & Medium Term (3-6Years)
Indicative cost	Low (£25k-£100K) & Medium (£100k-£250K)
Related objectives (Local)	1, 2, 3, 4, 5, 6, 7, 10, 12, 13 & 14
Related objectives (National)	A, B, C and D Measures: 15 & 22
Well Being Goals	A Prosperous Wales, a Resilient Wales, and a Wales of Cohesive Communities
Funding option(s)	Capital Grant Funding
Delivery partners	WG, All RMAs and third-party stakeholders
Type(s) of flood management	Prevention, Protection & Preparedness
Other Links	WG Business Case Guidance https://www.gov.wales/flood-and-coastal-erosion-risk-management-fcerm-business-case-guidance WG Capital Grant Funding T&Cs https://www.gov.wales/flood-and-coastal-risk-management-capital-works-grant-terms-and-conditions
Status	In Progress

6.3.6 High Level Awareness and Engagement

Measure 16	Communicate Risk
Description	Communicating flood risk to at-risk communities should involve clear, simple messaging using plain language, visual aids, and multilingual information. Digital platforms like social media, websites, and apps will be used to provide real-time updates, while traditional media such as letter drops will still be used to disseminate broader information. Engaging the community through public meetings, workshops, and collaborations with local leaders enhances outreach and should be used in the development of business cases and construction projects so residents can voice concerns, provide opinions on solutions and feedback on local flood risk issues. Early warning systems are used in NPTCBC via daily weather updates, emergency weather warnings and CCTV camera monitoring of critical flood risk assets. This enables officers and supervisor to communicate with operative's which areas are at highest risk so that an effective response can be co-ordinated. Physical flood markers and signs are positioned around the county's highways at known flood locations, which will continue to be monitored and improved to ensure we communicate risk to road users in the most effective way. Developing feedback mechanisms such as surveys and hotlines will ensure continuous improvement in communication strategies.
Benefits incl. multiple/wider benefits	Effective communication significantly benefits flood-prone communities by enhancing preparedness and ensuring timely responses. It increases awareness of risks and provides practical preparation steps, leading to better evacuation readiness and reduced property damage. Reliable information alleviates anxiety, while training in emergency skills enhances safety. Communication fosters community resilience by guiding safer rebuilding practices and strengthening community bonds. Economically, it reduces repair costs and helps businesses resume operations quickly. Empowering residents with knowledge encourages informed decision-making and active participation in preparedness efforts. Additionally, it enables efficient resource allocation and coordination of assistance, making communities more capable of managing flood risks. By using a combination of communication methods, authorities can ensure that flood risk communication is comprehensive, inclusive, and effective in helping communities prepare for and respond to flooding events.
Measure Location	County Wide
Indicative timescale	Core Activity (Continual)
Indicative cost	Core Activity
Related objectives (Local)	All
Related objectives (National)	A, B, D and E
Well Being Goals	A Resilient Wales, and A wales of Cohesive Communities
Funding option(s)	None
Delivery partners	Internal Departments
Type(s) of flood management	Preparedness, Prevention and Recovery and Review
Other Links	https://beta.npt.gov.uk/parking-roads-and-travel/flood-and-coastal-defence/
Status	In Progress

Measure 17	Warn and Inform
Description	Timely flood warnings enable safe evacuations, property protection, and psychological preparedness, reducing panic and fostering community resilience. NPTCBC aim to build on our current practices and improve communications with communities at highest risk of flooding. This will be carried via improving social media posts, letter drops, community engagement and providing the right information to the right people. Furthermore, by taking a proactive approach it will help businesses implement emergency plans, minimise economic losses, and ensure strategic deployment of emergency services. Effective warnings also prevent environmental contamination, protect public health by informing about safe practices, and enhance authority/community coordination for a more efficient response.
Benefits incl. multiple/wider benefits	Warning and informing" residents about flooding is a vital component of disaster risk reduction. It saves lives, protects property, minimises economic losses, enhances community resilience, and ensures a coordinated and effective response to flood events.
Measure Location	County Wide
Indicative timescale	Core Activity (Continual)
Indicative cost	Core Activity
Related objectives (Local)	1, 2, 3, 4, 5, 8 and 11
Related objectives (National)	A, B, D and E Measure: 12
Well Being Goals	A Resilient Wales, and A wales of Cohesive Communities
Funding option(s)	None
Delivery partners	Internal Departments
Type(s) of flood management	Preparedness, Prevention and Recovery and Review
Other Links	https://beta.npt.gov.uk/parking-roads-and-travel/flood-and-coastal-defence/
Status	In Progress

Measure 18	Partnership Working with other RMAs
Description	Partnership working in flood risk management involves collaboration between various agencies and authorities to effectively manage and mitigate flood risks. This collaborative approach ensures that resources, expertise, and efforts are coordinated to achieve the best outcomes for flood preparedness, prevention, protection, response and recovery. Such works can include strategic planning and coordination, which entails developing joint flood risk management plans and holding regular meetings to align strategies and share information. Information sharing involves exchanging data on flood risks and weather forecasts, utilising shared databases and GIS for better decision-making. Resource sharing involves pooling funding, equipment, and personnel for optimised response capabilities and joint training exercises. Public engagement and communication strategies are coordinated to inform communities about flood risks and involve them in management plans. Operational collaboration focuses on joint response efforts during flood events and post-flood recovery initiatives involving all partners to assess damage and provide support. Flood risk management involves collaboration among various key agencies. Natural Resources Wales (NRW) oversees main rivers, coastal erosion, and reservoir safety, offering strategic guidance. NPTCBC acting as Lead Local Flood Authority (LLFA) manage local flood risks from surface water, groundwater, and watercourses. Water and sewerage company Dwr Cymru Welsh Water (DCWW) ensure drainage systems can handle wastewater and combined water floods during periods of heavy rainfall, while highway authorities manage flood risks on road networks. Emergency services, including fire, police, and ambulance services, provide immediate response during floods.
Benefits incl. multiple/wider benefits	Close working relationships with other RMA's enhances coordination and information sharing, leading to more comprehensive and effective flood prevention and mitigation strategies. Collaborative efforts can enable the pooling of resources, expertise, and data, which improves the accuracy of risk assessments and the development of tailored solutions. These relationships ensure that flood risk management plans are integrated and consistent across regions, reducing redundancy and gaps in protection. Moreover, engaging with RMA's fosters community involvement and awareness, as these authorities often serve as a bridge between local communities and national agencies, ensuring that flood risk management efforts are both locally relevant and supported by robust regulatory frameworks.
Measure Location	County Wide
Indicative timescale	Core Activity (Continual)
Indicative cost	Core Activity
Related objectives (Local)	5
Related objectives (National)	C and D Measure: 24
Well Being Goals	A Prosperous Wales, A Resilient Wales, A Healthier Wales, A More Equal Wales, A Wales of Cohesive Communities and A Globally Responsible Wales
Funding option(s)	Internal Revenue
Delivery partners	All RMA's and Stakeholders
Type(s) of flood management	Prevention, Protection, Preparedness, and Recovery and Review
Other Links	None
Status	In Progress

6.3.7 Monitoring

Measure 19	Emergency Response Plans
Description	Under the Civil Contingencies Act 2004, NPTCBC plays a leading role in emergency planning and recovery following a flood. The Council are required to develop and maintain plans for responding to emergencies and mitigating their impact. Emergency response plans are crucial for effective flood risk management by enhancing preparedness, coordination, and communication. They begin with thorough risk assessments and resource allocation, ensuring that equipment, personnel, and support are ready where needed. Clear delineation of roles and multi-agency collaboration foster a unified response, reducing confusion and improving efficiency during flood events. Public awareness campaigns and information dissemination strategies help communities understand and react appropriately before, during, and after a flood, minimising panic and enabling quicker, safer responses. These plans also focus on proactive mitigation measures and building community resilience through personal flood plans and preparedness initiatives. Regular training and simulation drills ensure responders are well-prepared to handle flood situations, while post-event analysis allow for continuous improvement by integrating lessons learned.
Benefits incl. multiple/wider benefits	Overall, detailed emergency response plans provide a comprehensive framework for managing flood risks, protecting lives, reducing property damage, damage to key infrastructure and ensuring quick recovery and resilience in affected communities.
Measure Location	County Wide
Indicative timescale	Core Activity (Continual)
Indicative cost	Core Activity
Related objectives (Local)	1, 2, 3, 4, 5, 8 and 11
Related objectives (National)	A, B and E
Well Being Goals	A Resilient Wales, A Healthier Wales and A Wales of Cohesive Communities
Funding option(s)	Internal Revenue
Delivery partners	Internal Departments, Emergency Services (Cat 1 and 2 responders)
Type(s) of flood management	Preparedness, and Recovery and Review
Other Links	https://beta.npt.gov.uk/council-democracy-elections/partnership-working/npt-prepared/
Status	In Progress

7. What is the risk of flooding in our area?

7.1 Background

The County Borough has a mix of urban and rural communities situated along the steep hillsides, river and glaciated valleys and coastline. The main urban communities are located along the coast including Neath and Port Talbot town centres, Margam and the Sandfields housing estate. Pontardawe is also a main urban centre located in the Swansea Valley.

The Neath, Afan and Swansea Valleys are dotted with rural communities and are drained by the three main rivers located in the Borough, Afan, Neath and Tawe. Many areas of the county borough have been, and continue to be affected by severe flooding, and for some it can occur on an annual basis. The aim of the LLFA is to identify these locations and form local actions to alleviate flood risk.

Coastal, Fluvial and Pluvial flooding in Neath Port Talbot, has been assessed at a high level by NRW through their Preliminary Flood Risk Assessment (PFRA) in 2018 which identified 'Flood Risk Areas'. The report identifies 3 flood risk areas in NPTCBC, namely Neath, Briton Ferry, and Port Talbot, identified in Figure 11. This does not mean that flooding only effects these locations, but it identifies the communities at highest risk of flooding from all sources. Briton Ferry; Flooding from the Sea, Neath; Flooding from Surface Water, and Port Talbot; Flooding from Rivers.

Further to the PFRA, NRW developed their FRMP in 2023 for Southwest Wales. This identified further communities being at 'most risk' and 'future risk' of flooding, Figures 12 and 13, respectively. These high-level risk assessments have allowed RMAs to focus their efforts however, they mainly focus on flood risk from rivers and the sea, not localised surface water and ordinary watercourses which can also cause considerable damage and disruption. It is the duty of the LLFA with its local knowledge and understanding to take this information and expand on it to accurately identify county wide flood risk from all sources.



Figure 12: NRWs Flood Risk Areas (Cycle 2**)**

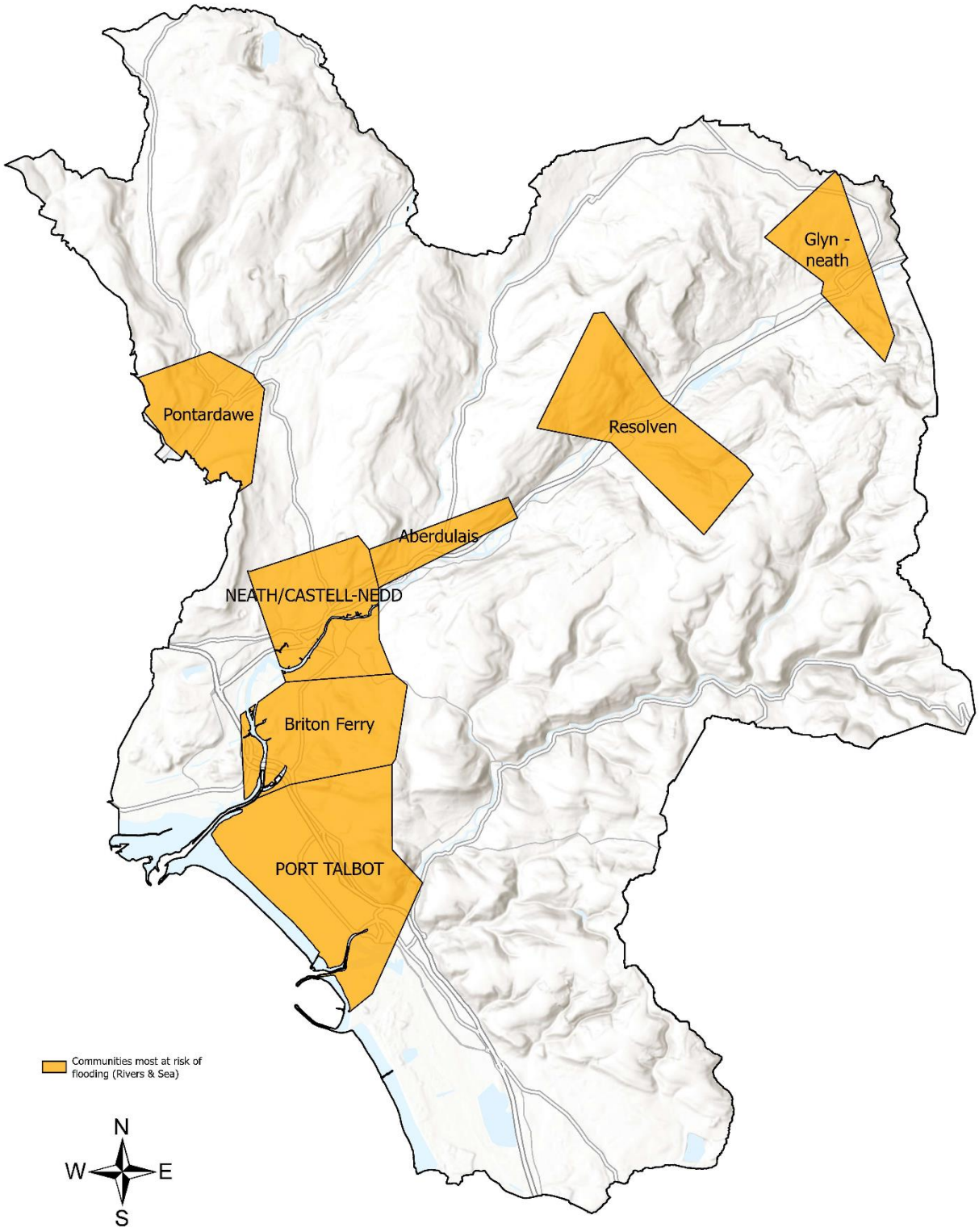


Figure 13: NRWs communities at ‘most risk' of flooding

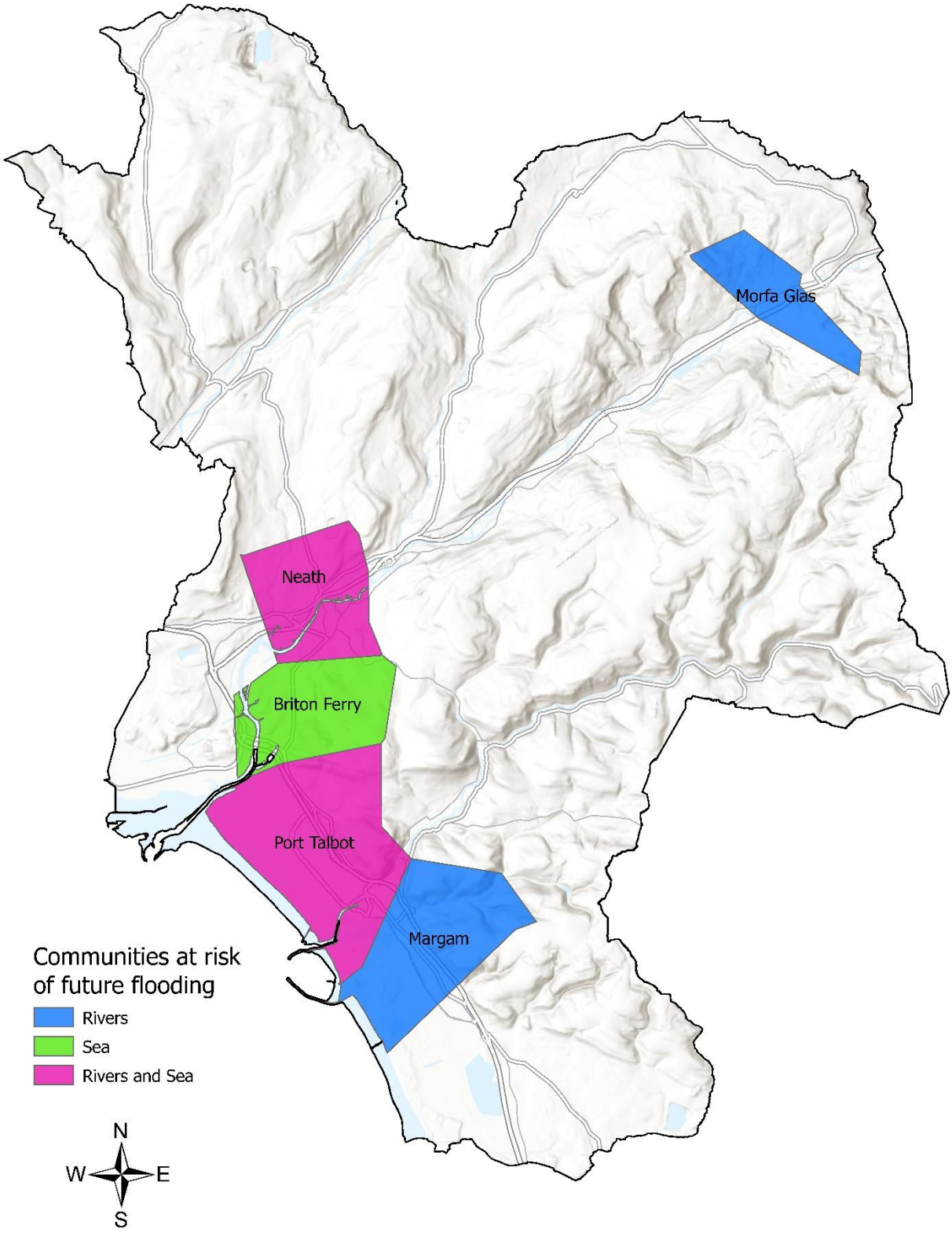


Figure 14: NRWs communities at 'future risk' of flooding

7.2 Approach of Strategic Flood Consequence Assessment (SFCA)

To ensure a consistent approach, this exercise adopts a similar assessment of risk that was produced by NPTCBC in the 2015 FRMP. The major difference with this new assessment is the way we approach risk in a geographical sense. The new methodology will be assessing risk based on Pluvial and Fluvial Catchment boundaries appose to political wards. Flooding does not identify political boundaries and assessing risk based on wards does not tie into the ethos of Flood Risk Management in NPTCBC.

Pluvial and Fluvial Catchment management has been part of NPTs core activities since 2017 when digital catchment and sub-catchment boundaries were produced, using improved mapping and dataset products. Together with improved modelling software and advanced asset records we have been able to assess flood risk more accurately at a local scale. For the purpose of this exercise these catchments have been identified as 'Strategic Flood Risk Areas' (SFRA). Please see Table 6 and Figure 14 below

Strategic Flood Risk Area (SFRA)	AREA (HA)
AFAN	6765
AFAN PRYDDIN	784
AFON CORRWG	2109
AFON PELENNA	2289
AMMAN	1265
DULAIS	4412
FFRWDWYLLT	1987
KENFIG	4693
LOWER CLYDACH	529
NEATH	4475
NEATH VALE	7444
AFON CLYDACH	2108
TAWE	3274
TWRCH	612
UPPER CLYDACH	2043
Total	44,789

Table 6: NPTCBCs Strategic Flood Risk Areas (SFRA)



Figure 15: Strategic Flood Risk Areas' (SFRA)

It is important to note that this assessment does not take the NRW's Communities at Risk Register dataset into consideration. NPTCBC's assessment of the CaRR boundaries concluded that they do not represent risk clearly in a geographical sense, and many anomalies in the data do not compare to the true risk of flooding on the ground across the borough.

The methodology used to undertake this Strategic Flood Consequence Assessment (SFCA) has been carried forward from the council's 2015 FRMP and assesses flood risk using a property count exercise. The datasets used to undertake this exercise represent the most accurate information available at the time this document was produced, and the counts reflect this. A table of datasets used can be seen below.

Dataset	Description	Application	Source
FRAW Maps (Extent – Sea, Rivers & Surface Water)	Flood Risk Assessment Wales is a digital flood map product produced by NRW that shows the extent of flooding from all sources and for the 3 main return periods.	The High, Medium, and Low risk maps are used to assess the risk of properties from the Sea, Rivers, and Surface Water.	NRW via DataMapWales
NRW Fluvial Catchments	Fluvial catchments are a digital map product produced by NRW that shows the extent of the catchment areas of the main rivers in Wales.	Main catchments allow NPT to assess flood risk at High level and is the most suitable way to spatially analyse flood risk.	NRW via DataMapWales
OS (Ordnance Survey) Survey Buildings Polygon	Building polygons is a digital map product produced by the Ordnance Survey that shows the outlines of all building across the country in the form of multiple polygons.	These building polygons allow flood risk to be assessed by selecting those building that interact with the FRAW mapping, thus allowing NPT to perform the flood risk property count.	Ordnance Survey
County Fluvial and Pluvial Catchments	These catchment plans are a digital mapping layer produced by NPT with the use of QGIS and AutoCAD software to further break down the NRW Fluvial Catchments into Sub Catchments.	The additional catchments allow NPT to assess flood risk at more of a local/sub catchment level and is the most appropriate way to spatially analyse flood risk.	Internal
Local Land and Property Gazetteer (LLPG)	A Local Land and Property Gazetteer (LLPG) is the central corporate database for all addressing used in the authority and comes in the form of point data that is shown spatially and contains attribute data about the individual address.	This point data is extracted from the Building Polygon data once selected to determine the final counts and the attributes can be integrated to complete the property count tables.	Internal
Risk Receptors	Multiple Risk Receptors such as Ramsar Sites, Ancient Woodland and SSSI in digital spatial format shown as either points or polygons.	This point and polygon data is extracted from spatial analyse of the FRAW maps. It is used to populate the final counts	DataMapWales

Table 7: Datasets used to inform property count

When approaching the prioritisation of actions after the SFCA the primary focus is on the assessing areas based on number of property's at risk however other factors should be considered, such as; Historical Flood Risk; previous Preliminary Appraisal Reports, Section 19 Flood Reports; Addressing Floods Records; Number of Critical Flood Risk Assets in an area; Service First calls relating to flooding or nuisance ponding; and Climate Change effects. All these additional factors are used to focus resources to the communities that are most affected by flood risk.

Using an integrated approach, the data collected through the flood incident recording process (Addressing Floods & Service First) will be used to supplement the current information on historic flooding. This information together with that derived from any flood investigations (S19 reports) will be reviewed on a regular basis to guide future work and re-prioritise where necessary.

7.3 Property Count Methodology

The exact geospatial computer procedures and techniques used have been derived from the two previous EA documents below which are still relevant for this count, and were used in the 2015 counts;

- Updated Flood Map for Surface Water – What is the uFMfSW Property Point dataset?
- The updated Flood Map for Surface Water (uFMfSW) Property Point dataset.

The above documents provide a good starting point and offer a basis on understanding what the flood risk property counts are, why they have been produced and how they have been generated to assist in identifying people, economic activity, and natural/historic environment in areas at risk from flooding.

The count types (Risk Receptors) were all assessed on their spatial relationship to the NRW's new FRAW maps for three rainfall return periods (Risk) and across all 3 sources of flooding; Sea, Rivers and Large Watercourses, and Surface Water and Small Watercourses.

- 1 in 30 year – High Risk
- 1 in 100 – Medium Risk
- 1 in 1000 – Low Risk

These counts were further assessed on their spatial location using the 15 Strategic Flood Risk Areas shown in Table 6. NPTCBC flood risk counts for property, economic activity and Natural and Historic Environment can all be seen in their associated catchment title in Chapter 7.6.1 – 7.6.15 and in Table 9, 10 and 11.

It is worth noting that unlike the previous exercise in 2015 any property contained within a flood risk area has been categorised as 'Property at risk of flooding' and counted as being internally flooded regardless of depth. Although this approach may not be as accurate, it can be argued that a detailed flood depth level is not needed at this stage of flood risk management. Due to on the ground variations in levels and varying factors such as door thresholds, this level of certainty cannot be known and would be reviewed in greater detail during FCERM Business Case development. Furthermore, the FRAW maps do not use this level of accuracy so therefore using this methodology to assess very accurate levels of property counts could give inaccurate figures.

7.4 Overview of flood risk in our area

Neath Port Talbot's topography is varied, the coastal low-lying land stretching southeast to northwest is largely populated and industrialised with large dune systems located on either side of hard coastal defences. This coastline is met by two large river valleys of the Afan and Ffrwdwyllt, which are characterised by their steep V shape, with little to no flood plain; and the glaciated valley of Neath Vale, which is characterised with its wide flat valley floor and steep sided catchments. To the north the Brecon Beacons National Park mountain ranges boarder the Swansea valley which is also glacial in nature. In the uplands the county is largely covered with managed forestry plantations, natural woodland, and open moorland. Each valley has its own drainage characteristics, but all are noted to react quickly to heavy rainfall, making flood risk management challenging, particularly when needing to forewarn those communities most at risk.

The flood risk map, when viewed at a county scale, provides a good indication of where flooding is known to be a problem, together with where it is likely to be a problem in severe conditions. It is evident from these

maps that the hills and valleys of our county create natural channels and barriers; protecting some areas and threatening others.

Each community within the borough is drained via numerous watercourses, culverts, and surface water drainage networks. Surface water enters these drainage systems through road gullies, surface runoff and through various other intake features. The authority owns and maintains approximately thirty-three thousand (32,000) road gullies, approximately one thousand two hundred (1,200) culvert inlets and outlets, and two hundred and forty-two (242) kilometres of pipework known to date, which it manages to ensure the passage of water into the closest watercourses. This is estimated to be around one third of known surveyed drainage assets within NPT.

NPTCBC's officers have realised through years of experience that the most likely source of flooding within the authority is from blocked culvert grids, intakes, and aging defective apparatus. Therefore, considerable emphasis should be placed on managing and upgrading the existing flood risk assets the council owns to ensure effective asset management. Drainage officers have identified several intakes which they have classed as 'Critical Flood Risk Assets' located throughout the county borough which can be see listed in Appendix H. The list of intakes are monitored and maintained on a weekly basis and the list is reviewed annually to ensure resources are focused in the most at-risk areas.

The assessment indicates that the primary areas of flood risk throughout the authority are situated near to ordinary watercourses and at the point at which water enters an intake into an ordinary watercourse culvert. This correlates well with the knowledge that NPT's drainage officers have gained through investigations and years of experience. It is further evident that the new FRAW maps risk has increased their accuracy since including some of the authority's culverts into the flood modelling process. The improved flood extent is perceived to depict an accurate representation. Locations where flood risk has been identified is discussed in more detail in the following sections, where specific measures have been applied to improve understanding of flood risk, and where actions are outlined.

One action from the council's 2013 Flood Risk Management Strategy was to keep a formal record of properties that have suffered from internal flooding. The council adopted the NRW's Addressing Floods database which has been kept up to date following any instances of flooding. Records show that since 2013 four hundred and sixty-four (464) properties have suffered from flooding across 31 identified storm events, the largest being Storm Dennis is February 2020.

NRW's Communities at Risk Register further highlights the significant risk of flooding in NPTCBC from all sources with 7 communities Port Talbot, Neath, Briton Ferry, Margam, Morfa Glas, Resolven and Glynneath all falling inside the top 100 combined risk rank, out of the 2207 Welsh communities as identified by NRW. Port Talbot and Neath communities rank 1st and 7th respectively in fluvial risk across the country and Neath and Briton Ferry rank 4th and 9th respectively for risk from surface water flooding. Port Talbot ranks 7th in Wales for Coastal Risk.

7.5 County Wide Flood Risk Conclusion

There are 64708 residential and commercial properties in NPTCBC. Of these, 25,821 are in a flood risk area, at some level of risk from flooding. That accounts for 40% of properties at risk of flooding within the county borough. Table 8 summarises the risks and sources of risk.

Source of Flooding	Numbers of Residential and Commercial Properties at Risk in NPTCBC			
	All Risk	**High Risk**	**Medium Risk**	**Low Risk**
Fluvial (Rivers)	13,448	2,632	1,820	8,996
Pluvial (Surface Water and Ordinary Watercourses)	10,939	3,548	1,279	6,112
Coastal (Sea)	1,434	444	764	226
Total Risk	**25,821**	**6,624**	**3,863**	**15,334**

Table 8: NPTCBC Property Count Summary

Fluvial flooding from rivers poses the greatest flood risk in NPTCBC, affecting 13,448 properties, though predominantly at low risk (8,996), with fewer at high (2,632) and medium risk (1,820). Pluvial flooding from surface water and smaller ordinary watercourses endangers 10,939 properties, with a significant portion at high risk (3,548), followed by low risk (6,112), and medium risk (1,279). Coastal flooding impacts 1,434 properties, mainly at medium risk (764), with fewer at high (444) and low risk (226). With the main focus on properties at high and medium Risk it can be concluded that 4,452 properties are at risk from rivers and large ordinary watercourses, and 4,827 properties at risk from surface water and smaller watercourses, under these return periods. 1208 properties at risk from coastal flooding in high and medium risk events. This summary provides a clear picture of the flood risks within NPTCBC, emphasising the importance of tailored flood risk management strategies for each type of flooding and risk level.

Table 9 shows the county wide flooding figures for rivers and large ordinary watercourses. The data reveals a substantial flood risk across all receptors, with 2,024 residential properties, 45 essential services, and 563 non-residential properties in high-risk areas. Critical infrastructure such as primary/trunk roads and main line railways are also at significant risk. Agricultural lands, environmental sites (SAC, Ramsar, SSSI, SINC), nature reserves, ancient woodlands, and cultural heritage sites face considerable threats, particularly in high-risk zones. This underscores the need for comprehensive flood risk management and mitigation strategies to protect from the impacts of flooding.

Table 10 shows the county wide flooding figures for Surface Water and Small Watercourses. The data indicates that most risk receptors are found in the Low-Risk category (chance of flooding between 1 in 100 and 1 in 1000 each year), with residential properties (5,375), essential services (96), and non-residential properties (641) being the most prominent. High Risk areas (chance of flooding greater than 1 in 30 each year) have the highest number of residential properties (2,996) and significant amounts of agricultural land (108.71 ha). Conservation areas, such as Special Areas of Conservation, Ramsar Sites, and Sites of Special Scientific Interest, also tend to have more extensive areas at risk in the Low-Risk category.

Table 11 shows the county wide flooding figures for coastal flooding. High-risk areas, characterised by a greater than 1 in 30 chance of flooding annually, show significant concentrations of residential properties, essential services, non-residential properties, and critical infrastructure like roads and railways. Agricultural land and areas of environmental importance such as SACs, Ramsar Sites, and SSSIs are also notably exposed in high-risk zones. Low-risk areas, with a chance of flooding between 1 in 100 and 1 in 1000 each year, generally have fewer receptors at risk across all return periods.

When viewing the property count breakdown (Appendix G) between sources of flooding, return periods and location it is noted that the data in residential properties in areas at risk of flooding reveals significant variations in flood risk across the different SFRA's. Neath emerges as the area with the highest combined flood risk score of 2530.6, substantially higher than the second-ranked Afan, which has a score of 1184.9. This indicates that Neath is particularly vulnerable to flooding from all sources, rivers, surface water, and the sea, making it a critical area for flood mitigation and risk management efforts. The substantial contribution of each risk type, particularly from surface water and large watercourses, highlights the need for comprehensive flood defence strategies in Neath.

In contrast, areas like Lower Clydach and Twrch have negligible or very low combined flood risk scores, indicating minimal exposure to flooding. These areas might not require immediate or extensive flood protection measures compared to high-risk areas. Mid-ranking locations such as Tawe, Kenfig, and Dulais exhibit moderate risk, suggesting that while they are not as critical as Neath, Afan, or Neath Vale they still necessitate monitoring and localised flood prevention efforts. Overall, the data underscores the necessity for targeted flood risk management, with a focus on high-risk areas to safeguard residential properties and minimise potential damage from future flood events.

Risk Receptor	High Risk (Chance of flooding greater than 1 in 30 each year)	Medium Risk (Chance of flooding between 1 in 30 and 1 in 100 each year)	Low Risk (Chance of flooding between 1 in 100 and 1 in 1000 each year)
Residential Property's in areas at risk of flooding (depth >0.0m)	2,024	1,464	7,878
Essential Services (n)	45	27	93
Non-Residential Properties (n)	563	329	1025
Primary/Trunk Roads (km)	5.25	1.55	2.13
Main Line Railways (km)	2.27	2.61	70.33
Agricultural Land - Grades 1, 2 and 3 (ha)	304.15	70.80	165.00
Special Areas of Conservation (SAC) (ha)	65.97	5.45	3.93
Special Protection Areas (SPA) (ha)	0.00	0.00	0.00
Ramsar Sites (ha)	62.35	5.08	2.60
Sites of Special Scientific Interest (SSSI) (ha)	177.30	28.08	72.90
Sites of Interest for Nature Conservation (SINC)	384.20	56.45	189.28
National Nature Reserves (NNR) (ha)	34.57	1.64	1.49
Local Nature Reserves (LNR) (ha)	20.04	0.76	4.04
Ancient Woodland (ha)	44.16	6.23	10.32
Registered Parks and Gardens (ha)	28.67	3.90	3.94
Country Parks (ha)	24.22	2.79	2.78
Scheduled Ancient Monuments (SAM) (ha)	2.40	0.56	1.09
Listed Buildings (n)	85	26	60

Table 9: County wide results for flooding from Rivers and Large Watercourses

Risk Receptor	High Risk (Chance of flooding greater than 1 in 30 each year)	Medium Risk (Chance of flooding between 1 in 30 and 1 in 100 each year)	Low Risk (Chance of flooding between 1 in 100 and 1 in 1000 each year)
Residential Property's in areas at risk of flooding (depth >0.0m)	2,996	1,075	5,375
Essential Services (n)	56	23	96
Non-Residential Properties (n)	496	181	641
Primary/Trunk Roads (km)	1.02	0.91	3.01
Main Line Railways (km)	6.15	2.03	6.57
Agricultural Land - Grades 1, 2 and 3 (ha)	108.71	23.26	81.84
Special Areas of Conservation (SAC) (ha)	13.28	7.09	27.72
Special Protection Areas (SPA) (ha)	0.00	0.00	0.00
Ramsar Sites (ha)	8.30	5.12	21.92
Sites of Special Scientific Interest (SSSI) (ha)	24.61	8.76	35.61
Sites of Interest for Nature Conservation (SINC)	117.79	22.34	75.44
National Nature Reserves (NNR) (ha)	4.80	3.37	17.52
Local Nature Reserves (LNR) (ha)	3.58	0.80	3.70
Ancient Woodland (ha)	27.69	3.88	14.31
Registered Parks and Gardens (ha)	17.53	1.83	6.83
Country Parks (ha)	9.99	1.80	6.54
Scheduled Ancient Monuments (SAM) (ha)	1.98	0.62	1.85
Listed Buildings (n)	28	8	9

Table 10: County wide results for flooding from Surface Water and Small Watercourses

Risk Receptor	High Risk (Chance of flooding greater than 1 in 30 each year)	Medium Risk (Chance of flooding between 1 in 30 and 1 in 100 each year)	Low Risk (Chance of flooding between 1 in 100 and 1 in 1000 each year)
Residential Property's in areas at risk of flooding (depth >0.0m)	349	718	185
Essential Services (n)	8	7	7
Non-Residential Properties (n)	87	39	34
Primary/Trunk Roads (km)	3.13	0.58	0.67
Main Line Railways (km)	2.62	0.57	0.53
Agricultural Land - Grades 1, 2 and 3 (ha)	219.10	15.28	21.16
Special Areas of Conservation (SAC) (ha)	15.87	40.68	23.17
Special Protection Areas (SPA) (ha)	0.00	0.00	0.00
Ramsar Sites (ha)	15.79	40.59	23.16
Sites of Special Scientific Interest (SSSI) (ha)	202.49	49.90	29.29
Sites of Interest for Nature Conservation (SINC)	550.99	25.23	24.77
National Nature Reserves (NNR) (ha)	14.84	20.93	11.15
Local Nature Reserves (LNR) (ha)	15.73	1.54	0.54
Ancient Woodland (ha)	0.06	0.06	0.03
Registered Parks and Gardens (ha)	0.01	0.00	0.00
Country Parks (ha)	0.00	0.00	0.00
Scheduled Ancient Monuments (SAM) (ha)	1.23	0.30	0.25
Listed Buildings (n)	18	0	5

Table 11: County Wide Results for Flooding from the Sea

7.6 Flood risk in your community

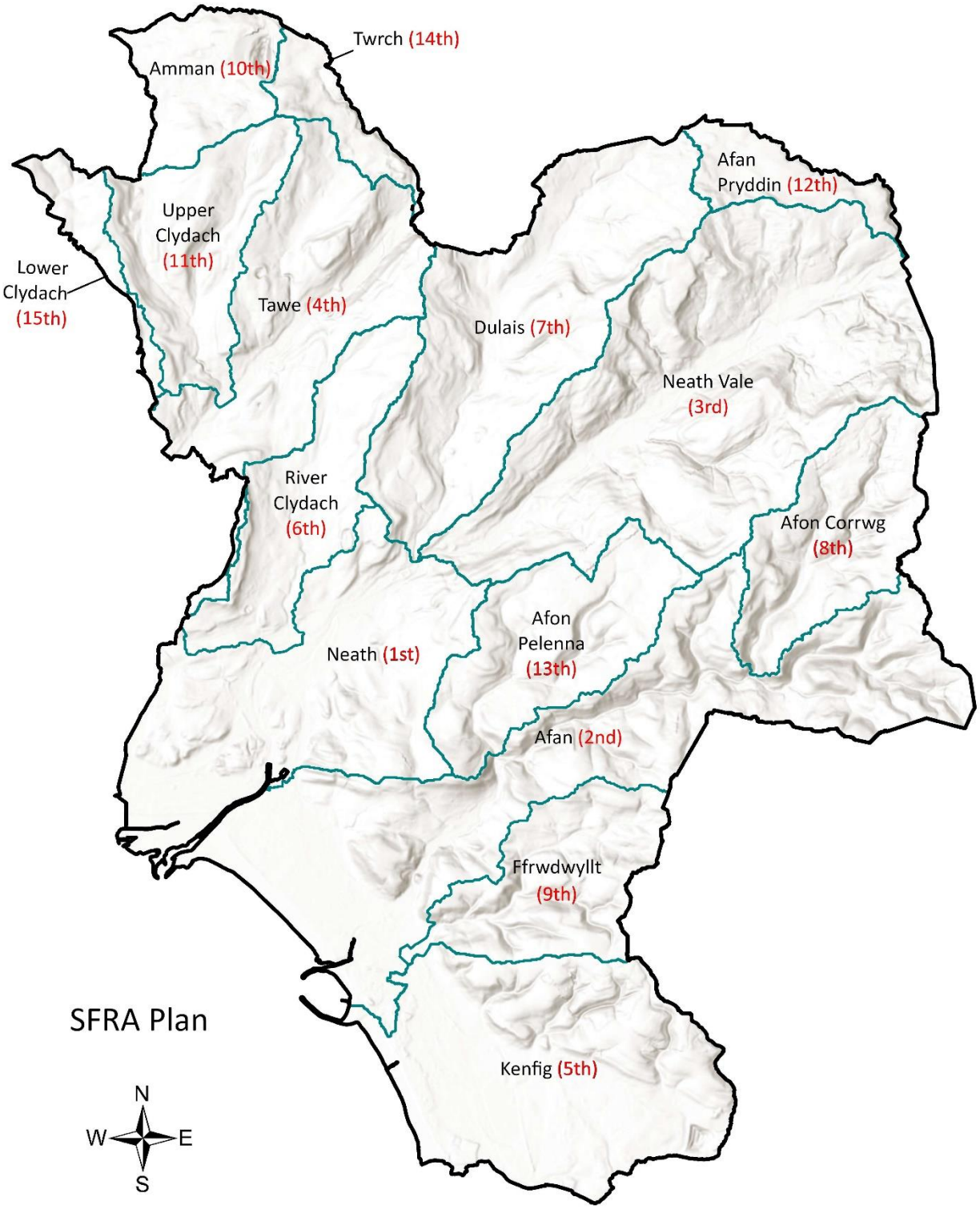


Figure 16: Strategic Flood Risk Areas (Ranked)

Primary Fluvial and Pluvial Catchment	LLFA Sub Catchments	Unitary Authority Electoral Division
AFAN	**Afon Corrwg, Afon Pelenna & Ffrwdwyllt**	Aberavon
		Baglan
		Briton Ferry West
		Bryn and Cwmavon
		Cimla and Pelenna
		Cymer and Glyncorrwg
		Gwynfi and Croeserw
		Margam and Taibach
		Port Talbot
		Resolven and Tonna
		Sandfields East
		Sandfields West
AMMAN		Gwaun Cae Gurwen and Lower Brynamman
KENFIG		Margam and Taibach
NEATH	**River Clydach & River Dulais**	Aberdulais
		Alltwen
		Briton Ferry East
		Briton Ferry West
		Bryncoch North
		Bryncoch South
		Cadoxton
		Cimla and Pelenna
		Coedffranc Central
		Coedffranc North
		Coedffranc West
		Crynant
		Dyffryn
		Neath East
		Neath North
		Neath South
		Onllwyn and Seven Sisters
		Rhos
NEATH VALE	**Afon Pryddin**	Aberdulais
		Blaengwrach and Glynneath West
		Crynant, Onllwyn and Seven Sisters
		Glynneath Central and East
		Resolven and Tonna
TAWE	**Lower Clydach, Upper Clydach & River Twrch**	Alltwen
		Cwmllwynfell and Ystalyfera
		Godre'r Graig
		Pontardawe
		Rhos
		Trebanos

Table 12: Fluvial and Pluvial catchments link to wards

Risk Receptor	Afan	Corrwg	Pelenna	Ffrwdwyllt	Afon Pryddin	Amman	Dulais	Kenfig	Neath	River Clydach	Neath Vale	Tawe	Lower Clydach	Upper Clydach	Twrch
Residents in areas at risk of flooding (depth >0.0m)	4696	238	25	325	6	53	81	292	2566	59	1977	785	0	243	20
High Risk 1:30	166	91	2	91	5	18	1	29	972	16	625	6	0	2	0
Medium Risk 1:100	185	80	17	51	1	16	2	24	830	17	199	26	0	8	8
Low Risk 1:1000	4345	67	6	183	0	19	78	239	764	26	1153	753	0	233	12
Essential Services (n)	50	5	0	4	0	2	1	10	39	3	28	10	0	12	1
Non-Residential Properties (n)	678	43	2	20	0	30	35	40	648	52	164	131	0	73	1
Primary/Trunk Roads (km)	10.48	0.00	0.00	0.19	0.00	0.00	0.15	3.47	2.66	0.00	9.54	0.00	0.00	0.00	0.00
Main Line Railways (km)	3.53	0.00	0.00	0.00	0.00	0.24	0.15	2.46	4.98	0.11	1.59	0.00	0.00	0.00	0.00
Agricultural Land - Grades 1, 2 and 3 (ha)	9.62	0.00	0.24	4.28	0.00	0.00	12.21	100.16	172.16	22.41	99.44	119.14	0.00	0.00	0.31
Special Areas of Conservation (SAC) (ha)	0.00	0.00	0.00	0.00	5.13	0.00	0.00	0.19	70.03	0.00	0.00	0.00	0.00	0.00	0.00
Special Protection Areas (SPA) (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ramsar Sites (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.04	0.00	0.00	0.00	0.00	0.00	0.00
Sites of Special Scientific Interest (SSSI) (ha)	0.00	0.00	0.00	0.00	7.82	0.16	0.00	186.74	70.03	0.00	2.61	5.46	0.15	0.07	0.00
Sites of Interest for Nature Conservation (SINC)	41.59	5.92	9.01	2.79	2.24	5.35	3.79	171.04	264.74	19.90	76.81	17.64	0.90	6.64	0.18
National Nature Reserves (NNR) (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.70	0.00	0.00	0.00	0.00	0.00	0.00
Local Nature Reserves (LNR) (ha)	0.00	0.00	0.00	1.09	0.00	0.00	0.00	0.00	18.91	0.00	0.00	2.97	0.00	1.87	0.00
Ancient Woodland (ha)	6.42	0.09	4.44	6.17	2.98	0.03	2.64	20.63	1.54	0.31	5.22	3.31	0.00	2.57	0.00
Registered Parks and Gardens (ha)	0.00	0.00	0.00	1.60	0.00	0.00	0.00	22.31	1.90	0.00	10.70	0.00	0.00	0.00	0.00
Country Parks (ha)	10.68	0.00	0.00	0.00	0.00	0.00	0.00	19.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scheduled Ancient Monuments (SAM) (ha)	0.01	0.00	0.00	0.00	0.20	0.00	0.24	0.75	0.46	1.30	0.03	0.44	0.00	0.00	0.01
Listed Buildings (n)	32	0	0	8	0	0	5	27	50	14	24	9	0	2	0

Table 13: SFRA Residential property counts for flooding from rivers and large watercourses

Risk Receptor	*Afan*	*Corrwg*	*Pelenna*	*Ffrwdwyllt*	*Afon Pryddin*	*Amman*	*Dulais*	*Kenfig*	*Neath*	*River Clydach*	*Neath Vale*	*Tawe*	*Lower Clydach*	*Upper Clydach*	*Twrch*
Residents in areas at risk of flooding (depth >0.0m)	1611	98	18	71	64	275	425	619	4088	558	714	734	0	141	30
High Risk 1:30	273	25	4	3	22	65	197	230	1404	176	305	265	0	18	9
Medium Risk 1:100	241	11	8	2	4	25	35	44	419	56	78	96	0	50	6
Low Risk 1:1000	1097	62	6	66	38	185	193	345	2265	326	331	373	0	73	15
Essential Services (n)	28	3	0	4	1	5	8	14	65	10	12	14	0	10	1
Non-Residential Properties (n)	244	34	11	9	2	18	34	37	686	62	73	61	1	45	1
Primary/Trunk Roads (km)	1.72	0.00	0.00	0.00	0.00	0.00	0.00	1.56	0.65	0.20	0.81	0.00	0.00	0.00	0.00
Main Line Railways (km)	0.06	0.00	0.00	0.00	0.19	0.84	5.86	0.11	6.06	0.85	0.78	0.00	0.00	0.00	0.00
Agricultural Land - Grades 1, 2 and 3 (ha)	4.17	0.00	2.27	3.18	0.00	0.00	6.38	50.73	52.54	15.27	43.96	35.29	0.00	0.03	0.00
Special Areas of Conservation (SAC) (ha)	0.00	0.00	0.00	0.00	0.87	0.00	0.00	0.00	47.21	0.00	0.00	0.00	0.00	0.00	0.00
Special Protection Areas (SPA) (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ramsar Sites (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.33	0.00	0.00	0.00	0.00	0.00	0.00
Sites of Special Scientific Interest (SSSI) (ha)	0.00	0.00	0.00	0.00	4.74	0.70	0.00	1.66	47.73	0.13	9.95	3.07	0.65	0.34	0.00
Sites of Interest for Nature Conservation (SINC)	10.63	0.97	6.95	2.19	15.68	8.36	12.17	23.65	62.13	7.49	45.09	8.25	1.88	7.61	1.78
National Nature Reserves (NNR) (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.70	0.00	0.00	0.00	0.00	0.00	0.00
Local Nature Reserves (LNR) (ha)	0.00	0.00	0.00	1.90	0.00	0.00	0.00	0.00	3.91	0.00	0.00	1.95	0.00	0.32	0.00
Ancient Woodland (ha)	2.26	0.00	0.39	1.04	0.60	0.00	2.75	10.71	13.49	0.55	10.18	2.53	0.00	0.55	0.00
Registered Parks and Gardens (ha)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	10.34	13.08	0.00	2.73	0.00	0.00	0.00	0.00
Country Parks (ha)	2.74	0.00	0.00	0.00	0.00	0.00	0.00	15.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scheduled Ancient Monuments (SAM) (ha)	0.05	0.00	0.35	0.00	0.51	0.00	0.64	0.21	1.08	0.53	0.32	0.10	0.00	0.00	0.00
Listed Buildings (n)	0	0	0	0	0	0	1	0	23	3	11	6	0	1	0

Table 14: SFRA Residential property counts for flooding from surface water and small watercourses

Risk Receptor	*Afan*	*Corrwg*	*Pelenna*	*Ffrwdwyllt*	*Afon Pryddin*	*Amman*	*Dulais*	*Kenfig*	*Neath*	*River Clydach*	*Neath Vale*	*Tawe*	*Lower Clydach*	*Upper Clydach*	*Twrch*
Residents in areas at risk of flooding (depth >0.0m)	0	0	0	3	0	0	0	0	1245	4	0	0	0	0	0
High Risk 1:30	0	0	0	3	0	0	0	0	345	1	0	0	0	0	0
Medium Risk 1:100	0	0	0	0	0	0	0	0	718	0	0	0	0	0	0
Low Risk 1:1000	0	0	0	0	0	0	0	0	182	3	0	0	0	0	0
Essential Services (n)	1	0	0	0	0	0	0	0	21	0	0	0	0	0	0
Non-Residential Properties (n)	2	0	0	1	0	0	0	0	151	6	0	0	0	0	0
Primary/Trunk Roads (km)	2.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	2.27	0.00	0.07	0.00	0.00	0.00	0.00
Main Line Railways (km)	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69	0.00	0.00	0.00	0.00	0.00	0.00
Agricultural Land - Grades 1, 2 and 3 (ha)	1.22	0.00	0.00	0.25	0.00	0.00	0.00	0.25	200.20	11.71	41.92	0.00	0.00	0.00	0.00
Special Areas of Conservation (SAC) (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	79.53	0.00	0.00	0.00	0.00	0.00	0.00
Special Protection Areas (SPA) (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ramsar Sites (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	79.53	0.00	0.00	0.00	0.00	0.00	0.00
Sites of Special Scientific Interest (SSSI) (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	281.50	0.00	0.00	0.00	0.00	0.00	0.00
Sites of Interest for Nature Conservation (SINC)	211.04	0.00	0.00	0.16	0.00	0.00	0.00	0.00	366.92	18.11	4.76	0.00	0.00	0.00	0.00
National Nature Reserves (NNR) (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.92	0.00	0.00	0.00	0.00	0.00	0.00
Local Nature Reserves (LNR) (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.81	0.00	0.00	0.00	0.00	0.00	0.00
Ancient Woodland (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00
Registered Parks and Gardens (ha)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Country Parks (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scheduled Ancient Monuments (SAM) (ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.91	0.00	0.00	0.00	0.00	0.00
Listed Buildings (n)	1	0	0	0	0	0	0	0	16	4	1	0	0	0	0

Table 15: SFRA Residential property counts for flooding from the sea

7.6.1 River Afan Catchment

Flood Risk Rank: 2nd

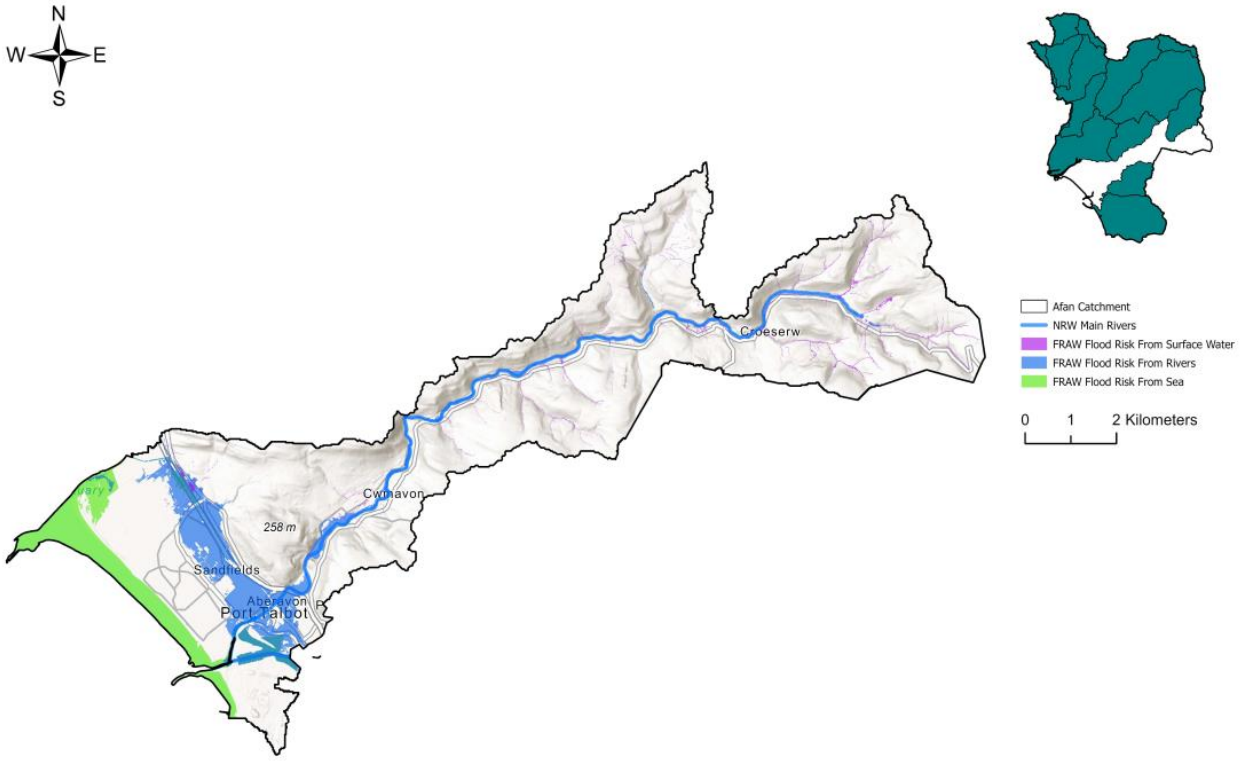


Figure 17: Flood Map of River Afan (All Sources)

Characteristics and Flood Risk

The River Afan is one of the 3 main river catchments in NPTCBC which is fed by the River Pelenna and Corrwg to the Northeast. The source of the Afan originates on the mountain ranges that border Rhondda Cynon Taff and Bridgend Council, circa 560m AOD. The Afan is a typical river valley characterised with a narrow valley floor flanked with steep hillsides. The Afan catchment is largely rural, dominated with forestry plantations and open moorland in the central and upper catchment areas. To the west (lower reaches) the landscape changes to heavily urbanised settlements along the coastline. At Port Talbot, which is the second largest town in NPTCBC, the river valley opens up to a large coastal plain dominated by residential and commercial properties, most notably by the Port Talbot Steel Works. These properties are all built on tidal and alluvial sand, silts and clay deposits which are free draining, which can be affected by a high-water table during times of persistent rainfall or high tide.

The River Afan channel is largely natural until it reaches the urban area of Velindre, north of Port Talbot town centre, where it becomes confined by man-made channels and river defences. It passes beneath a series of bridges in the town centre before reaching the Green Park Street Weir, which marks the point where it becomes effected by the tide. The weir is a large, well-maintained structure that is used to syphon water from the Afan to feed water to the Steel Works. The river then flows out to the Swansea Bay alongside the Port Talbot dock breakwater.

Adjacent to the River Afan the coastline stretches out in a northwestern direction towards the River Neath estuary. This section of coastline is divided up into two (2) SMP2 policy units, namely Aberavon Beach and Baglan Burrows (PU 8.4 & 8.5 respectively). The promenade is a ‘Hold the Line’ policy unit which means the CPA must protect the area from coastal erosion and flooding from the sea. NPTCBC manage and maintain the coastal defences along this stretch of coastline from the River Afan to the Scarlet Avenue Slipway. In 2020, with grant funding from the Welsh Government, NPTCBC upgraded these coastal defences. Works involved

the construction of toe protection to the existing concrete revetment using Rock Armour, improvements to the pedestrian access onto the beach and improvements to the maintenance access onto the beach with the construction of a new slipway off Scarlet Avenue Carpark. As the coastline extends past the hard engineering works the landscape immediately changes to the established dune system of Baglan Burrows. This area is classified as 'Managed Re-alignment' under the SMP2 which means that the dune system is monitored for signs of erosion. If erosion occurs where it threatens the hinterland the CPA will step into manage the rate of erosion using natural engineering techniques to slow or prevent further erosion.

Within the area of Baglan a large ordinary watercourse, known as Baglan Brook, bisects the village that outfalls into the Neath Estuary. This brook poses a flood risk to a large number of residential properties in the Heol Y Nant area where it is both culverted and channelled between houses. In 2015 a construction project to alleviate the risk to these properties was successfully completed however, regular weekly maintenance is required to ensure the trash screen and catch pit bays are free of debris. This location is one (1) of nine (9) critical flood risk assets that are maintained in the Afan SFRA. Further locations can be seen in appendix H.

The surface water flood risk in the Afan is sporadic in nature and is mainly isolated to pockets of small amounts of properties. These locations have been assessed and are shown to be located around county highways where existing drainage apparatus exists, but where the FRAW model has not taken them into account. There are three (3) locations where surface water flooding will need more of detailed assessment, Swn-Y-Nant, Blaengwyfi where a large culvert structure is known to exist conveying the Nant Y Gwynfi beneath the main access road to the village; Margam Street, Cymmer where a small watercourse is understood to exist but little information is known, and Talbot Road, Port Talbot where surface water ponding issues have been record which is linked to the performance of the DCWW combined sewerage system that the local highway drainage system relies upon.

The FRAW mapping highlights flood risk to properties from the River Afan is isolated to just one location, London Row, Cwmavon. It is important to note that although NPTCBC have identified this location as a risk it is remit of Natural Resources Wales (NRW) for property protection from river flooding, therefore they would lead any future investigations or works.

Table 16 below highlights in detail the number of properties at risk of flooding in the River Afan SFRA from all sources and return periods.

River Afan	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	166	185	4345	273	241	1097	0	0	0
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	14	53	611	63	36	145	0	0	2
Essential Services in areas at risk of flooding (depth >0.0m)	5	1	44	4	2	22	0	0	1

Table 16: River Afan SFRA Property Count

Conclusions

Flood risk in the River Afan catchment in spread out across the SFRA and is mainly from river, ordinary watercourse and surface water. Although flood risk has been identified a large percentage of this risk lays under the 'low risk' category. 93% and 68% of residential properties are at low risk of flooding from Rivers and Surface water, respectively. Not taking into account climate change, Afan SFRA would be classed as a low-risk flood area however, this does not compare well with the ranking in the CaRR which places Port Talbot as the top fluvial flood risk area in Wales and 7th overall for Coastal flooding. Further discussions will be

required with NRW to correctly quantify the risk posed to Port Talbot, which is believed to be ranked as such due to the high number of properties at low risk and climate change threat.

Of the High-risk residential properties at risk from rivers and large watercourses, 80% of these are located in Heol Y Nant Baglan and 18% are located in London Row, Cwmavon. These 2 locations also account for 50% of the properties at medium risk of flooding from Rivers and Large watercourses.

Of the 273 residential properties at high risk of flooding from small watercourses and surface water 21% are located in Margam St, Cymmer and 6% are located at Swn-Y-Nant, Blaengwyfi. 21% of properties are located on Talbot Road which are largely made up of flats.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk

RIVER AFAN FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Review Heol Y Nant FAS and update FRAW Mapping to reflect new construction	1-3 Years	Reliant on Flood Revenue Grant	In Progress
Assess flood risk posed to Port Talbot by discussing with flood risk professionals in NRW.	1-3 Years	Reliant on Flood Revenue Grant	In Progress
Continue to implement coastal monitoring of Baglan Burrows dune system (SMP2 Managed Re-alignment Policy Unit)	Annually	Core Activity	BaU
Continue to maintain and repair coastal defences along Aberavon Promenade (SMP2 Hold the Line Policy Unit)	Annually	Core Activity	BaU
Assess Swn-Y-Nant, Blaengwyfi Surface Water Flood Risk	1-3 Years	Reliant on Flood Revenue Grant	Not Started
Assess Margam Street, Cymmer Surface Water Flood Risk	1-3 Years	Reliant on Flood Revenue Grant	Not Started
Assess Talbot Road, Port Talbot Surface Water Flood Risk and communicate this with DCWW	1-3 Years	Reliant on Flood Revenue Grant	In Progress
Assess Olive St & Dunraven St, Surface Water Flood Risk and communicate this with DCWW	1-3 Years	Reliant on Flood Revenue Grant	In Progress
Assess Willow Way, Baglan Surface Water Flood Risk	1-3 Years	Reliant on Flood Revenue Grant	Not Started
Maintain, inspect and cleanse nine (9) Critical Flood Risk Assets	Annually	Core Activity	BaU

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 5, 6, 7, 8, 9, 10 & 12**

7.6.2 River Corrwg Catchment

Flood Risk Rank: 8th

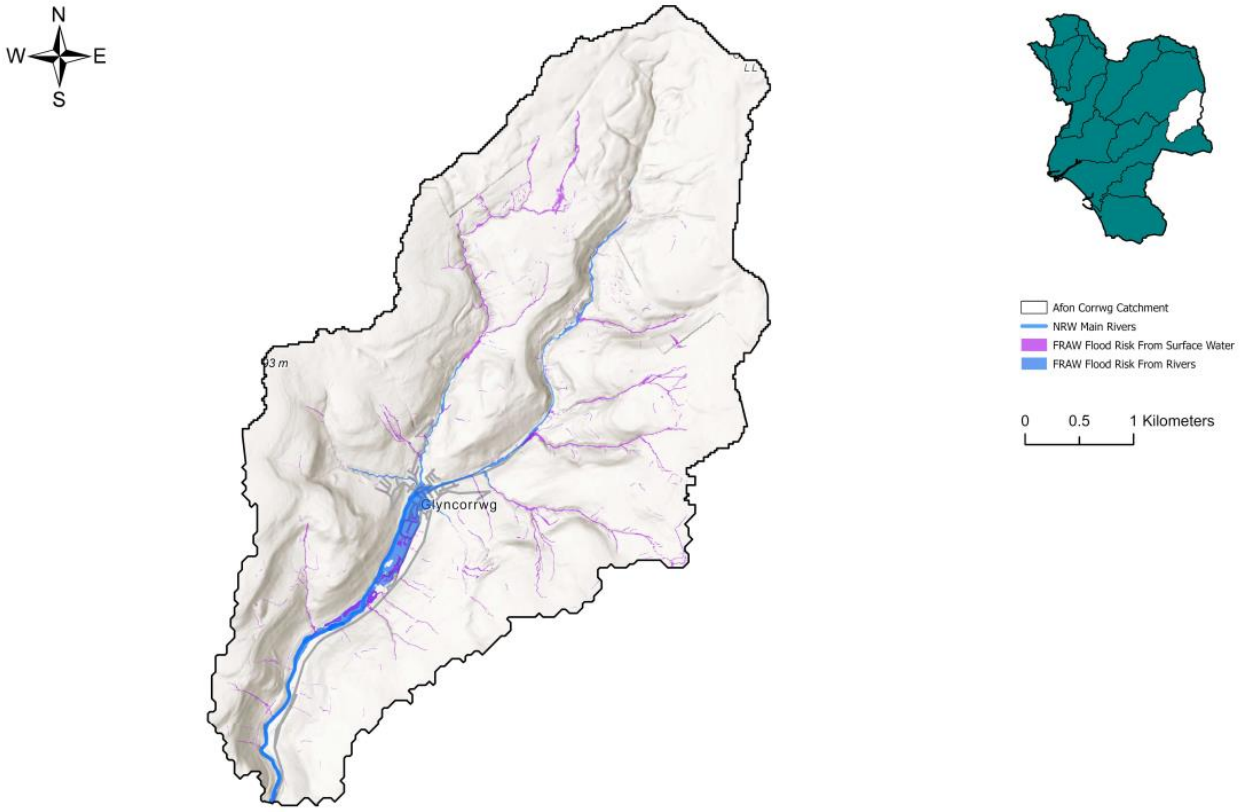


Figure 18: Flood Map of River Corrwg (All Sources)

Characteristics and Flood Risk

The River Corrwg is one of the two (2) tributaries that feed into the River Afan that originates in the mountains above the village of Glyncorrwg. Glyncorrwg is the only settlement within the Corrwg SFRA which is positioned at the head of the valley (which is central to the SFRA) on the widest part of the valley floor. The Corrwg valley is glaciated in nature with a characteristic wider valley floor that differs from the Afan valley which it drains in to. The River Corrwg has cut a channel through this valley floor and poses a high risk to residential and commercial properties built on the flat flood plain of Glyncorrwg. The Corrwg catchment is largely rural, surrounded by managed forestry plantations and open moorland with a number of fast reacting brooks and streams leading down to the valley floor. The superficial geology of the valley floor is made up of layers of Alluvium deposits (Silts, clays, sands and gravels) that are free draining, bordered by Devensian till which indicates the valley has been formed through past glaciation.

To the north, west and east the hillsides quickly rise to over 500m AOD which directs the rivers flow in a southerly direction where it merges into the River Afan at the village of Cymmer. The river channel and banks are nearly all natural except for a section of raised masonry retaining wall on the southern bank that runs alongside Heol Y Coed and Commercial Street, supporting the highway, in Glyncorrwg.

The flood risk to residential and commercial properties from the River Corrwg is isolated to two locations. At Glyncorrwg where the highest number of properties are at risk, and at the confluence with the River Afan where a small number of properties back onto the riverbanks. In Glyncorrwg, the river is shown to come out of bank in the area around Bridge Street, resulting in water spilling out into the large residential area to the south. Upstream of this location a bridge crosses the river and there are three (3) large ordinary watercourses that discharge into the main Corrwg Channel. It is important to note that the river Corrwg is classed as an

ordinary watercourse at this point, downstream from this location the river is classed as an 'NRW Main River.' Both the LLFA and NRW would need to work closely here to provide a solution.

The surface water flood risk within the SFRA is isolated to Three (3) main locations where there are low spots or flat areas on the highway network, at Waun Avenue, Dunraven Street and Commercial Street. Following on from a successful drainage asset survey of the Corrwg SFRA in 2023 we are able to assess these areas with confidence. It is noted that the FRAW model has not considered the highway drainage infrastructure that we are aware of in the vicinity. With this information we can conclude that the risk would either not exist or be significantly reduced however, it is essential that this infrastructure is maintained and inspected regularly to ensure this risk is mitigated.

NPTCBC inspects, maintains and cleanses five (5) critical flood risk assets on a weekly basis in the Corrwg SFRA, one (1) of which has a CCTV camera installed on it to monitor debris levels at Park Street remotely. Further locations can be seen in appendix H.

Table 17 below highlights in detail the number of properties at risk of flooding in the River Corrwg SFRA from all sources and return periods.

River Corrwg	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	91	80	67	25	11	62	0	0	0
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	11	31	1	21	3	10	0	0	0
Essential Services in areas at risk of flooding (depth >0.0m)	3	0	2	0	0	3	0	0	0

Table 17: River Corrwg SFRA Property Count

Conclusions

Flood risk in the Corrwg catchment is mainly isolated to the village of Glyncorrwg and comes from flooding from the river Corrwg and surface water ponding.

Of the risk to residential properties at risk from rivers and large watercourses, 72% of these are classed as High and Medium Risk, up to and including a 1 in 100-year rainfall event. Of these 171 properties, 12 properties are located at the confluence between the Afan and Corrwg, and 159 properties located in Glyncorrwg.

Of the residential properties at risk from Surface Water and Small Watercourses 63% are low risk and 37% are at high and medium risk. Of the 36 properties at high and medium risk all are located in the previously mentioned low spots and are unlikely to be realised. Furthermore, the LLFA holds no records indicating that these locations have previously suffered from surface water flooding.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk

RIVER CORRWG FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Undertake Feasibility Study at Glyncorrwg	3-6 Years	Reliant on WG Capital Funding	Not Started
Maintain, inspect and cleanse five (5) Critical Flood Risk Assets	Annually	Core Activity	BaU

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 8, 9, 10, 12, 14 & 18**

7.6.3 Afon Pelenna Catchment

Flood Risk Rank: 13th

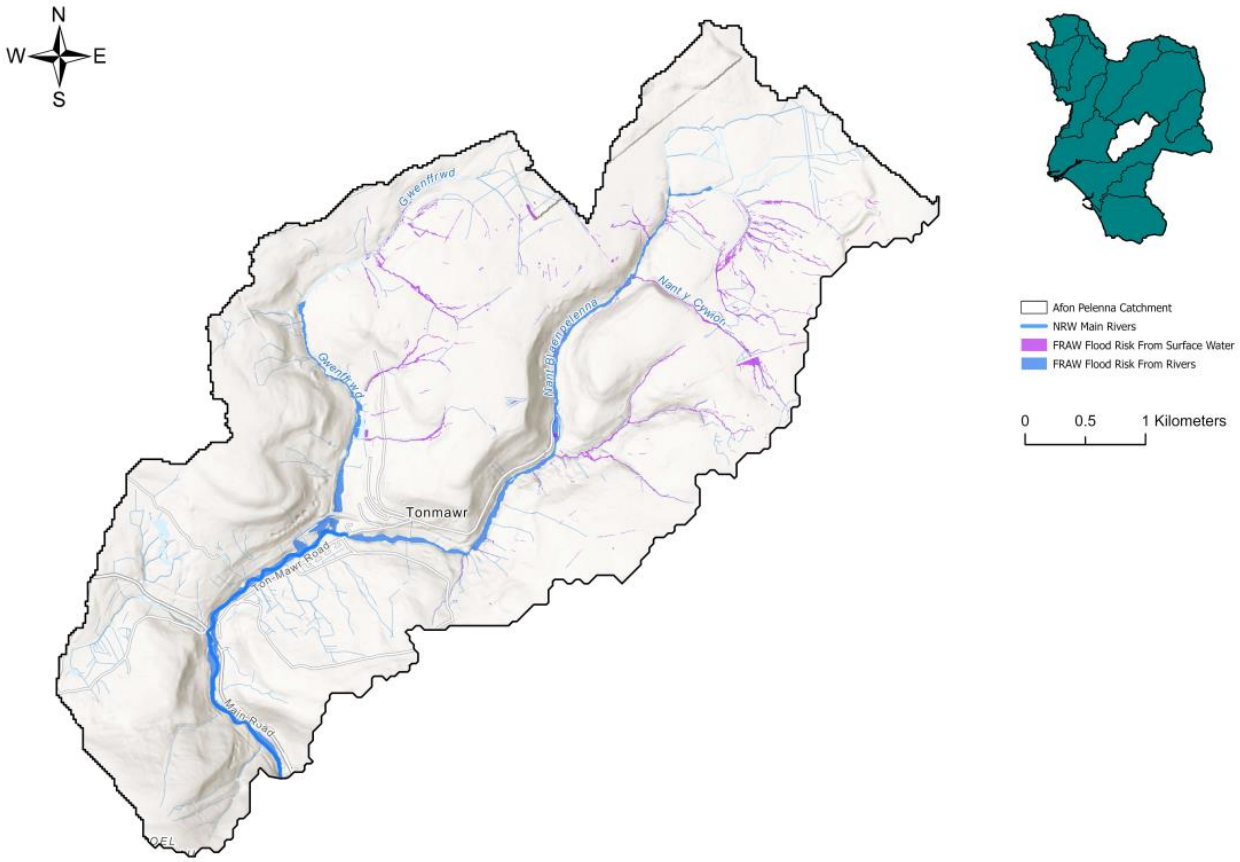


Figure 19: Flood Map of Afon Pelenna (All Sources)

Characteristics and Flood Risk

The Afon Pelenna is another tributary that feeds the River Afan and is positioned centrally to the Afan SFRA as can be seen in the above figure 18. Pelenna SFRA is a typical upper catchment river valley with a deep river channel set in the valley floor with little to no flood plain. In the upper catchment the landscape is dominated by managed forestry plantations, open moorland, and mixed grazing land. The upper catchment is not populated, though remnants of past coal mining activity scatter the hillsides. Tonmawr is one of two settlements in the SFRA that is positioned centrally in the catchment at the confluence with a smaller tributary, Nant Blaengwenffrwd, and from this point downstream is classified as an NRW Main River. The river then flows in a southwest direction as it is sandwiched between the Foel Fynyddau to the west and Mynydd Penrhys to the east. The river then flows past the larger of the two settlements within Pelenna SFRA, Pontrhydyfen. As both settlements are built into the hillsides, very little flood risk exists from Rivers, Ordinary Watercourses or Surface Water making Pelenna SFRA one of the lowest flood risk areas in NPTCBC.

The river channel is largely natural except at the Afan Valley Road and Tonmawr Road junction where the riverbanks are constructed of a masonry retaining wall to retain the structure of the highway and abutment to the road bridge. It is at this junction where the only assessed flood risk occurs. In the FRAW maps flood flows up to and including a 1 in 100-year rainfall event are shown to break out of channel and flood the properties to the south, known locally as Efail-fach.

The flood risk from surface water and small ordinary watercourses is also minimal with only three (3) locations identified, Glan-Pelenna, Johns Terrace and Tonmawr Business Park. Glan-Pelenna is a known low spot on the highway which has in the past suffered from surface water flooding as a result of blocked highway drains. Ensuring these assets are monitored and maintained is essential for effective flood risk mitigation to the three (3) residential properties.

The two (2) locations in Tonmawr, Johns Terrace and the business park are not known to have flooded in the past and are the mechanisms for flooding are not understood. Further investigation and analysis would need to be undertaken to prove if this risk was accurately represented.

NPTCBC do not maintain, inspect, or cleanse any critical flood risk assets with the Pelenna SFRA though three (3) problematic culverts are periodically checked and cleansed on Tonmawr Road during heavy or prolonged rainfall. The flood risk these culverted watercourses pose to the highway of Tonmawr Road is crucial to manage as it is the only highway allowing access in and out of the village. Attempts have been made over the years to make minor improvements to these structures but flooding still occurs. This has led engineers and flood officers to review their approach and investigate what NFM solutions can be implemented on Mynydd Penrhys to slow and store flood flows on the hillside above these culverts.

Table 18 below highlights in detail the number of properties at risk of flooding in the River Pelenna SFRA from all sources and return periods.

Afon Pelenna	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	2	17	6	4	8	6	0	0	0
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	2	0	0	10	0	1	0	0	0
Essential Services in areas at risk of flooding (depth >0.0m)	0	0	0	0	0	0	0	0	0

Table 18: Afon Pelenna SFRA Property Count

Conclusions

Residential and commercial properties in Pelenna SFRA are at very low risk of flooding. Only one location (Efail Fach) is at risk of river flooding, which is the remit of NRW to protect against, where 19 properties are at risk of flooding from a 1% AEP event. Only 22 residential and commercial properties spread across 3 sites have been identified as being at risk of flooding from surface water flooding, two of these locations will require further investigation in order to establish FRAW mapping accuracy.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk

AFON PELENNA FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Assess Johns Terrace, Tonmawr Surface Water Flood Risk	6+ Years	Reliant on Flood Revenue Grant	Not Started
Assess Tonmawr Business Park Surface Water Flood Risk	6+ Years	Reliant on Flood Revenue Grant	Not Started
Continue to maintain and inspect the highway drainage system at Glan-Pelenna, Pontrhydyfen	Annually	Core Activity	BaU

Develop NFM Solution at Tonmawr Road-Mynydd Penrhys	1-3 Years	Reliant on Internal and WG NFM Grant Funding	In Progress

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 5, 6, 7, 12 & 14**

7.6.4 River Ffrwdwyllt Catchment

Flood Risk Rank: 9th

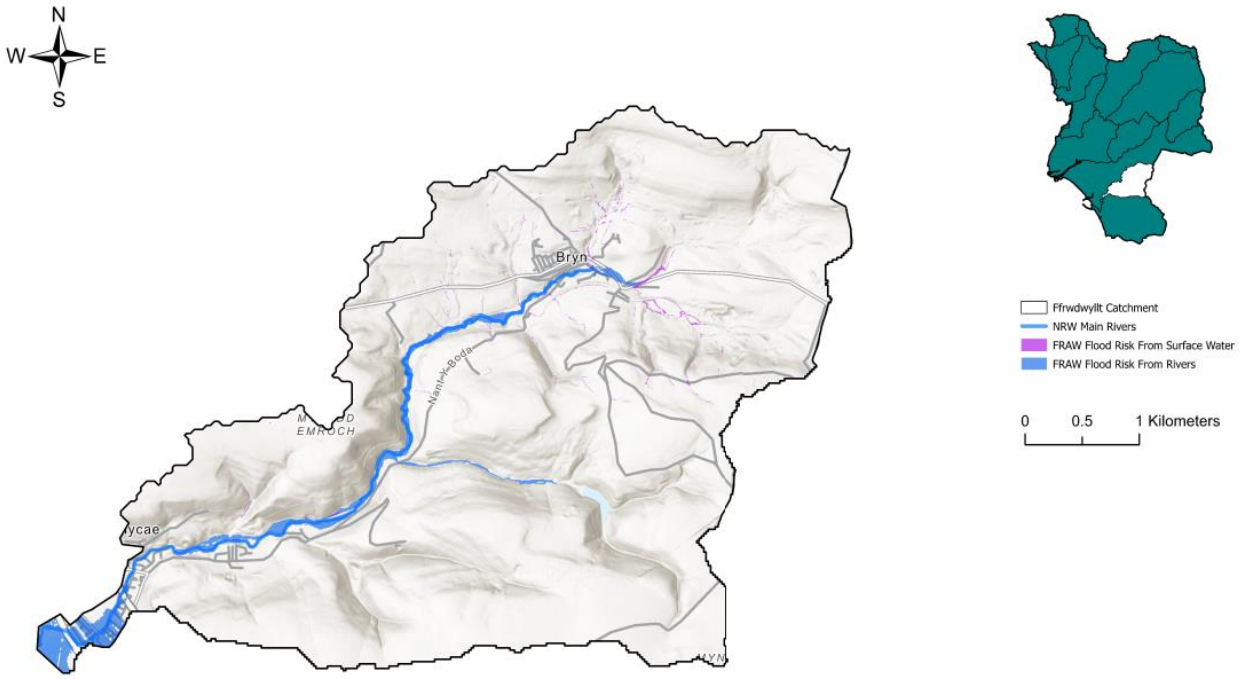


Figure 20: Flood Map of River Ffrwdwyllt (All Sources)

Characteristics and Flood Risk

The Ffrwdwyllt SFRA is located in the south of the county borough and covers circa 2000ha. The catchment is largely rurally with mixed land use ranging from farmland, natural deciduous woodland, and managed forestry plantations. There are three (3) main settlements within the catchment, Bryn, which is located at the head of the river Ffrwdwyllt, Goytre, which is located at the end of the valley and Taibach which is located on the tidal plain, adjacent to Port Talbot town where the river discharges in to the Port Talbot dock. A number of large ordinary watercourses discharge into the Ffrwdwyllt from the east conveying water from Mynydd Margam. The most notable ordinary watercourse is the Cwm Wernderi which at its head is the cwmwernderi reservoir, built in 1902 to supply Port Talbot with drinking water. This reservoir, which is managed by DCWW, has since been decommissioned but remains intact and is a popular destination for local residents. In recent years DCWW, NRW and the LLFA have met to discuss the reservoirs future. Conversations have centred on how it effects the hydrology in the area, its flood risk threat and if it can be reinstated as a natural watercourse or incorporated into an NFM project.

The SFRA shows signs of past glaciation when reviewing information sourced from the British Geological Society, with Glaciofluvial deposits and Devensian till noted to exist at the end of the valley and on the valley walls, respectively. The superficial deposits are predominately formed of sand and gravels meaning the ground is free draining. At Taibach the ground is made up of a mixture of alluvial and tidal deposits of sands, clays, silts and gravels which are also free draining.

There is little fluvial flood risk to properties in the catchment until the river reaches Taibach where the River Ffrwdwllyt is noted to spill out of bank at Taibach memorial park and upstream of the river bridge at Commercial Road. There are a large number of properties at risk from both high and medium flood risk which is not confined to the catchment. The FRAW maps predicts these flood flows to also effect properties is in the neighbouring SFRAs of Afan and Margam. Downstream of this location the council maintains it largest trash

screen and intake structure adjacent to West End. This culvert structure conveys water under the A48, Harbour Way and out into the Port Talbot Dock. As the Ffrwdwyllt discharges out into the docks it is not affected by tidal influences of storm surges resulting in the flood risk from the sea being reduced. This Intake is one of only two critical flood risk assets that the council maintains on a weekly basis which reflects the known low flood risk in the SFRA. The further location can be seen in Appendix H.

There are only four (4) locations at risk of high and medium surface water flood risk in the SFRA, one of which is well known to the LLFA. A problematic culverted watercourse to the rear of the Bryn Community Hall regularly overtops and floods the main road and car park causing nuisance flooding. This culvert is privately owned, and the council has used it powers under the LDA to ensure the landowner maintains the structure accordingly. The other locations are not known to the LLFA, and no records are held on past flooding in these areas. From reviewing the mapping there are two (2) locations where flooding occurs from small ordinary watercourses in Goytre, namely Nant Cwm Y Garn and Cwm Ffairty, and a location in Taibach which is susceptible to highway ponding. These locations will need further review and investigation in order to determine if the FRAW maps show a true representation of surface water flood risk.

Table 19 below highlights in detail the number of properties at risk of flooding in the River Ffrwdwyllt SFRA from all sources and return periods.

River Ffrwdwyllt	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	91	51	183	3	2	66	3	0	0
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	7	10	3	3	6	0	1	0	0
Essential Services in areas at risk of flooding (depth >0.0m)	1	0	3	2	0	2	0	0	0

Table 19: River Ffrwdwyllt SFRA Property Count

Conclusions

From analysing the figures in table 19 against the FRAW mapping it can be concluded that 44% of residential properties within a flood risk area are at high and medium flood risk from rivers. Out of the 91 and 51 residential properties at high and medium risk from river flooding 88 (high) and 49 (medium) are located in Taibach. A further 85 and 23 residential properties are at risk from a 1% AEP event in Afan SFRA and Kenfig SFRA respectively from the same flood source and location. This highlights the significant flood risk posed to Taibach which is the responsibility of NRW to protect against.

The flood risk from surface water and small watercourses is very low and spread across the 4 locations as previously discussed. 92 % of residential properties featured in the count are at low risk with only 8% of the properties at risk and categorised as either high or medium risk.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk

RIVER FFRWDWYLLT FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Maintain, inspect and cleanse two (2) Critical Flood Risk Assets	Annually	Core Activity	BaU
Continue to Liaise with CUL_0741 (Bryn Community Hall) private owner to maintain culvert intake	Annually	Core Activity	BaU
Assess Commercial Road rear lane Surface Water Flood Risk	3-6 Years	Reliant on Flood Revenue Grant	Not Started
Assess Nant Cwm Y Garn ordinary watercourse flood risk	3-6 Years	Reliant on Flood Revenue Grant	Not Started
Assess Cwm Ffairty ordinary watercourse flood risk	3-6 Years	Reliant on Flood Revenue Grant	Not Started
Liaise with NRW on Taibach Fluvial flood risk	3-6 Years	Reliant on Flood Revenue Grant	Not Started

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 7, 8, 9, 10, 12 & 18**

7.6.5 River Kenfig Catchment

Flood Risk Rank: 5th

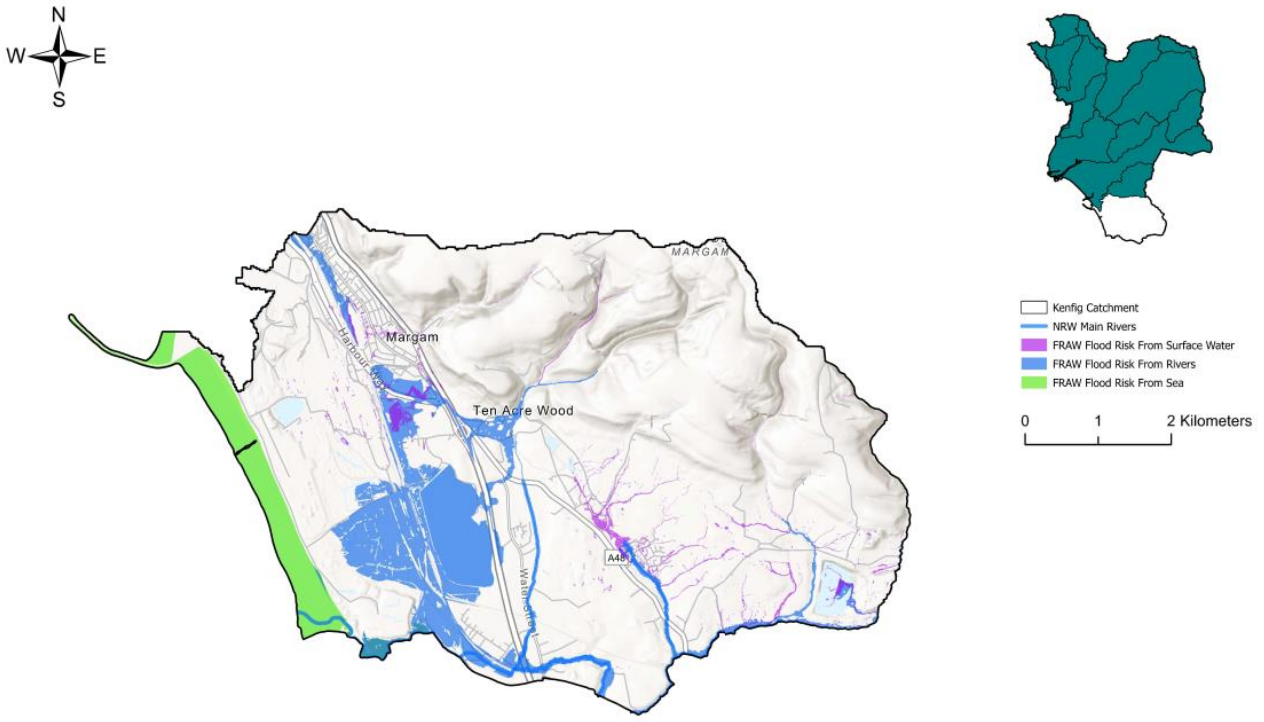


Figure 21: Flood Map of River Kenfig (All Sources)

Characteristics and Flood Risk

Kenfig SFRA is the most southerly pluvial and fluvial catchment in the county borough and boarders Bridgend Council to the south and east. Kenfig's topography and landscape differs from the mountainous catchments of the Afan and Ffrwdwyllt to the north, as it is predominantly characterised by the flat tidal and fluvial plains that borders the sea. Kenfig Dune system (Kenfig Burrows) can be found to the southwest of the catchment and is one of the largest and most ecologically important sites in Wales. This length of coastline stretches from the mouth of the River Kenfig to the Port Talbot docks and has been designated as a 'Hold the line' frontage under the SMP2, Policy Unit 8.2. Although this is a privately owned stretch of beach it is important that TATA maintain this stretch of coastline to protect against flooding from the sea and ensure the integrity of the steel work facility.

To the north, Mynydd Margam is dotted with a number of large ordinary watercourses, conveying water through Margam forest and Margam Country Park, most notable is the River Kenfig which is sourced at the peak of Mynydd Margam. It flows to the east of the catchment forming the border with Bridgend Council where it is classed as an NRW main river from the confluence with the Nant Lorwerth Goch. It then flows westward across the low-lying flood plains before flowing out to the sea. The other two large watercourses that come off the mountains to the north are the Nant Cwm Philip and the Arnallt Brook, both of which are classed as ordinary watercourses.

At the centre of the catchment and halfway down the Nant Cwm Philip watercourse lays the Furzemill Pond that is elevated above Margam Country Park. This pond breaks up the natural flow of the river which is culverted beneath the country park for circa 200m before outfalling into the open channel adjacent to the old Engine House. When reviewing the FRAW maps flood water is shown to break out of channel in a 3.3% AEP event at the pond and intake structure. These flood waters are shown to affect many residential properties in

the area (Ten Acre Wood) as well as the commercial properties to the rear of Abbots Close, including the TATA sports facilities.

To the Northwest the Arnallt Brook flows down from the steep hillside above Margam, which discharges into a reservoir halfway down its catchment. This structure was constructed to supply drinking water to Margam and Port Talbot but has since been decommissioned and is now privately owned. The brook is culverted beneath the M4 and is channelled between the back gardens of private residential properties. It is culverted beneath the A48 Margam Road and beneath the playing fields at Groeswen before flowing out into a series of man-made ditches that run alongside the railway line and Harbour Way Peripheral Distributor Road. After this point it is culverted beneath TATA steel works before discharging out onto the beach fronting the works. It is understood that water from the brook is syphoned off to be used in the manufacturing of steel, though this location is unknown to the LLFA. The Arnallt Brook is a known flood risk location to the LLFA, and two intake structures are maintained on a weekly basis along its length at Beechwood Road and Toronto Avenue to manage this risk. Furthermore, a pumping station was constructed in 2017 to reduce the flooding to the A48 Margam Road which is also managed and maintained by the LLFA.

The two intake structures are two of five critical flood risk assets that are maintained by the LLFA in the Kenfig SFRA. The further locations can be seen in Appendix H. The flood risk posed by this brook is significant and threatens a large number of residential properties in the area, so it is essential that these structures are maintained, and further investigation works are carried out to understand the flooding shown in the FRAW maps.

From reviewing the FRAW maps two further locations are at risk of surface water flooding, Coed Hirwaun, and Prince Street. At Coed Hirwaun a number of residential properties are at risk from the three (3) small watercourse that bisect the village. Although this is shown on the FRAW Maps the LLFA has had no previous reports of flooding in this area so further investigation works will be needed to prove this in an accurate representation of the flood risk in the area. At Prince Street, surface water ponding has been reported to the LLFA in the past as the area is a known low spot in the village. The highway drainage network in the area discharges to a pumping station owned and maintained by the LLFA at this low spot. Although the Pumping Station is known to the authority the drainage system that leads to it is not. Understanding the extent of this system and maintaining it is crucial to preventing large numbers of residential properties from flooding.

Table 20 below highlights in detail the number of properties at risk of flooding in the River Kenfig SFRA from all sources and return periods.

River Kenfig	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	29	24	239	230	44	345	0	0	0
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	13	6	21	8	5	24	0	0	0
Essential Services in areas at risk of flooding (depth >0.0m)	0	4	6	3	3	8	0	0	0

Table 20: River Kenfig SFRA Property Count

Conclusions

The 29 residential properties that are at high risk of flooding from rivers and large watercourses are located in Ten Acre Wood on the edge of the Margam Park Estate. Out of the 24 residential properties at risk of flooding in a 1 in 100-year rainfall event (medium risk), 23 of them are located on the boundary with the Ffrwdwyllt SFRA that has been discussed in the chapter 7.6.4. 82% of the residential properties that are at risk of flooding

in this SFRA are classed as Low Risk and all are at risk from the river Ffrwdwyllt which floods out into the Kenfig Catchment.

Table 20 shows that there are a larger number of properties at risk of surface water and small watercourse flooding in Kenfig SFRA. The 230 residential properties at high risk represent 37 % of the total at risk properties counted making it one of the largest percentages in the country borough. Out of the 230 residential properties 203 are situated across the 3 previously mentioned locations of Prince Street, Coed Hirwaun and Margam. Taking into the account the properties at risk, Kenfig would be considered as a high risk SFRA

Further to the above NRW have identified Margam CaRR as a location of future flood risk from rivers and large watercourses (Figure 13) in their recent FRMP report, highlighting the risk posed to residential properties through the effects of climate change.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk

RIVER KENFIG FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Undertake Feasibility Study at Margam (Arnallt Brook)	1-3 Years	Reliant on WG Capital Funding	Not Started
Undertake Feasibility Study at Ten Acre Wood, Margam	1-3 Years	Reliant on WG Capital Funding	Not Started
Map, inspect and maintain Drainage Apparatus at Prince Street, Margam	1-3 Years	Reliant on Flood Revenue Grant	Not Started
Assess surface water flood risk at Prince Street	1-3 Years	Reliant on Flood Revenue Grant	Not Started
Assess ordinary water course flood risk at Coed Hirwaun	1-3 Years	Reliant on Flood Revenue Grant	Not Started
Maintain, inspect and cleanse five (5) Critical Flood Risk Assets	Annually	Core Activity	BaU
Continue to inspect the coastline (PU 8.2) and Liaise with Tata on responsibility's to 'Hold the line'	Bi-annual	Core Activity	BaU

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 5, 6, 7, 8, 9, 10, 12, 14 & 14**

7.6.6 Neath Vale Catchment

Flood Risk Rank: 3rd

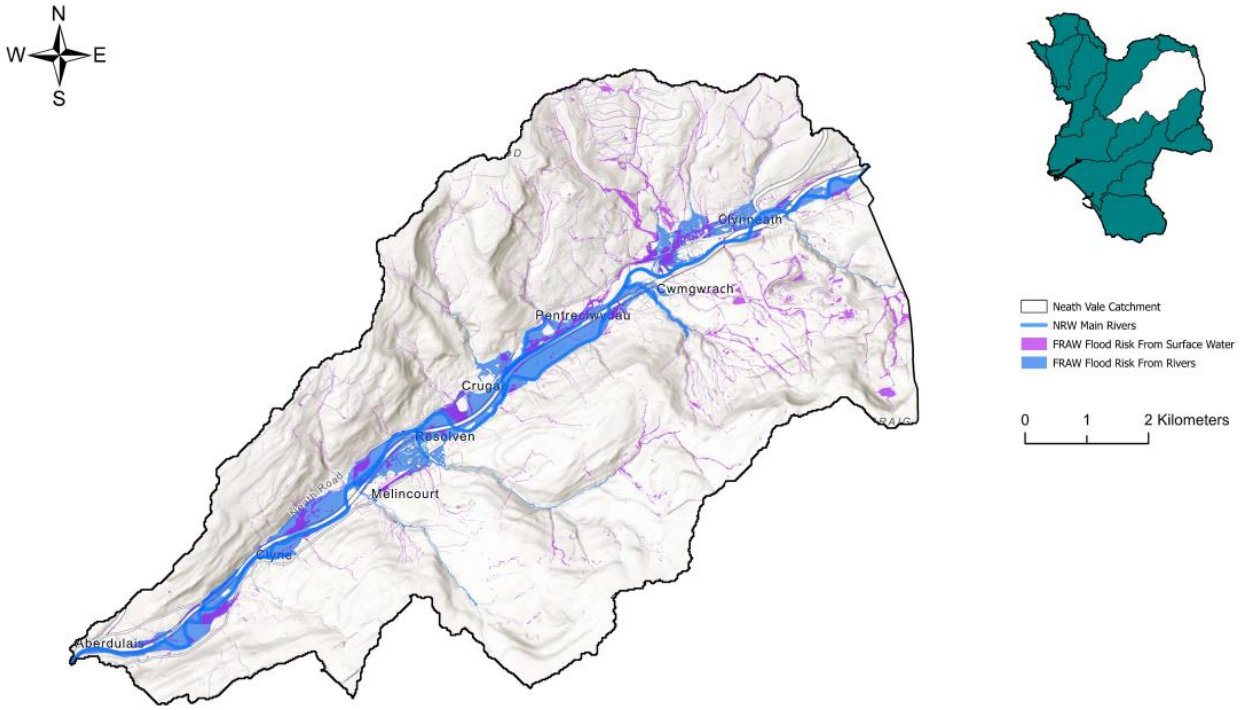


Figure 22: Flood Map of Neath Vale (All Sources)

Characteristics and Flood Risk

The Neath Vale SFRA is the largest in the county borough at circa 7500 ha and covers the upper most section of the River Neath within NPTCBC. To the northeast the river meanders down from the Brecon Beacons and enters the wide valley of Neath Vale at Pontneddfechan. Neath Vale is a typical glaciated valley characterised with a wide valley floor and bordered by steep hillsides in a U shape. Running in a southwest/northeast direction the valley floor is a fertile flood plain made up of alluvium deposits of clay, silts, sands and gravels making the ground free draining. The valley floor is dotted with a number of farmed fields along with two (2) large settlements, Glynneath and Resolven, and five (5) smaller villages, Clyne, Cwmgwrach, Blaengwrach, Melincourt and Abergarwed. On the north side of the vale the hillside is dominated by the managed conifer plantations of Rheola forestry, rising to 480 AOD and bordered by the Sarn Helen Roman Road that marks the boundary with the Dulais SFRA. On the southern hillside mixed farmland, natural deciduous and coniferous plantations, open moorland, and the Ffynnon Oer Windfarm make up the landscape, which rises to 493 AOD and boarders Glyncorrwg and Pelenna SFRA.

The river naturally meanders down the centre of the valley floor which it shares with the A465 dual carriageway, the B4242 carriageway and Neath Canal. Where the river is crossed by the highway the river is channelled by large training walls particularly around the settlements of Glynneath and Resolven. The River Neath is classified as an NRW main river although upon inspection of the FRAW maps the main flood risk with this SFRA does not come from the River Neath. A large number of ordinary watercourses discharge into the River Neath from the Valley sides and it is from these sources where the majority of the flood risk is realised. Significant flood risk in the town of Glynneath and villages of Blaengwrach and Cwmgwrach are depicted on the FRAW mapping which makes up the majority of flood risk from Rivers and Large Watercourses in Neath Vale SFRA. Four (4) large ordinary watercourses namely, Nant Y Gwyddyl,

Gellicaebryn Brook, Addoldy Brook and the Nant Pergwm all flow down from the hillside to the north of Glynneath and bisect the residential and commercial properties via a series of open channels and culverts. To the south two (2) tributaries, Nant Blaen Clairch and the Nant Gwrach (NRW Main River) split the villages of Cwmgwrach and Blaengwrach, and both pose a flood risk to residential properties.

To the east of Glynneath the ordinary watercourses, Nant Y Gwyddyl and Gellicaebryn Brook pose a significant flood risk to the town centre. In the summer of 2022, the construction of a Flood Alleviation Scheme (FAS) developed by NPTCBC and funded by WG commenced to address this flood risk. The project was split into two (2) phases, the construction of a new overflow culvert to take excess flows from the Gellicaebryn brook directly out to the River Neath and the construction of a new twin box culvert to replace a ford crossing on the Nant Y Gwyddyl, Glynmelyn Road. This project was completed in spring 2024 and removes 252 residential and commercial properties from flooding up to and including a 1 in 100-year rainfall event.

To the west of Glynneath the ordinary watercourses of Addoldy Brook and Nant Pergwm bisect the residential development of Morfa Glas through a series of open channels and culverts. The perched watercourse of Nant Pergwm ultimately discharges into the River Neath while the Addoldy brook discharges into the Neath Canal to the west and is culverted beneath the open channel of the Nant Pergwm near St Cadoc's Church. This area has already briefly been assessed and NPTCBC are in the process of seeking funding to develop a business case.

The flood risk from surface water and small watercourses is spread out around the SFRA but pockets of larger numbers can be seen in Clyne, Neath Road, Resolven, Morfa Glas, Glynneath and Ynyslas Crescent, Glynneath. At all 4 locations small un-named ordinary watercourses are depicted to flood residential and commercial properties. Two (2) of the four (4) locations are a known and can be discounted at Ynyslas Crescent and Neath Road, Resolven as the LLFA inspects and maintains two (2) critical flood risk assets which have not been considered by the FRAW mapping. Further investigations will be required at Clyne and Morfa Glas to determine if the FRAW maps show a true representation of risk. The LLFA monitors and maintains 11 critical flood risk assets in the Neath Vale SFRA in order to minimise the effects of flooding. All locations can be seen in appendix H.

Table 21 below highlights in detail the number of properties at risk of flooding in the Neath Vale SFRA from all sources and return periods.

Neath Vale	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	625	199	1153	305	78	331	0	0	0
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	54	12	98	44	6	23	0	0	0
Essential Services in areas at risk of flooding (depth >0.0m)	9	3	16	6	2	4	0	0	0

Table 21: Neath Vale SFRA Property Count

Conclusions

Table 21 highlights a significant flood risk for rivers and surface water in the Neath Vale SFRA. Out of the 625 residential properties at high risk of flooding from rivers 618 (99%) of them are situated in the town of Glynneath and the villages of Blaengwrach and Cwmgwrach, at the head of the valley. This is similar to the residential properties at medium risk with 180 out of the 199 situated in the same locations. Following this assessment and the completion of the Glynneath FAS in 2024 the numbers of at-risk properties will be reduced by 252 when NRW next update the FRAW mapping.

From the residential properties at risk from surface water and small watercourses 42% are at high risk and a further 11% at medium risk from flooding in a 1 in 100-year rainfall event. As previously mentioned, larger numbers of at-risk properties are centred on the four locations of Morfa Glas, Glynneath, Clyne, Neath Road, Resolven and Ynyslas Crescent, Glynneath. 210 high risk and 38 medium risk residential properties at risk are situated at these localities, representing 69% and 49% of their respective counts. Taking into the account the properties at risk Neath Vale would be considered as a high risk SFRA.

Further to the above NRW have identified in their recent FRMP that the CaRR communities of Glynneath and Resolven are most at risk of flooding from rivers (Figure 12) and Morfa Glas community at risk of future flooding through the effects of climate change (Figure 13). Any future project or business case development should therefore consider the SOP. This further reinforces the understanding the high flood risk posed to residents in this SFRA.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk

NEATH VALE FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Undertake Feasibility Study at Morfa Glas to include flood risk from watercourses and surface water.	1-3 Years	Reliant on WG Capital Funding	Not Started
Undertake Feasibility Study at High Street, Blaengwrach	1-3 Years	Reliant on WG Capital Funding	Not Started
Assess ordinary watercourse flood risk at Ynyslas Crescent	1-3 Years	Reliant on Flood Revenue Grant	Not Started
Assess ordinary watercourse flood risk at Neath Road, Resolven	1-3 Years	Reliant on Flood Revenue Grant	Not Started
Assess ordinary watercourse flood risk at Clyne	1-3 Years	Reliant on Flood Revenue Grant	Not Started
Maintain, inspect and cleanse eleven (11) Critical Flood Risk Assets	Annually	Core Activity	BaU

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 5, 6, 7, 8, 9, 10, 12, 14, 15 & 18**

7.6.7 Afon Pryddin Catchment

Flood Risk Rank: 12th

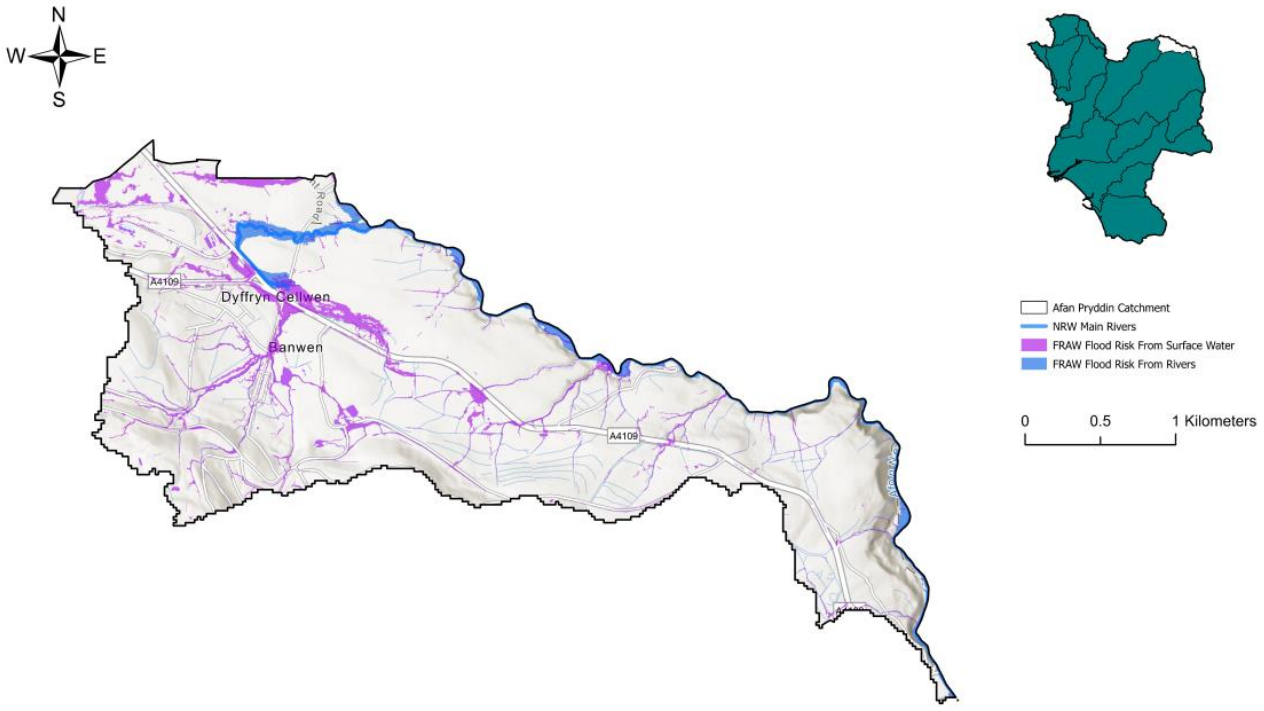


Figure 23: Flood Map of Afon Pryddin (All Sources)

Characteristics and Flood Risk

The Afon Pryddin SFRA is one of the smallest catchments in the county borough (circa 750 ha) and is one of the rivers that feed into the Neath Vale SFRA. The Afon Pryddin marks the boundary with Powys County Council and the Brecon Beacons National Park. It is a well know spot for hikers as the channel is dotted with a number of large waterfalls as it flows down the river valley to Pontneddfechan. It is important to note that this SFRA is only a small section of the much larger Afon Pryddin catchment that is situated across the two county councils. Within NPTCBC the only noteworthy tributary that feeds into the Afon Pryddin is the River Camnant. This river is fed by smaller ordinary watercourses that drain the hillside behind the villages of Dyffryn Cellwen and Banwen and is classified as a main river from the Camnant Road culvert crossing. This watercourse is the source of the only river flooding that occurs within this catchment and effects a small number of property's in Banwen, as can be seen in the Figure 22 and Table 22.

Dyffryn Cellwen and Banwen are the only two settlements in the Afon Pryddin SFRA and are situated to the west of the catchment. The area is bisected by the A4109 Intervalley Road which is the main road between the Neath and Swansea Valley communities. To the south of the catchment the managed forestry plantations dominate the landscape, along with the Rheola Windfarm which is set high on the ridgeline above Banwen. The Sarn Helen Roman Road runs down from this ridgeline and forms the main road through the village of Banwen before crossing the A4109 towards the direction of the Brecon Beacons National Park. It is along the Roman Road and Camnant Road where the majority of surface water flooding can be seen on the FRAW mapping. The Blaen Nantcellwen is a small ordinary watercourse that comes down off the hillside behind Roman Road, Banwen and Main Road, Dyffryn Cellwen. It is fed by a number of smaller rivulets that converge at the junction between these two roads. Here a small number of properties are at risk of flooding as it passes beneath a culvert at the junction and flows downstream to the confluence with the river Camnant. This confluence is located at the junction between the A4109, and Roman Road and it is here where another small number of properties are at risk of flooding.

The drainage in the Afon Prydinn SFRA has been fully surveyed, mapped out and inspected. The LLFA has a good understanding of the drainage systems and characteristics in the area and receives very few flood calls for this area as the highway and land drainage networks effectively drain the landscape. The only location know to the authority that is subject to periodic flooding is depicted well on the FRAW maps at Camnant Road. In recent years, the LLFA has upgraded the highway drainage network at this location to ensure surface water is effectively drained into the River Camnant, though ensuring this is regularly inspected and cleansed is essential to mitigate against flood risk.

Table 22 below highlights in detail the number of properties at risk of flooding in the River Pryddin SFRA from all sources and return periods.

Afon Pryddin	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	5	1	0	22	4	38	0	0	0
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	0	0	0	1	0	1	0	0	0
Essential Services in areas at risk of flooding (depth >0.0m)	0	0	0	1	0	0	0	0	0

Table 22: Afon Pryddin SFRA Property Count

Conclusions

Table 22 reflects the understanding of NPT officers that the Afon Pryddin SFRA is a very low flood risk from rivers and surface water. Only 6 properties are at risk from flooding from rivers in the area, all of which are located at Camnant Road. Of the properties at high and medium risk of flooding from surface water and small watercourses, 13 are also located on Camnant Road. There are no CFRA's in the SFRA which further reflects the flood risk status in this catchment area.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk

AFON PRYDDIN FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Continue to maintain and inspect the highway drainage system at Camnant Road	Annually	Core Activity	BaU
Assess the ordinary watercourse and fluvial flood risk at Camnant Road	6+ years	Reliant on Flood Revenue Grant	Not Started

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 12**

7.6.8 River Dulais Catchment

Flood Risk Rank: 7th

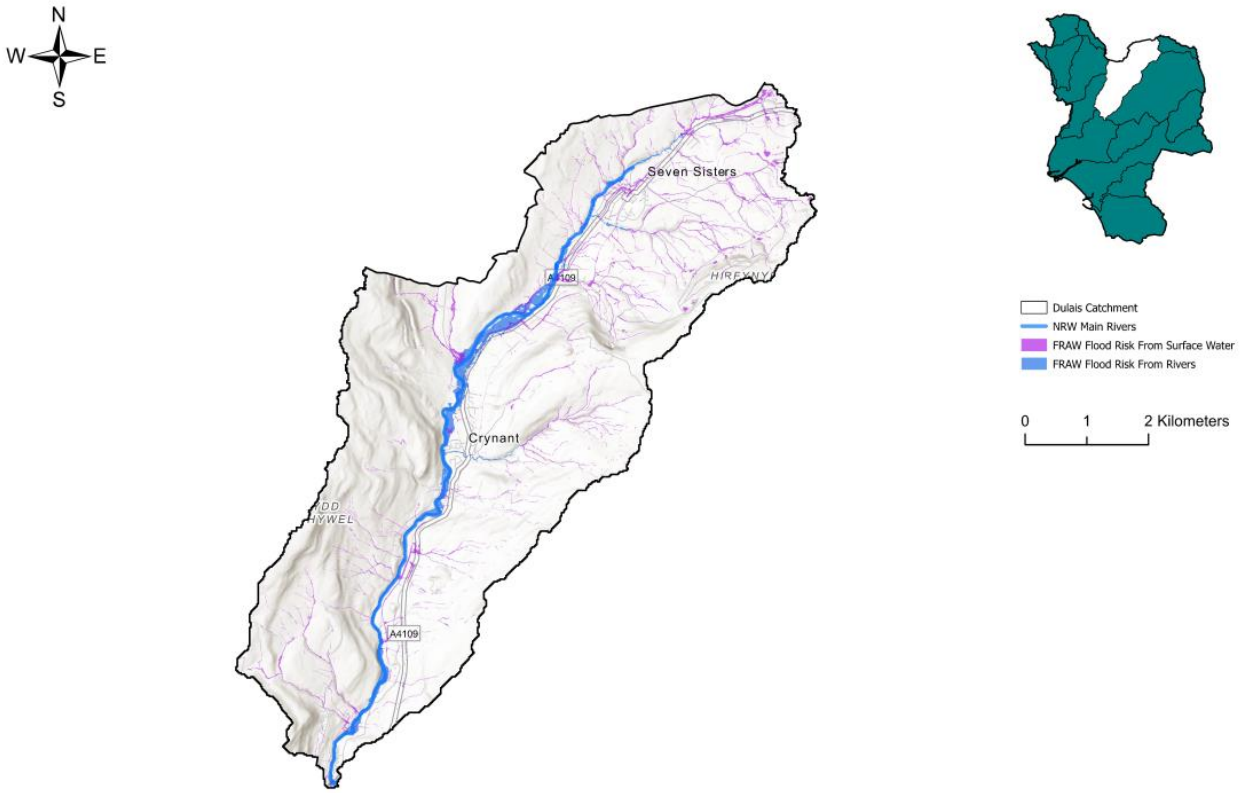


Figure 24: Flood Map of River Dulais (All Sources)

Characteristics and Flood Risk

The River Dulais is the largest tributary of the River Neath which converges at Aberdulais at the southern end of the SFRA. The Dulais valley is a glaciated valley characterised with a typical U-shaped valley and wide valley floor. The superficial deposits of glacial till are overlaid with large deposits of alluvial deposits of clay, silts, sands and gravels across the River Dulais flood plain. The valley runs in a northeast – southwest direction, narrowing in the lower reaches as the river cuts a deep gorge into the landscape as it approaches the confluence with the River Neath. Many large ordinary watercourses drain the Rheola forestry to the east and Mynnydd Y Drum and Mynydd Y Marchywel to the north and west respectively, which ultimately discharge into the River Dulais.

There are 2 large villages in the area situated on the valley floor, Crynant and Seven Sisters, and 2 smaller villages, Nant Y Cafn and Onllwyn. Although they are situated on the valley floor these settlements are away from the river Dulais flood plain. When assessing the fluvial flood risk in the catchment there are very few properties at high or medium risk of flooding from the river, though flooding from surface water and small watercourses is high.

From analysing the flood risk from surface water and small watercourses it can be seen that there are five (5) locations at risk up to and including a 1 in 100 year rainfall event, Golwg Y Bryn, Seven Sisters; Mary Street, Seven Sisters; High Street & Church Road, Seven Sisters; Treforgan Road, Crynant; Heol Y Berllan, Crynant.

Golwg Y Bryn is a known flood location within the SFRA and is a low spot on the adopted carriageway. There is a known culverted watercourse that crosses this location that has blocked in the past, causing flooding to resident's properties and the highway. Furthermore, highway drainage systems discharge into this culvert from both directions, it is therefore essential this system is cleansed and inspect periodically to mitigate the flood risk.

Mary Street is also a well-known flood risk location and investment has been made into the drainage infrastructure in recent years. A new culvert and intake bay was constructed in 2023 to mitigate against the flood risk from the ordinary water, which is now bypassed to another culvert in the rear lane during periods of intense rainfall. Furthermore, a number of highway gullies line the edge of the carriageway that have not been included in the FRAW model which would likely remove the majority of the flood risk shown.

Significant flood risk of 70 residential properties can be viewed on the FRAW maps in Seven Sisters, particularly around High Street and Church Road. The source of this flood risk comes from an unnamed watercourse that crosses Heol Y Felin through a large diameter box culvert and is then culverted beneath the NWR mineral line. It is at this point where water is shown to spill out of bank and flow to the southwest, threatening the properties in Seven Sisters. This flood risk has never been realised, and it is our assumption that the culvert beneath the NWR mineral line has not been included in the FRAW model. This will need to be verified and investigated further in order to either discount or prove this flood risk extent.

The flood risk at Treforgan Road, Crynant is a location well known to the LLFA and there are many instances of flooding held on record from both surface water runoff and the Nant Meurig which bisects the village of Treforgan. The culvert crossing here forms part of the critical flood risk asset list, (further locations can be seen in appendix H) which is one of five maintained in the Dulais SFRA. The LLFA has invested in additional infrastructure on the highway to cope with the surface water runoff during periods of intense rainfall and maintain the large culvert crossing on a weekly basis, removing sediment build up periodically. Monitoring and maintaining these assets is essential for mitigating flood risk in the area.

The flood risk at Heol Y Berllan, Crynant is not known to the LLFA, and no records are held on file to suggest any past flooding or ponding issues. When assessing the mapping it is seen that accumulations of surface water effect 18 properties. The flood accumulations are show on private land, at the front or rear of the properties. The source of this is also not clear and any surface water would be drained by private roof and yard gully pots which would not have been included within the model. We therefore believe this flood risk is not representative and would not be a risk that the LLFA would be responsible for finding a solution for.

Table 23 below highlights in detail the number of properties at risk of flooding in the River Dulais SFRA from all sources and return periods.

River Dulais	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	1	2	78	197	35	193	0	0	0
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	3	16	16	19	3	12	0	0	0
Essential Services in areas at risk of flooding (depth >0.0m)	0	0	1	2	1	5	0	0	0

Table 23: River Dulais SFRA Property Count

Conclusions

Table 23 highlights the flood risk from surface water and small watercourses as the primary flood risk in the Dulais SFRA. Of the 425 properties at risk from this source of flooding 55% of them are at high and medium risk. Of these 232 properties 161 (70%) are located in the five locations discussed, the other 30% are located in small numbers dotted around the SFRA of no more than 3 properties in one location. The Dulais SFRA would therefore be classed as a medium flood risk area.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk

RIVER DULAIS FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Maintain and inspect drainage apparatus at Golwg Y Bryn, Seven Sisters	Annual	Core Activity	BaU
Assess the ordinary watercourse flood risk at Golwg Y Bryn, Seven Sisters	3-6 years	Reliant on Flood Revenue Grant	Not Started
Include Mary Street Intake on the Critical Flood Risk Asset Inspection Programme	1-3 years	Core Activity	Not Started
Assess the ordinary watercourse flood risk at High St and Church Rd, Seven Sisters	3-6 years	Reliant on Flood Revenue Grant	Not Started
Maintain, inspect and cleanse five (5) Critical Flood Risk Assets	Annual	Core Activity	BaU

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 7, 8, 9, 10, & 12**

7.6.9 River Neath Catchment

Flood Risk Rank: 1st

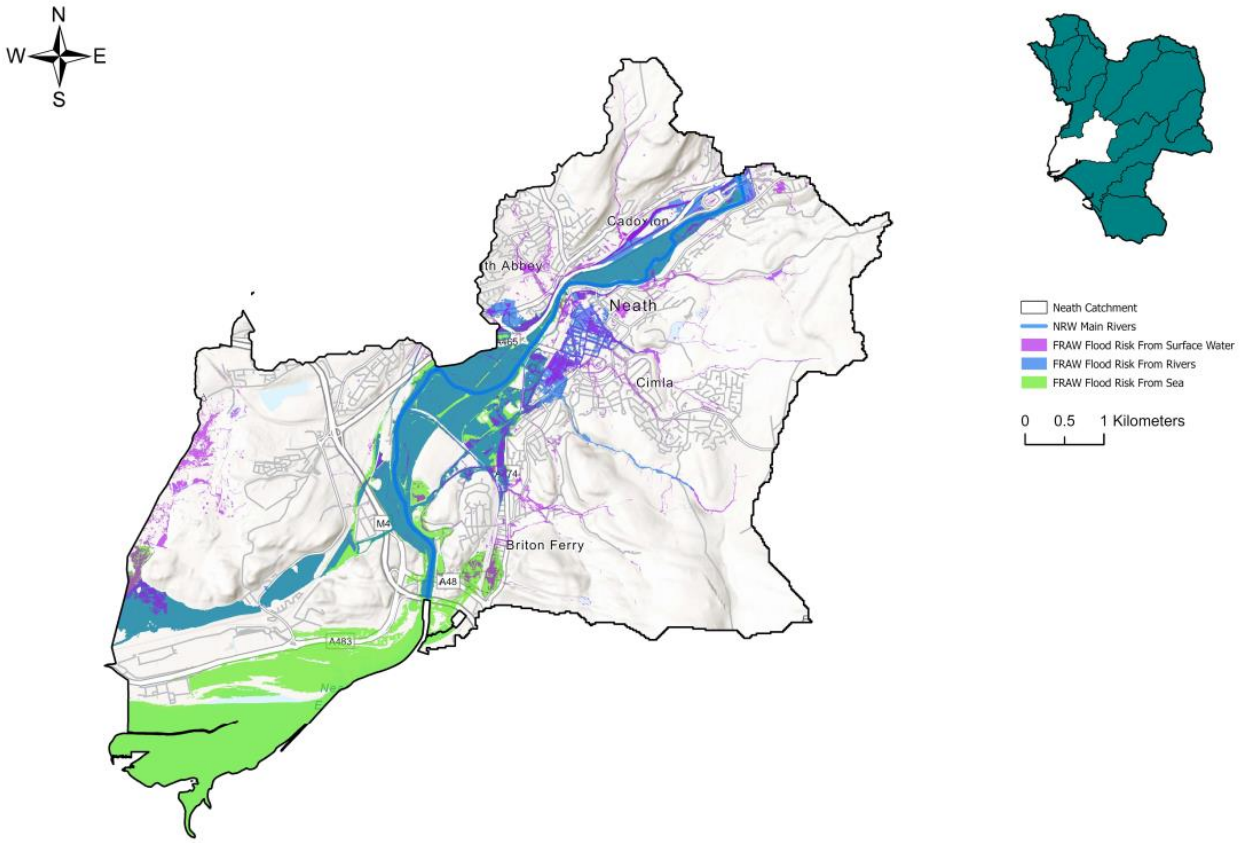


Figure 25: Flood Map of River Neath (All Sources)

Characteristics and Flood Risk

The River Neath catchment is the most at risk SFRA in the authority, ranked first across all flood risk sources. (Appendix G) The extent of flood risk can be seen in figure 24 above. In the recent NRW FRMP report the CaRR communities of Neath and Briton Ferry (which both fall in the Neath SFRA) represent 2 of the nation's 33 Flood Risk Areas (Figure 11). Furthermore, the communities of Aberdulais, Neath and Briton Ferry have been identified as communities at most risk of flooding from rivers and the sea (Figure 12). In addition, the communities of Neath and Briton Ferry have been identified as communities at risk of future flooding through the effects of climate change (Figure 13). These risks indicate the severity of flooding from all sources within the Neath SFRA and is one of the LLFAs biggest challenges to address.

The Neath SFRA represents the lower part of the River Neath as the mouth of the river discharges into the sea at Swansea Bay. There are 2 large river tributaries that feed into the SFRA, at Aberdulais where the River Dulais joins the River Neath, and at Neath Abbey where the River Clydach discharges out onto the Neath flood plain. Further to these, a number of large ordinary watercourses discharge out into the River Neath that flow through the urbanised areas of Briton Ferry and Neath, watercourses that include the Grandison Brook, Cryddan Brook, Gnoll Brook and Nant Cwm-bach. Currently all of these large ordinary watercourses and catchments form part of the LLFA FCERM programme with the WG, which indicates the prioritisation of projects already underway in the Neath SFRA.

The topography and landscape of the Neath SFRA is varied but is largely man made, as the river is constrained either side by large urban areas. The estuary is dominated by tidal flats, marshes and rivulets which are crossed by the major highways of the M4 and A48, and the county railway line. To the east of the estuary lays the former industrial dock of Briton Ferry that is now largely made up of residential and smaller commercial buildings. The dock is still operational and is maintained by Associated British Ports (ABP). Briton Ferry to bisected by the great western railway line to London that makes its route north through Neath before crossing

the estuary at its narrowest point at Neath Abbey. Additionally, the Neath Canal runs up the east side of the river through the town of Neath until it converges with the Tennant canal at the Aberdulais aqueduct, which marks the extent of the SFRA. To the east of the urban areas lays the Mynydd Y Gaer and Cefn Morfudd hillsides that rise up to 300m AOD and that channel water down to the town of Neath, and villages of Briton Ferry and Tonna. To the west the major highway of the A465, NWR mineral line and Tennant Canal clinch the west bank of the river that skirt the edge of the villages of Skewen and Neath Abbey. To the south the large expanse of Crymlyn and Baglan Burrows dune systems flank the River Neath as the navigational channel stretches out into the Swansea Bay. Adjacent to the Crymlyn Burrows the A483 Fabian Way leads traffic into Swansea city and forms part of the county's critical highway network. The hillside rises up to Mynydd Marchywel to the north of the catchment where the villages of Bryncoch, Cadoxton, Cilfrew and Aberdulais are located.

The LLFA inspects and maintains 21 critical flood risk assets in the Neath SFRA, which further indicates the severity of the flood risk and the importance of the LLFA to continually monitor and cleanse these structures in order to mitigate against flood risk. A list of these critical flood risk assets can be seen in Appendix H.

When assessing the FRAW mapping it shows coastal flooding effects the villages of Briton Ferry and Melyn Cryddan. There are three locations at risk, Milland Road Industrial Estate and Pant Yr Heol which are at high risk of flooding and the residential area around Hunter Street and Regent Street at medium risk of flooding. Although this risk is shown to be extensive no flooding has occurred here from purely coastal flooding, though interactions with the main watercourses (Cryddan Brook) becoming tide locked at Milland Road is well known to the LLFA. Solutions to mitigate against these interactions are currently being reviewed through the development of the Cryddan Brook FAS business case.

The coastal flood risk shown to the residential area of Pant Yr Heol is not well understood and further studies will be required to better understand and mitigate against this source of flooding. The coastal flood risk for the area of Hunter Street and Regent Street in Briton Ferry forms part of a study undertaken in 2018 and 2019. The LLFA developed a business case to protect these residents under the WG Coastal Risk Management Programme (CRMP) that did not develop passed the outline business case (OBC) stage due to funding and prioritisation, with Aberavon CRM project being favoured over the Briton Ferry Project. Should further funding become available the Briton Ferry CRM Project would be revisited and progressed to FBC.

The fluvial high and medium flood risk from the River Neath is surprisingly minimal when analysing the FRAW mapping, with Canal Side, Aberdulais being the only location at risk from the main river. Two major flooding incidents effected this location in October 2018 and February 2020, following periods of prolonged and intense rainfall, which led NRW to start a thorough investigation and begin developing a solution to mitigate against the flood risk. Although the Neath SFRA is very urbanised the River Neath has a large flood plain that has not been built on, allowing the river to naturally flood this area of land means that during large storm events the river can spill out of the main channel without severely effecting properties or infrastructure. Although there is little direct flooding from the River Neath the interactions it has with the ordinary watercourses that discharge into it does have a major effect on flood risk particularly when the river is in spate or when there are spring tides.

There are two (2) main locations in the SFRA where large ordinary watercourses show significant flood risk. At Melyn Cryddan and Neath Town Centre. The flood risk at Melyn Cryddan is well understood and comes from the Cryddan Brook that is channelled through the village of Melyn. Its catchment is one of the largest in the authority for an ordinary watercourse and is largely natural open channel until it reaches the edges of the urbanised area at Old Road and Eaglesbush. From this point downstream it is either channelled between walls or culverted. It is at St Catherine's Close and Milland Road where water is known to break out of channel and flood both residential and commercial properties. The flood risk here is well documented and has formed part of the LLFA's FCERM Programme since 2022, with development of the OBC completed in 2024. There have been a number of flooding incidents at this location over the last 8 years with the largest noted in the S19 flood investigation report, November 2022. Minor adjustments made in 2022 to the intake bay and screen to make it safer for operatives to clean and attend during rainfall events we carried out, though this does not address the main reason for flood risk which is an undersized culvert. The LLFA will continue to progress this project and Buisness Case in the coming years.

Neath town centre is shown to be affected by significant flooding from the Gnoll Brook which leads down from Cefn Morfudd and the Gnoll Country Park. This brook is fed by a number of smaller tributaries and

drains that covey water away from the large residential area of Cimla. The brook, like many in NPTCBC is very flashy in nature and can carry significant amounts of debris down the channel that is often the main cause of flooding to the area. The flood risk is known to the LLFA and is understood to break out of channel along Gnoll Drive before flowing into the nearby residential streets. It is from Gnoll Drive where the brook enters the town, with the upstream largely natural except for the lower Gnoll Park pond that breaks up the rivers flow. Downstream at Gnoll Drive the watercourse is culverted beneath Neath town centre via a large diameter pipe until it discharges into the River Neath at Parr Avenue. To mitigate against flood risk the LLFA has implemented a number of NFM projects in the catchment since 2021 that aim to reduce the amount of debris being carried downstream along with reducing the peak flow during rainfall events. Three (3) further projects have been approved to be constructed in 2024 and 2025 that will further assist with mitigating the flood risk to the town centre. It is understood that a feasibility study into the flooding at Neath town centre will need to be carried out to quantify the benefits the NFM works have made to the flood risk and to further understand what is required to remove a large amount of residential and commercial property's from flood extents up to a 1 in 100 year rainfall event.

Neath SFRA has the highest surface water and small watercourse flood risk in the county with over 1800 residential properties at risk from a high and medium risk rainfall events. When analysing the FRAW mapping the flooding is widespread and not all can be discussed in this report. There are however nine (9) areas where there are large accumulations of flood risk. These are at Regent Street and Rockingham Terrace, Briton Ferry; Pant Yr Heol and Ynysymaerdy, Briton Ferry; Afan Valley Road, Cimla; Melyn Cryddan, Neath; Neath Town Centre; Llantwit Road, Neath; Heol Dyddwr, Tonna; Stanley Place, Cadoxton; Ffrwd Vale, Neath.

The flood risk depicted on the FRAW maps at Regent Street and Rockingham Terrace is significant and widespread, though not physically known to the LLFA. There are two (2) underpasses in the vicinity that cross beneath the railway line that periodically flood. These low spots in the highway are served by respective pumping station drainage apparatus that are owned and maintained by NWR. Ensuring open dialog and engagement between the LLFA and NWR is essential at managing the flood risk in these vicinities. Furthermore, the surface water drainage apparatus in the area discharges into the combined sewerage network as no watercourses exist in the area. It is therefore essential that open communications and engagement is made between DCWW and the LLFA to manage this risk. It is for the LLFA to ensure the surface assets in the area are regularly cleansed so to reduce the risk of flooding to these property's but for all 3 organisations to carry out their responsibility and communicate with each other.

The areas at risk from surface water flooding at Pant Yr Heol, Ynysymaerdy and Melyn Cryddan are being addressed through their respective FCERM Business case development projects, Grandison Brook FAS, and Cryddan Brook FAS. The flood risk posed to Neath town centre is represented to occur from Gnoll Brook and will be covered in a feasibility study planned to fully understand the flood risk to the town centre. Furthermore, as surface assets have not been considered in the FRAW model we believe the true representation of flood risk would be reduced if included, though it is important that these assets are cleansed and maintained effectively in high and medium risk areas.

The residential area of Afan Valley Road, Cimla is not known to the LLFA as a flood risk area and no records exist to show previous flooding. This area will need further investigation to understand the existing drainage networks and mechanisms for flooding, before the FRAW maps representation can either be discounted or agreed upon.

The flood risk from surface water and small watercourses shown at Llantwit Road, Tonna is known to the authority with anecdotal evidence of past surface water flooding. The FRAW mapping however does not consider the 2 large culverts that convey water under Llantwit and out to the river Neath, as well as serve the highway drainage network in the area. A modelling assessment should be made including the 2 large culverts at Ivy Avenue and Llantwit that cross this area to provide the LLFA with a true assessment of risk.

The flood risk shown by the FRAW mapping at Heol Dyddwr, Tonna is not known to the LLFA, and little evidence exists that alludes to past flooding issues apart from minor localised ponding. The area is known to be in a low spot on the carriageway and to the rear of the properties a known brook passes behind the gardens. A full assessment of drainage apparatus should be undertaken in the area to represent the mechanisms of draining the highway, as well as an assessment of the culverts and open channels that convey the ordinary watercourse through the area of Tonna. Once this has been undertaken a new model can be built to show the true representation of risk that can further aid with investigations.

Stanley Place flood risk is well known to the LLFA and is well represented on the FRAW mapping. The location has been part of the WG FCERM programme for the last 2 years following a number of large overtopping events at the intake bay. The LLFA has progressed the project through the various phases of business case development and are due to start construction in summer 2024. This project will protect 17 properties from a 1% AEP rainfall event and make it easier to cleanse and maintain the structures which fall under council ownership.

Ffrwd Vale is another location known to the LLFA following a number of flooding incidents over the last 10 years. On the occasions it has flooding the causes have been due to the lack of riparian maintenance of the brook at location where it passes through gardens. The LLFA maintain a critical flood risk asset adjacent to the footpath in the area however, this has not caused an issue and is regularly maintained. There are two (2) small ordinary watercourses in the area that converge at Ffrwd Vale, and a detailed assessment of the risk should be made and surface and sub-surface assets represented in a model to provide a true representation of the risk.

Table 24 below highlights in detail the number of properties at risk of flooding in the River Neath SFRA from all sources and return periods.

River Neath	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	972	830	764	1404	419	2265	345	718	182
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	410	142	96	248	100	338	81	39	31
Essential Services in areas at risk of flooding (depth >0.0m)	24	9	6	23	10	32	8	7	6

Table 24: River Neath SFRA Property Count

Conclusions

Table 24 highlights the flood risk from all sources and reflects the understanding drawn from the catchment assessment. Multiple locations are at high and medium risk of flooding from all sources in Neath SFRA. In total 1802 residential properties are at risk of flooding from river and large watercourses up to a 1% AEP rainfall event, this represents 70% of the property's that fall into a flood risk area. Of the residential properties at risk from surface water and small watercourses 45% (1823) are at risk from a 1% AEP rainfall event. Furthermore 1063 residential properties are at risk from flooding from the sea at a 1 in 100-year rainfall event which represents 85% of the properties counted. Of the 1802 properties at risk from flooding from rivers and large watercourses only 33 are at risk from the River Neath. 26 are at risk from the River Clydach that is shown to spill out of bank and flood properties across this catchment area and will be discussed in the next section. The remaining 1703 residential properties are either effected by the Cryddan Brook or Gnoll Brook which are in business case development phase to provide a solution to mitigate this risk.

Of the 1063 residential properties at flood risk from the sea at a 1% AEP event, 698 are located at Briton Ferry and subject to a further WG CRMP funding can be removed from a flood risk area with the development of the Briton Ferry CRM Project. A further 309 are located in the Pant Yr Heol and Milland Road areas. Of the nine locations discussed with residential properties at risk from surface water and small watercourse flooding, 1272 residential properties are located in these areas, this accounts for 70% of properties in the high and medium risk count. These would be considered a priority over the properties that are sporadically spread across the SFRA that are at risk.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk

RIVER NEATH FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Assist NRW with the development of Aberdulais FAS	1-3 Years	Core Activity	In Progress
Develop a FBC and Detailed Design for Cryddan Brook FAS	1-3 Years	Reliant on WG Capital Funding	In Progress
Undertake Feasibility Study at Neath Town Centre to include flood risk from watercourses and surface water.	1-3 Years	Reliant on WG Capital Funding	Not Started
Continue to develop a FBC and Detailed Design for Grandison Brook FAS	1-3 Years	Reliant on WG Capital Funding	In Progress
Maintain, inspect and cleanse twenty-one (21) Critical Flood Risk Assets	Annual	Core Activity	BaU
Develop an additional maintenance rota, to inspect and cleanse surface water assets in high and medium Flood Risk Areas of Neath	1-3 Year	Core Activity	Not Started.
Assess the ordinary watercourse and surface water flood risk at Afan Valley Road, Cimla	1-3 years	Reliant on Flood Revenue Grant	Not Started
Assess the ordinary watercourse and surface water flood risk at Llantwit Road, Llantwit	1-3 years	Reliant on Flood Revenue Grant	Not Started
Assess the ordinary watercourse and surface water flood risk at Heol Dyddwr, Tonna	1-3 years	Reliant on Flood Revenue Grant	Not Started
Stanley Place FAS Construction	1-3 Years	Reliant on WG Capital Funding	In Progress
Assess the ordinary watercourse and surface water flood risk at Ffrwd Vale, Neath	1-3 years	Reliant on Flood Revenue Grant	Not Started

Liaise with NRW on the development of a feasibility study for coastal flooding at Milland Road, Melyn and Pant Yr Heol, Briton Ferry	1-3 Years	Reliant on WG Capital Funding	Not Started
Continue to provide support and leadership to the Neath Estuary Group	Annually	Core Activity	BaU
Continue to implement coastal monitoring of Crymlyn Burrows dune system (SMP2 Managed Re-alignment Policy Unit)	Annually	Core Activity	BaU
Liaise with NWR and DCWW at Briton Ferry underpass at Church Street and Regent Street West	1-3 Years	Core Activity	In Progress

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 5, 6, 7, 8, 9, 10, 11, 12, 14, 15 & 18**

7.6.10 River Clydach Catchment

Flood Risk Rank: 6th

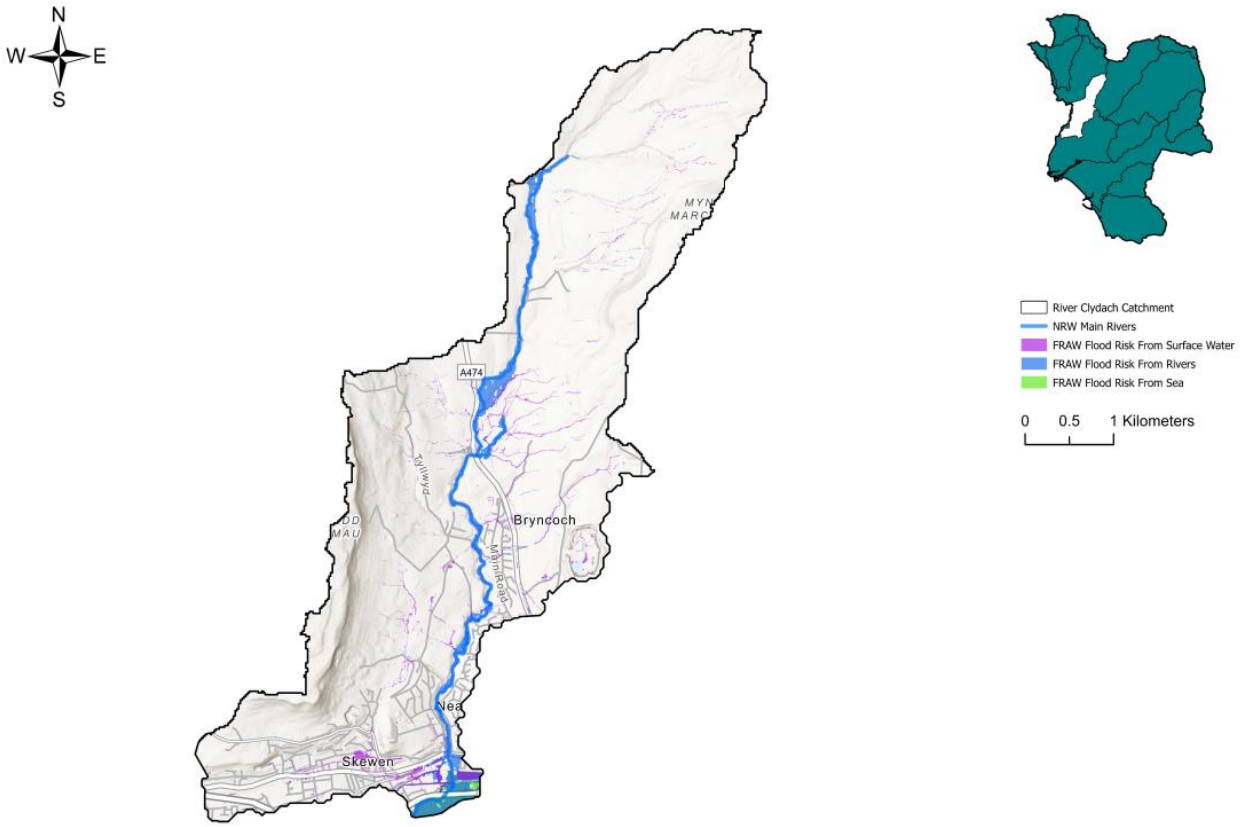


Figure 26: Flood Map of River Clydach (All Sources)

Characteristics and Flood Risk

The River Clydach catchment varies from the urbanised areas of Skewen and Neath Abbey to the south to the rural villages, forestry's, and grazing land on the hillsides of Mynydd Marchywel to the north. The source of the River Clydach can be found on the hillside above the small village of Cilybebyll on the western hillside of Mynydd Marchywel. From this point downstream to the confluence with the River Neath it is classified as a NRW main river. To the west the river is overlooked by the Drummau Mountain, with its recognisable steep cliff face north of Skewen. Due to its steepness the small ordinary watercourses that lead down from this hillside are known to very flashy which can be difficult to manage during periods of heavy intense rainfall (Cloud bursts).

As the river flows southwards it cuts a deep channel into the valley floor and is largely natural until it reaches the edge of Bryncoch where it discharges into a large pond. This pond and adjoining dam structure points to the river's historical past with its use in the Neath Abbey Iron works. This structure is maintained by the NRW, though its ownership is understood to be private. Downstream of this the river is bound either side by residential properties of Neath Abbey before it crosses beneath the main road into Skewen at Neath Abbey Road. After this point the river flows beneath the main east west railway line and the Tennant Canal before it meets the River Neath.

It is at the point where the river flows past the old Iron works and beneath the main road where the only significant river flooding is shown on the FRAW mapping in the Clydach SFRA. As this is flooding from a main river it would fall under NRWs remit to seek a solution and mitigate against flood risk. It is not known if any studies have been undertaken to date nor is there any records indicating any past flooding.

When analysing the FRAW mapping for surface water and small watercourse flooding Six (6) locations are noted in the high and medium risk return periods. They are Park Avenue, Dynevor Road, Caenant Terrace, White Gates Court, Old Road, Skewen and Green Hedges bungalows, Bryncoch. Park Avenue is known to the

LLFA, and records show previous flooding. The location is at a low spot in the area and is bisected by a culverted watercourse that takes water off Drummau Mountain. Ensuring this culvert is cleansed and inspected is essential to managing flood risk in the area. As with many culverts and watercourses in the county this will mean liaising with the respective landowners and the LLFA utilising its powers under the Land Drainage Act 1991.

The locations of Dynevor Road, Caenant Terrace, White Gates Court and Old Road, Skewen all form part of the FCERM Skewen FAS which has been in development for the last 5 years. A large ordinary watercourse flows through the centre of Skewen that is mostly culverted and is the main cause of flood risk in the area. The project is in the final stages of FBC and detailed design and it is hoped that with continual grant funding from WG this project will start construction in financial year 28-29.

The flood risk shown at Green Hedges is unknown to the LLFA and no reports of flooding or nuisance ponding are held on record. The flooding shows a small ordinary watercourse breaking out of bank to the north of the site and flooding into the properties to the south. It is understood that the surface water drainage and culvert network is not built into the FRAW flood model, which is also unknown to the LLFA. The area would need to be investigated, and pipework mapped out in order to build a new localised model to represent the true flood risk at this location.

Table 25 below highlights in detail the number of properties at risk of flooding in the River Clydach SFRA from all sources and return periods.

River Clydach	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	16	17	26	176	56	326	1	0	3
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	15	20	17	28	5	29	5	0	1
Essential Services in areas at risk of flooding (depth >0.0m)	2	0	1	3	3	4	0	0	0

Table 25: River Clydach SFRA Property Count

Conclusions

Table 25 highlights the flood risk to residential properties in the SFRA is predominately from small watercourses and surface water. Out to the 558 properties at risk, 42% of these are at High and Medium Risk (up to 1 in 100-year storm event). Out of these 232 properties, 112 are in the locations mentioned above, the rest are sporadically spread out in small pockets of flood risk.

Of the 33 properties at high and medium risk from river and large watercourse flooding, 25 are located at Neath Abbey Road (as discussed above) and a further 26 of residential properties are at risk from this source in the Neath SFRA. Based on analysis this SFRA has been classed as a medium flood risk area.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk

RIVER CLYDACH FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Periodically carry out a CCTV survey of the	3-6 years	Reliant on Flood Revenue Grant	Not Started

culverted watercourse at Park Avenue, Skewen			
Carry out an asset survey at Park Avenue, Skewen	1-3 years	Reliant on Flood Revenue Grant	Not Started
Develop the Detailed Design and Construction of Skewen FAS	1-3 years	Reliant on WG and Internal Capital Funding	In Progress
Assess the ordinary watercourse and surface water flood risk at Green Hedges, Rhos	3-6 years	Reliant on Flood Revenue Grant	Not Started
Maintain, inspect and cleanse five (5) Critical Flood Risk Assets	Annual	Core Activity	BaU

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 6, 7, 8, 9, 10, 11, 12, 14, 15 & 18**

7.6.11 River Tawe Catchment

Flood Risk Rank: 4th

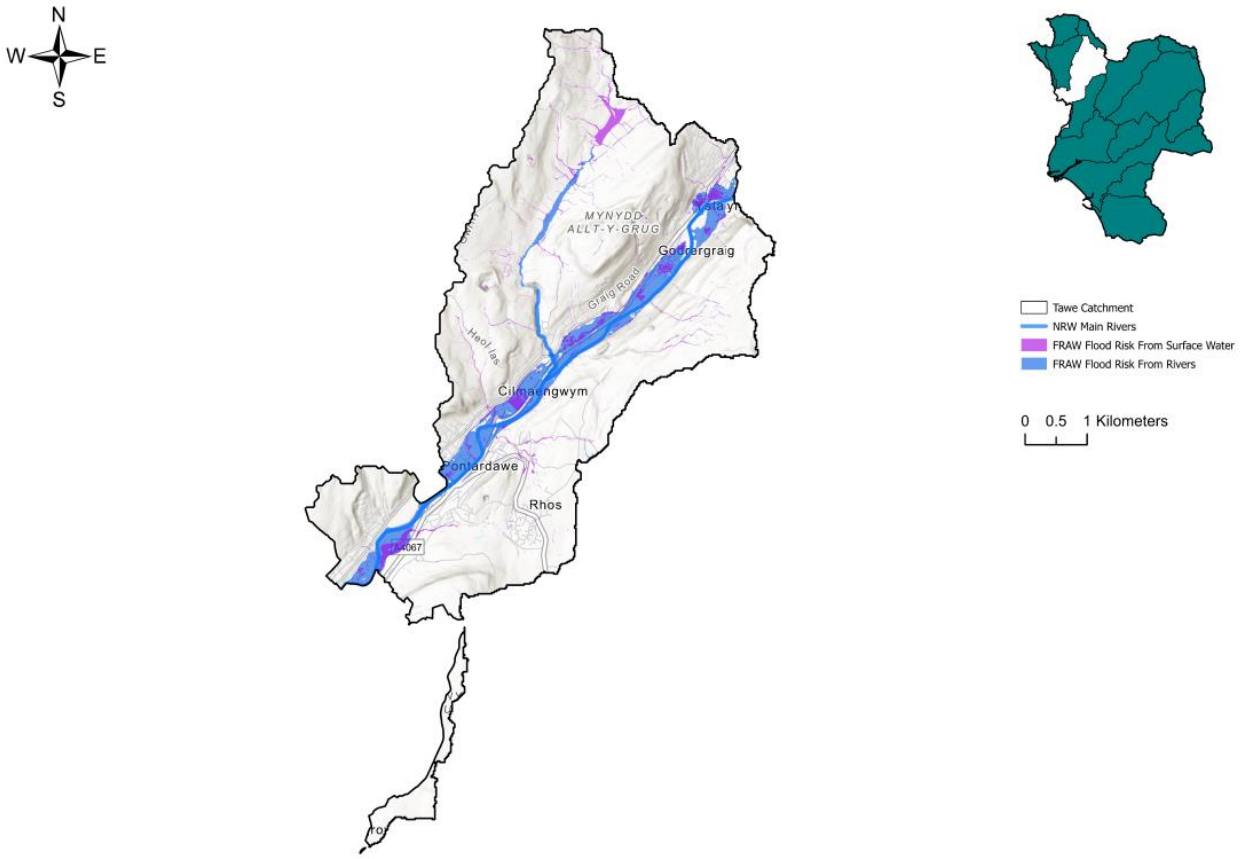


Figure 27: Flood Map of River Tawe (All Sources)

Characteristics and Flood Risk

The River Tawe is one of the largest rivers that flows through the county and is classed as an NRW Main River throughout the borough. Its source is found in the neighbouring county of Powys on the hillside of Fan Brycheiniog and takes in a large catchment area on the southern slopes of the Brecon Beacons National Park. It flows down towards Swansea Bay in a south-west direction and passes into the county boundary at Ystalyfera and out into the City and County of Swansea at the Village of Trebanos. The river flows along the base of a glaciated valley, with a typical wide valley floor, bordered by steep hillsides. The valleys superficial geology is made up of largely alluvium deposits of clay, silt, sand and gravels which overlay glaciofluvial deposits of sands and gravels and Devensian tills, meaning the ground is free draining. The valley floor and hillsides are dotted with many settlements including, Ystalyfera, Godre'r Graig, Cilmaengwyn, Ynysmeudwy, Alltwen, Trebanos, Rhos and the 3rd largest town in the county borough, Pontardawe. The valley floor adjacent to the river is farmed by pastoral grazing and the hillsides above are dominated by open moorland, upland grazing, and mixed woodland. To the northeast the River Tawe is fed by the River Twrch which is its largest tributary and is another SFRA discussed in this document. To the southwest at Pontardawe the Upper Clydach River joins the River Tawe that is another large fluvial catchment discussed in this document. To the middle of the SFRA the river Cwm Du flows down from Cefn Gwrhyd and feeds into the River Tawe at Ynysmeudwy and is for a stretch also classed as an NRW Main River. Either side of the river along the valley floor the Swansea Canal and Swansea Valley Cycle path run parallel through the valley which are popular with walkers and cyclists.

The fluvial flood risk in the SFRA is minimal up to a 1 in 100-year rainfall event as most properties are either positioned off the valley floor or are defended. All of the flooding is situated along the valley floor where predominantly pastoral grazing land makes up the flood plain. At Ystalyfera the NRW maintains river defences adjacent to the confluence with the River Twrch. This defends a large number of residential properties in the Varteg Estate, Ystalyfera. Furthermore, at Pontardawe the north bank of the river is raised to protect the Alloy

Industrial Estate where 20+ commercial properties are at risk from fluvial flooding. Although these properties are protected from river flooding, they are at risk of flooding from the Swansea canal. Records show this area flooded from a canal breach in in 1998, which caused flooding to 30 residential properties, a health centre, and numerous businesses in the industrial estate. This area will need further assessment to establish what can be done to mitigate against the risk of this happening again.

The other location where fluvial flooding is recognised is at Ynysmeudwy Road where a small number of houses are affected by flooding from the Cwm Du. From reviewing the FRAW mapping it appears that the culvert that conveys the river beneath the canal does not have the capacity during a high and medium risk return period. This will need further assessment by both NRW and NPTCBC as the culvert is placed on NPT land and it is unknown if this culvert has been built into the FRAW model. Discussions around this structure have previously been held and maintenance is currently being undertaken on the structure. Further assessment will be required to determine its capacity and evaluate the accuracy of the FRAW mapping.

When assessing the surface water and small watercourse flood risk it is recognised that significant numbers of residential properties are at risk of flooding up to a 1 in 100-year rainfall event. There are 5 locations where further investigations are needed to establish the accuracy of the FRAW mapping. Deeley Road, Ystalyfera; Varteg Road, Ystalyfera; Graig Newydd, Godre'r Graig; Gellinudd; and Heol Y Felin, Trebanos.

At Deeley Road, Ystalyfera it is shown that a number of residential properties are at risk of flooding from surface water coming from Old Wern Road. There have been known flooding issues on Old Wern Road, and a culvert is known to pass beneath the properties in the area. This area will need to be assessed to determine if the FRAW mapping is represented correctly.

At Varteg Road, it is noted a considerable number of property's are at risk of surface water flooding. In 2022, the LLFA completed a flood alleviation scheme in this area to protect these properties and a culvert was renewed to convey water away from the area westward towards the River Tawe. This risk is therefore not deemed to be represented correctly on the FRAW maps, and a new flood model will need to be provided to NRW so that it is represented.

Graig Newydd is the only housing estate built on the Tawe flood plain and it is protected against a 1 in 100-year storm event from the River Tawe. It is however shown to be significantly affected by surface water flooding as it is in a low spot in the surrounding topography. Although there is an extensive surface water drainage network in the area it should be mapped and added to the S21 asset database so that an assessment can be made on the severity of the flooding once these underground and surface assets have been taken into account. Furthermore, a large surface water pumping station is managed and maintained by the LLFA at Llys Harry which pumps the surface water from the Graig Newydd estate up and out into the River Tawe. It is crucial that the LLFA continues to monitor the performance of this asset to mitigate the flood risk posed to these properties.

The FRAW mapping shows Gellinudd, Rhos at risk of flooding from two (2) small ordinary watercourses that flow down from the higher ground to the southeast of the village. These watercourses and associated culverts are known to the authority and there are records of past flooding in this area. In 2010, the LLFA upgraded a culverted watercourse along Lon Catwg and the trash screen at New Road was added to the weekly maintenance schedule in order to mitigate the flood risk. It is recommended that the area is fully surveyed, and the flood risk model assessed to determine the accuracy of the FRAW mapping as it is understood that the two culverts are not considered.

At Heol Y Felin, Trebanos there are properties positioned in a low spot that the FRAW maps indicate are susceptible to surface water flooding. These properties are positioned lower than the surrounding highways and footways and are drained via the private roof and yard network which is owned by the individual residents. As this is beyond the responsibilities of the LLFA it will be the responsibility of the landowners to ensure their drainage apparatus is cleansed effectively to deal with rainfall. The LLFA will ensure the area is mapped out to understand the drainage network serving the area. These details will then be passed onto the residents so that they are aware of the surface water flood risk.

The LLFA maintains 18 critical flood risk assets in the Tawe SFRA which indicates the level of flood risk in the area, all of these assets are trash screen on smaller ordinary watercourses that either pose a risk to properties or main highways. The full list can be seen in Appendix H.

Table 26 below highlights in detail the number of properties at risk of flooding in the River Tawe SFRA from all sources and return periods.

River Tawe	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	6	26	753	265	96	373	0	0	0
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	3	34	94	26	9	26	0	0	0
Essential Services in areas at risk of flooding (depth >0.0m)	0	7	3	6	1	7	0	0	0

Table 26: River Tawe SFRA Property Count

Conclusions

It has been determined that the residential properties in the Tawe SFRA are more susceptible to flooding from small watercourses and surface water than rivers and large watercourses. The properties in the SFRA are well defended against flooding from the River Tawe with three (3) locations defended. As such, only 4% of residential properties at risk are at risk from flooding up to a 1 in 100-year rainfall event from rivers. Of the 734 residential properties at risk from surface water flooding 36% are at high risk and 13% are at medium risk of flooding, which accounts for half of the properties at risk. 244 of the 361 residential properties at risk from up to a 1% AEP event are situated in the 5 locations discussed above.

From analysing the table, it can be concluded that although the Tawe SFRA is ranked 4th the high number of properties at low risk have distorted the risk of flooding. The LLFA would perceive this area to be a medium flood risk area.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk.

RIVER TAWE FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Assess the Ynysmeudwy Canal culvert capacity	1-3 Years	Reliant on Flood Revenue Grant	In Progress
Assess the canal flood risk at Alloy Industrial Estate	1-3 years	Reliant on Flood Revenue Grant	Not Started
Assess the surface water flood risk at Deeley Road, Ystalyfera	1-3 years	Reliant on Flood Revenue Grant	Not Started
Update FRAW map with new modelling information at Varteg Road, Ystalyfera	1-3 years	Reliant on Flood Revenue Grant	Not Started
Assess the surface water flood risk at Graig Newydd, Godre'r Graig	1-3 years	Reliant on Flood Revenue Grant	Not Started

Manage and Maintain Surface Water Pumping Stations under NPTCBC ownership at Llys Harry, Godre'r Graig	Annually	Core Activity	BaU
Map and inform residents of the flood risk at Heol Y Felin	1-3 years	Reliant on Flood Revenue Grant	Not Started
Assess the ordinary watercourse flood risk at Gellinudd	1-3 years	Reliant on Flood Revenue Grant	Not Started
Maintain, inspect and cleanse eighteen (18) Critical Flood Risk Assets	Annual	Core Activity	BaU

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 7, 8, 9, 10, 12 & 14**

7.6.12 River Twrch Catchment

Flood Risk Rank: 14th

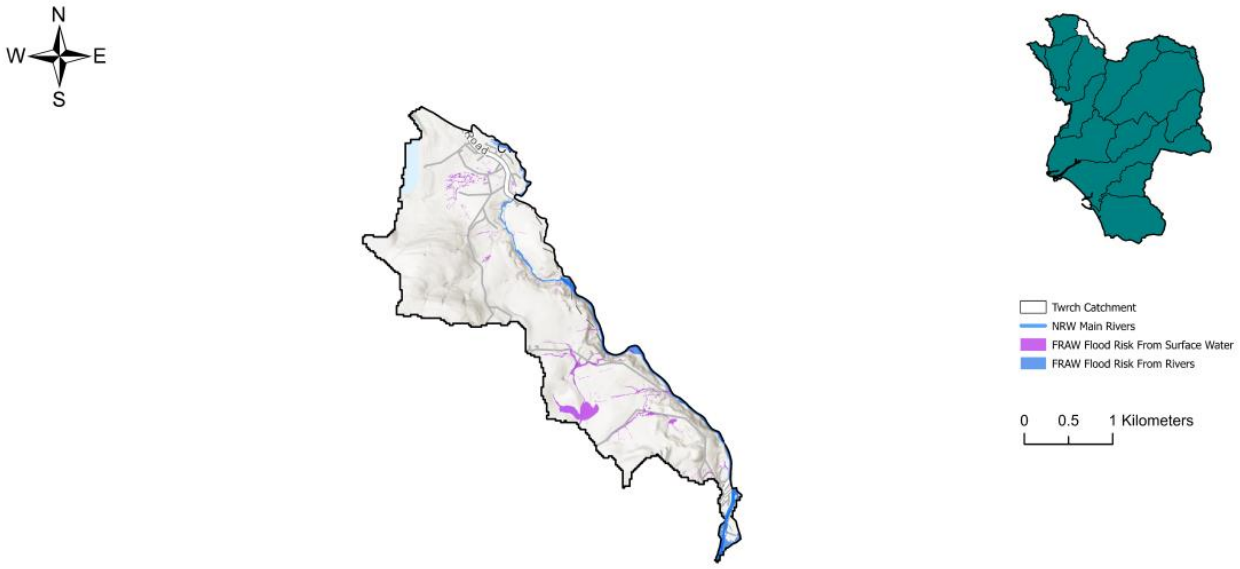


Figure 28: Flood Map of River Twrch (All Sources)

Characteristics and Flood Risk

The River Twrch is one of the smallest SFRA in NPTCBC (612 Ha) and is the one of the most northerly areas of the county. Although small in NPTCBC it is only a part of the River Twrch fluvial catchment that spans over two other county boundaries, Powys, and Carmarthenshire. In reality the Twrch catchment is one of the largest river catchments in the area that takes in multiple tributaries from across the Black Mountain. Its source is found on the western flanks of Fan Brycheiniog, and it does not enter into the county boundary until it reaches the village of Upper Cwmtwrch. The river is classed as a main NRW river from the Bryn-Henllys Bridge downstream until it reaches the River Tawe at Ystalyfera and forms the boundary between the 3 counties.

The Twrch SFRA encompasses the western hillside of the valley, and a large tributary called the River Llynfell. The SFRA also takes in the village of Cwmllynfell, and the surrounding land is characterised with open moorland and mixed deciduous woodland. The area is largely rural and in its lowest reaches bisects the village of Ystalyfera before reaching the confluence with the River Tawe.

When analysing the FRAW mapping for the SFRA it can be seen that very little flood risk exists across all sources and return periods of flooding. There is only one location at risk of river flooding in a 1% AEP event which is at the confluence between the River Llynfell and Twrch. Here, the properties that are positioned between the two rivers are at risk of flooding as they are situated on the small flood plain in upper Cwmtwrch. The protection of these properties would be considered the responsibility of NRW, though no known assessment of risk has taken place.

The flood risk from small watercourses and surface water is isolated to pockets of 2/3 properties where it is understood that surface water assets and underground assets such as highway drains, and gullies have not been accounted for in the flood model. It can therefore be concluded that the surface water flooding at these locations would be minor as long as these assets are maintained on an annual basis.

There are only two (2) critical flood risk assets within this SFRA which indicates the low flood risk posed to residential and commercial properties in the area. These structures are located adjacent to the highway on Rhiwfawr Road and the A4068 and actually protect the highway from periodic nuisance flooding appose to properties.

Table 27 below highlights in detail the number of properties at risk of flooding in the River Twrch SFRA from all sources and return periods.

River Twrch	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	0	8	12	9	6	15	0	0	0
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	0	0	1	0	0	1	0	0	0
Essential Services in areas at risk of flooding (depth >0.0m)	0	0	1	0	0	1	0	0	0

Table 27: River Twrch SFRA Property Count

Conclusions

It can be concluded that the River Twrch SFRA is one of the lowest flood risk areas in the Authority, with only 8 properties at risk of flooding from the river, and 15 at risk from surface water flooding up to a 1% AEP event. There are 2 critical flood risk assets that will continue to be inspected and cleansed as these occasionally cause nuisance flooding to highway users however, there are no future projects or flood management tasks identify to be required in this SFRA.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk

RIVER TWRCH FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Maintain, inspect and cleanse two (2) Critical Flood Risk Assets	Annual	Core Activity	BaU

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 7, 8, 9, 10 & 12**

7.6.13 River Clydach (Lower) Catchment

Flood Risk Rank: 15th

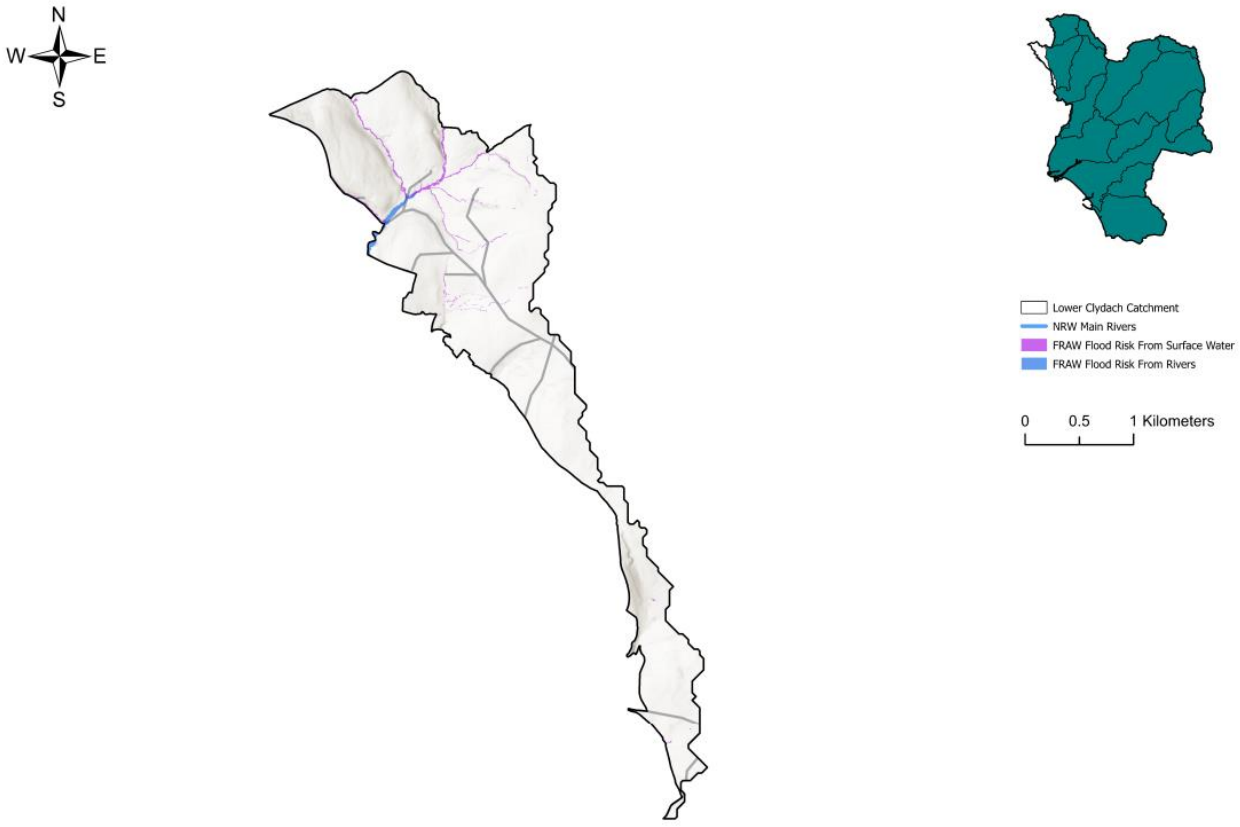


Figure 29: Flood Map of River Clydach (Lower) (All Sources)

Characteristics and Flood Risk

The River Clydach (lower) is a small part of a catchment that is encapsulated within NPTCBC boundary which forms part of a much larger SFRA that is situated in the neighbouring authority of City and County of Swansea. As this is a biproduct of the watershed catchment boundary process and no flood risk occurs in this area, no comments or conclusion can be drawn from assessing this SFRA. Table 29 below highlights in detail the number of properties at risk of flooding in the River Clydach (Lower) SFRA from all sources and return periods.

River Clydach (Lower)	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	0	0	0	0	0	0	0	0	0
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	0	0	0	0	0	1	0	0	0
Essential Services in areas at risk of flooding (depth >0.0m)	0	0	0	0	0	0	0	0	0

Table 28: River Clydach (Lower) SFRA Property Count

7.6.14 River Clydach (Upper) Catchment

Flood Risk Rank: 11th

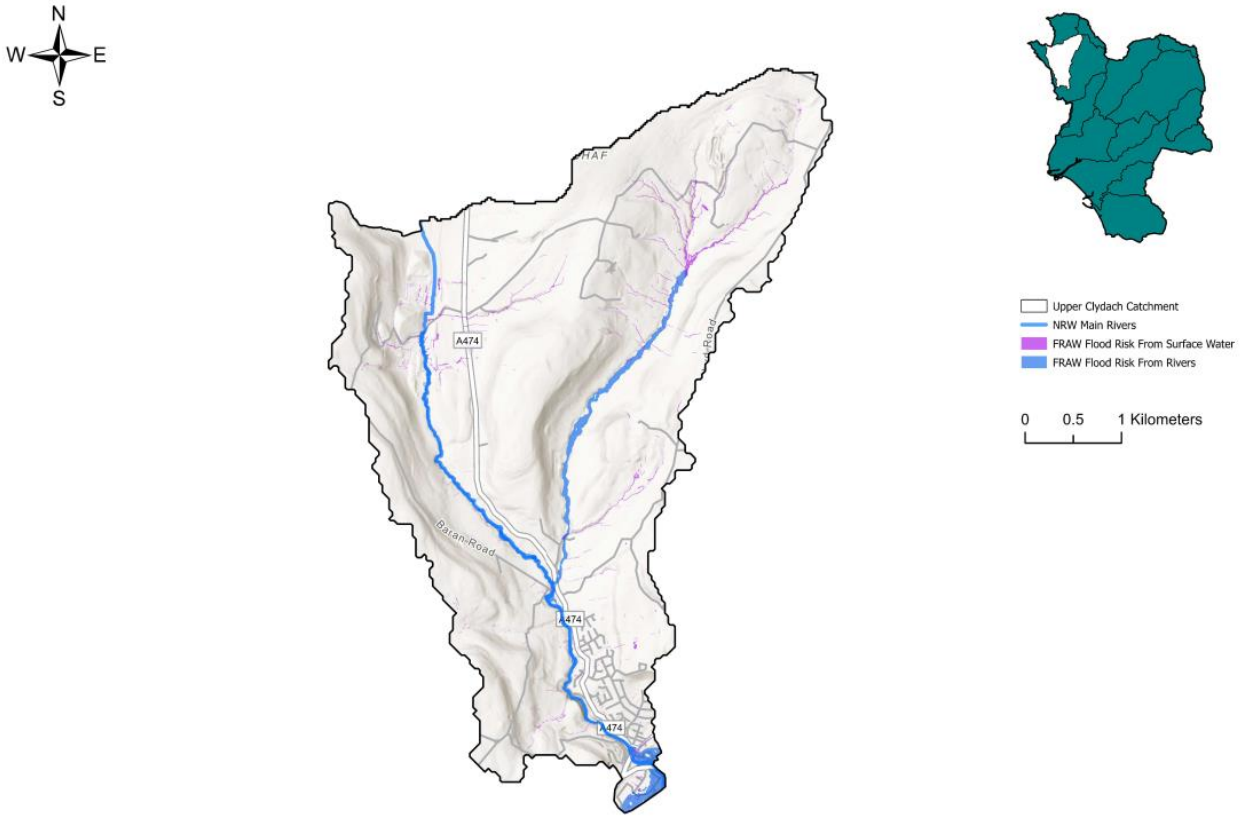


Figure 30: Flood Map of River Clydach (Upper) (All Sources)

Characteristics and Flood Risk

The River Clydach (Upper) SFRA is a tributary of the River Tawe that is sourced off the hillsides of Bryn Mawr and Mynydd Y Garth. It is fed by another large ordinary watercourse, the River Egel from the Northeast which meets the River Clydach (Upper) at Rhyd Y Fro. From there the two rivers converge and flow down to the town of Pontardawe in a southward direction where it discharges into the River Tawe. The River Clydach (upper) is a largely rural catchment until its lower reaches where it flows through the village of Rhyd Y Fro and the town of Pontardawe. The two valleys of the Clydach (Upper) and Egel are glaciated in nature but as they converge at Rhyd Y Fro they narrow with the river cutting a deep channel down to the town of Pontardawe, here the river is flanked by steep hillsides with the urban areas almost entirely isolated to the eastern bank.

When analysing the FRAW mapping for the SFRA it can be seen that little flood risk exists across all sources and return periods up to a 1% AEP event. There is only one location at risk of river flooding in a 1% AEP event which is at the confluence between the River Clydach (Upper) and the River Tawe. Here, the properties that are positioned adjacent to the two rivers are at risk of flooding as they are positioned on the flood plain in Pontardawe. The protection of these properties would be considered the responsibility of NRW as the source is from the main river.

The flood risk from small watercourses and surface water is isolated to pockets of 2/3 properties where it is understood that surface water assets and underground assets such as highway drains, and gullies have not been accounted for in the flood model. It can therefore be concluded that the surface water flooding at these locations would be minor as long as these assets are maintained on an annual basis.

There are two (2) critical flood risk assets in the SFRA, one protects the highway from nuisance flooding along James Street and the other is the intake for the Swansea Canal which is culverted for a length beneath the Ynysderw Retail Park and Pontardawe leisure centre playing fields. Both are cleansed, inspected, and maintained on a weekly basis.

Table 29 below highlights in detail the number of properties at risk of flooding in the River Clydach (Upper) SFRA from all sources and return periods.

Upper Clydach	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	2	8	233	18	50	73	0	0	0
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	3	4	66	17	8	20	0	0	0
Essential Services in areas at risk of flooding (depth >0.0m)	0	2	10	5	1	4	0	0	0

Table 29: River Clydach (Upper) SFRA Property Count

Conclusions

It can be concluded that the River Clydach (Upper) SFRA is one of the lowest flood risk areas in the Authority and with only 10 properties at risk of flooding from the river, and 68 at risk from surface water flooding up to a 1% AEP event. Out of the 68 properties at risk of surface water flooding, 56 have been determined to be flats, which has exaggerated the figures. There are no future projects or flood management tasks identify to be required in this SFRA.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk

RIVER CLYDACH (UPPER) FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Maintain, inspect and cleanse two (2) Critical Flood Risk Assets	Annual	Core Activity	BaU

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 7, 8, 9, 10 & 12**

7.6.15 River Amman Catchment

Flood Risk Rank: 10th

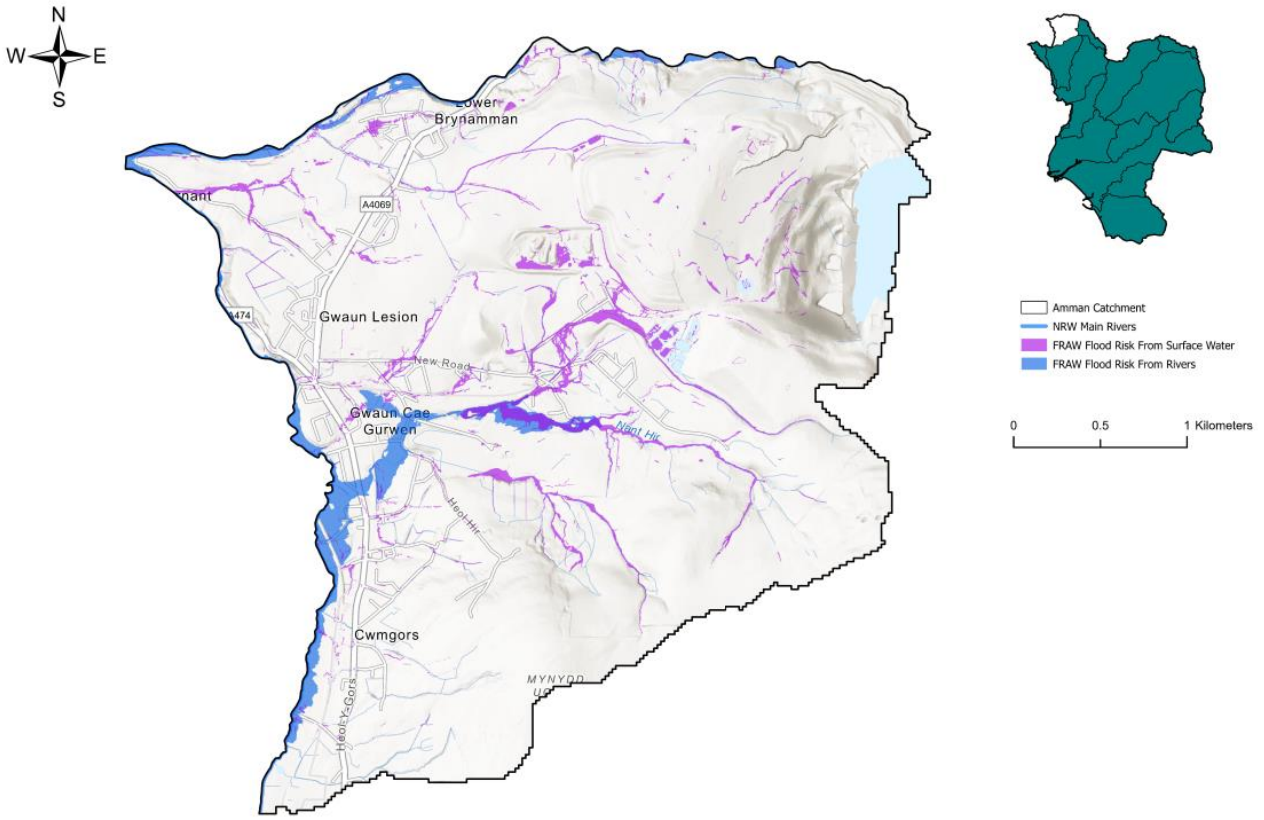


Figure 31: Flood Map of River Amman (All Sources)

Characteristics and Flood Risk

The Amman SFRA is the most northerly SFRA in the county borough, bordered by Carmarthenshire CC to the north and west. The River Amman forms the northern boundary between the two counties, while the River Garnant to the west forms the westerly boundary. The two rivers (which are NRW main rivers) are fed by a number of smaller tributaries that flow down from the hillsides to the east of the SFRA. The largest of these is the Nant Hir which flows down from Tairgwaith. There are four villages in the SFRA, Gwaun Cae Gurwen, Cwmgors, Lower Brynamman and Tairgwaith. The area to the east is largely rural, characterised with mostly open moorland and upland grazing land. To the east and centre of the SFRA lays the remains of the large coal open cast workings known as East Pit, which used to dominate the landscape. These workings have now been reinstated and landscaped following its closure in 2022, and a large lake now forms part of the old open cast pit.

The superficial geology is formed from Devensian till and peat deposits which are dotted around the plateaued open moorland area centred on Tairgwaith. The bedrock geology is primarily South Wales Middle and Lower coal measures of mudstone, siltstone and sandstone which gives rise to the characteristic landscape, similar to the upper Dulais SFRA.

When assessing the FRAW map in this SFRA, the river and large watercourse flood risk is centred on the Nant Hir which flows down from Tairgwaith and the Mynydd Uchaf hillside to the south of the catchment, before it meets the River Garnant in Gwaun Cae Gurwen. As this river is an ordinary watercourse it would fall under the LLFA to propose a solution to manage and mitigate the flood risk to the residential and commercial properties in this area. The flood risk from this river is known to the LLFA and it currently monitors and maintains six (6) large critical flood risk assets in the upper catchment. It is proposed that a feasibility study is carried out here to determine the flood extents, mechanisms and mitigation measures that can be implemented.

When analysing the surface water flood risk, properties in the upper catchment and along tributaries of the Nant Hir are also susceptible from high and medium risk. These areas around Tairgwaith and Crescent Road, GCG and Heol Cae Gurwen, GCG would be encompassed in any feasibility study proposed for the area.

There are 2 other locations that are shown to be susceptible to surface water flooding in the SFRA, Quarry Place and the junction with Heol Cae Gurwen, GCG and Maes Y Glyn, Lower Brynamman. At both locations there are known culverted ordinary watercourses and associated highway drainage networks. These two locations will need to be assessed in more detail to determine if the FRAW mapping is representing an accurate extent of flood risk in the areas.

Table 30 below highlights in detail the number of properties at risk of flooding in the River Amman SFRA from all sources and return periods.

River Amman	Rivers & Large Watercourses			Surface Water & Small Watercourses			Sea		
Risk Receptor	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk	High Risk	Medium Risk	Low Risk
Residents Property's in areas at risk of flooding (depth >0.0m)	18	16	19	65	25	185	0	0	0
Non-Residential Property's in areas at risk of flooding (depth >0.0m)	28	1	1	8	0	10	0	0	0
Essential Services in areas at risk of flooding (depth >0.0m)	1	1	0	1	0	4	0	0	0

Table 30: River Amman SFRA Property Count

Conclusions

The flood risk in Amman SFRA is low to moderate with some flooding being shown across 3 main locations, Nant Hir catchment, Maes Y Glyn, Lower Brynamman and Quarry Place, GCG. Of the 34 residential properties at high and medium risk of flooding from rivers and large watercourses all are situated in the Nant Hir catchment. Of the 90 residential properties at high and medium flood risk from surface water, 6 are located at Quarry Place, GCG; 13 are located at Maes Y Glyn, Lower Brynamman; and 50 are located in the Nant Hir catchment.

Actions to be implemented

The below action table is a streamlined version of what can be viewed in Appendix A1, A2 & A3 and illustrates the key actions specific to this SFRA that the council aims to achieve in order to effectively manage flood risk

RIVER AMMAN FLOOD ACTION PLAN			
Action	**Target Timescale**	**Type of Activity**	**Status**
Maintain, inspect and cleanse seven (7) Critical Flood Risk Assets	Annual	Core Activity	BaU
Undertake Feasibility Study Nant Hir FAS	3-6 Years	Reliant on WG Capital Funding	Not Started
Assess the surface water flood risk at Maes Y Glyn, Lower Brynamman	3-6 years	Reliant on Flood Revenue Grant	Not Started
Assess the surface water flood risk at Quarry Place, GCG	3-6 years	Reliant on Flood Revenue Grant	Not Started

Measures to be implemented

The below list of key measures are considered appropriate to implement at specific locations within this SFRA in order to effectively manage flood risk. Further details on each individual measure can be found in Chapter 6.3 - Our Measures. **Measures to be implemented; 5, 6, 7, 8, 9, 10, 12 & 14**

8. Flood Actions

8.1 Introduction to flood Actions

To continue to fulfil its role as Lead Local Flood Authority under the **Flood Risk Regulations 2009**, NPTCBC is required to produce and publish a Flood Risk Management Plan (FRMP). Whilst the new FRMP is now incorporated into this document (Chapter 7) we still have a duty to assess local flood risk for areas identified as significant in the Preliminary Flood Risk Assessment (PFRA). To fulfil this duty, we have created 'Flood Action Plans' which identify tasks related to the Flood Risk assessments made in Chapter 7 of this report.

The Strategy and Plan will direct a partnership response in; resolving flood problems in areas of known risk; dealing with potential new flood risk sites and lead the reviewing of Strategic Flood Risk Areas. This will be carried out by the LLFA with input from all RMAs and Stakeholders where necessary.

The Strategy and Plan has identified all risk areas from all the various sources of the flooding. Any area may be at risk from not just one source but a number of different modes of flooding, and these again have been identified.

Those with a responsibility for managing flood risk have been made aware of their responsibilities, and are committed, as part of this Strategy and Plan, in participating in joint flood risk management tasks, with the LLFA, Neath Port Talbot CBC.

The Action Plan will deliver the Strategy and Plan by: -

- Reviewing Strategic Flood Risk Areas;
- Defining what actions are to be implemented;
- Sifting out the costs and benefits of the actions and describing the funding streams;
- Assessing the flood risk for the purpose of the strategy and Plan;
- Producing a reviewing timetable;
- Demonstrating how the Strategy and Plan contributes to the wider environmental objectives;
- Delivering the objectives of the Water Framework directive and its targets;
- Incorporating the Strategic Environmental Assessment's aims into all activities;
- Enhancing habitats in line with the Habitats Regulations Assessment;

8.2 Our Flood Action Plan

Please refer to Appendix A (A1, A2 & A3) for a summary of our Flood Action Plans. The appendix document summaries all flood actions being carried out in the county borough. Please refer to Chapter 7.6.1 – 7.614 to view Flood Action Plans for each individual Strategic Flood Risk Area.

Our Previous Flood Action Plan (Update) and Our 2024 Flood Action plan can be seen in appendix A1 and A2, respectively. These will be updated at the same time as the main Local Strategy document, on a bi-annual (once every 2 years) basis and will be published as an addendum on the council's flood risk webpage.

Appendix A1 covers the actions set out in our 2013 FRMS and 2015 FRMP and provides an update on the status of each action. Following a review, NPTCBC identified that it was possible to streamline our actions and have created a 'Business as Usual' (BaU) Flood Action Plan (Appendix A3) to reflect this approach. It picks up actions that are considered to be core activities, carried out by the LLFA on an annual or adhoc basis. These actions are embedded in the LLFAs daily duties and responsibilities and should stand alone as a reminder to existing and future practitioners about the continual work required to effectively manage flood risk. The BaU Flood Action Plan contains items from the previous Flood Action Plan and new actions that are considered reoccurring tasks.

Appendix A2 covers new actions set by the LLFA to improve service, flood risk management and tasks that continue to build on previous works carried out over the last ten (10) years.

Measures in the Strategy and Plan have informed the basis for the development of new key actions for the Action Plan, subject to costs, effectiveness, time, resources, etc. It is important to note that the actions identified in Appendix A2 will not progress at the same time, therefore, it is necessary to consider actions on an annual basis as priorities are subject to change for both resources and events. Furthermore, actions identified in Appendix A3 are considered 'in progress' in the perpetuity and are therefore not required to be prioritised.

The time scales and costs for implementing the Actions have been identified below and will continue until 2030 which is the life span of this report. The authority will strive to action all the tasks identified within Flood Action Plan however, this will only be possible if sufficient resources are made available. It is important to note that where identified as 'Core Activity' or 'Time Cost' this usually indicates that these actions relate to statutory duties that the LLFA are duty bound to carry out under various pieces of legislation.

Timescales References

- Short Term (1-3 Years)
- Medium Term (3-6 Years)
- Long Term (6+ Years)
- Time Cost (Continual)

Costs References

- Very Low (<25k)
- Low (£25k – £100K)
- Medium (£100 - £250k)
- High (£250k – £1m
- Very High (>£1m)
- Core Activity (Within current revenue funding)

9. Funding and prioritisation

This section sets out how the proposed actions and measures will be funded and resourced within Neath Port Talbot which will be reviewed periodically. It is important to identify what funding mechanisms are available to Neath Port Talbot County Borough Council to pay for the flood risk management measures and actions that are set out in this Strategy and Plan. Effective implementation of flood policy objectives requires adequate resources both for the management and response activities of the LLFA, as well as for the implementation of capital FAS projects.

In Wales, the Welsh Government allocates funding to Natural Resources Wales and other Flood Risk Management Authorities, including Local Authorities, with NRW receiving the larger proportion of allocated funds. With less direct Government funding available, and rising costs of materials and services it is clear that changes are needed to the traditional approaches to funding flood risk management, which will be a challenge to overcome. The current funding streams available to LLFAs are summarised below.

9.1 Funding options

To plan, produce and implement measures and actions outlined in this Strategy and Plan it is essential that funding be put in place for the local authority. Furthermore, funding needs to be secured to carry out duties and responsibilities placed upon this authority under the **Flood and Water Management Act 2010** and **Flood Risk Regulations 2009**. It is envisaged that future funding will be provided by the Welsh Government for the continued implementation of the responsibility's incumbent on the LLFA from these legislations. The LLFA relies heavily on the WG for most of its funding however, measures and actions to manage local flood risk are funded from a range of sources including internal capital and revenue funding to undertake planned and emergency works. Please see Figure 32.

Internal Capital and Revenue Funding

The Flood Risk and Drainage section currently receives an annual sum of £300k to go towards design and construction of capital works to resolve highways and land drainage flooding nuisances. A further capital budget of 15% contribution towards annual WG FCERM grant funded works is also included but as this contribution changes year on year a figure cannot be included. Furthermore, there is an annual Drainage Revenue budget of circa 2.9m for; Operational works associated with culvert, gully, and ditch cleansing; Operation and maintenance of pumping stations; Operational machinery; Coastal protection works; Survey and flood investigation works; and staff costs. It is important to note that there is currently no capital funding identified for Minor Works which is carried out on an adhoc basis if and when funding becomes available.

Welsh Government Funding

Welsh Ministers can provide **revenue** and **capital grants** in relation to FCERM activities that can be a contribution of 75% (CRMP), 85% (Capital Construction) 100% (Business Case Development). The Welsh Government aims to work with RMAs to develop a 5-to-10-year investment programme of future FCERM capital schemes, (justified in accordance with the FCERM Business Case Guidance) in order to appropriately plan and allocate funding to the most at-risk communities.

The FCERM Capital Grant is intended to support LLFAs develop and design Flood Alleviation Schemes by providing them with a 100% grant funding allowance. A construction contribution of 85% for Pluvial and Fluvial Projects and 75% for Coastal Projects is also provided at the final stages of project implementation.

The Small-Scale Works Grant supports Local Authorities to carry out smaller works, resilience measures on a community scale, and essential maintenance through a simplified process. Funding is available annually for flood works up to £150,000 and has proved successful in driving delivery and risk reduction.

Furthermore, LLFAs can apply for the **Flood Revenue Grant** (Annual total of £225k) to support the implementation of revenue based FCERM activities. In recent months, this hypothecated revenue grant (which includes the flood risk and sustainable drainage grant) has been agreed by the Minister to be transferred into the RSG, which will start from April 2024. We understand from the Deputy Director of Local Government Finance that WG will ‘ring fence’ the flood grant into the RSG next year by not applying the formula, but from 2025-26 the formula would apply removing any trace of how much funding from WG’s Flood Branch will be

added to the RSG. It is vital that the LLFA is allocated the same level of funding each year to enable flood risk management work to continue and avoid a range of impacts.

The **NFM Accelerator Grant** was introduced in 2023 and aims to assist LLFAs develop and deliver natural flood risk management and nature-based solutions to mitigate against flood risk.

Emergency works required because of damage following flood events – FCERM funding should focus on preventative action rather than reactive work however, there will be times when flooding occurs, and additional support is required urgently to repair damaged assets which reduce risk to homes. There is no guarantee of emergency funding and applications will be considered on a case-by case basis.

The **Resilient Road Fund** is intended to target improvements to the transport network that suffer from severe weather. This can include drainage improvements to areas of the road network that have a history of flooding, ranging from carrier line upgrades to overland flood mitigation measures, culvert improvements and ordinary watercourse works.

It is important to note that none of the above funding mechanisms provide funding for ongoing maintenance and monitoring costs as these are absorbed by the LLFA.

Public Funding

The **Community Infrastructure Levy (CIL)** was introduced in April 2010 and provides local authorities with an alternative source of potential funding for flood defence schemes. It allows the borough to raise funds from new developments in their area in order to pay for the impact that the development may have on the local infrastructure. Consideration for use of this levy is in the development process within NPTCBC.

Private Funding

Section 106 of the Town and Country Planning Act 1990 allows the local authority, in this case Neath Port Talbot County Borough Council, to agree conditions in association with a planning application. These conditions may include, but are not limited to, restrictions in the uses of the land, the type of property that may be developed and the levying of a cost to be paid to the authority as a one off or as a regular payment.

Such funding is agreed in advance and can be used to address any affected council service – e.g. highways, footways, drainage, public lighting, etc.

Welsh Water Funding

Welsh Water invest in flood alleviation schemes to remove properties from the DG5 register, a register of properties at risk from sewer flooding, which is one aspect of their duties. They can do this in partnership with local authorities like Neath Port Talbot.

In order for this FRMS & Plan to be successful it is essential that significant additional internal funding be made available to NPTCBC and the LLFA on top of normal funding arrangements from Welsh Government. Failure to receive this additional funding may result in measures and actions highlighted within this plan not being implemented either in part or in full, resulting in objectives, both locally and nationally not being achieved.

9.2 How we prioritise Actions

The Welsh Government prioritises FCERM schemes which primarily reduce risk to homes. Businesses and public buildings can also benefit from schemes, particularly those which reduce risk to a mix of development types such as homes and shops along a high street or local district centre. Schemes which only reduce risk to businesses remain eligible but will not be prioritised over schemes which reduce risk to homes. Furthermore, funding is not available to enable new development which goes against national FCERM objectives and well-being goals.

RMAs applying for funding are encouraged to identify wider benefits such as regeneration opportunities, improvements to habitats/biodiversity, mental health, or recreational benefits. Early consideration of aligning multiple benefits to secure wider funding is encouraged. Where significant benefits are identified to third parties, it is expected RMAs will work both internally and externally (for example with infrastructure

providers, utilities, industry, and commerce) to identify and secure appropriate partnership funding contributions from those benefitting from a scheme.

The Flood Action Plan lists several tasks including the construction of major flood alleviation schemes, which represent some of the county's highest priorities. It should be noted that this list has been compiled with no priority rating between individual schemes or activities other than to place the timescale for implementation of each scheme/activity in the 'target timescale' category.

To align with the national strategy NPTCBC will prioritise funding for FCERM activities using the below criteria which was approved in 2018 after consultation with RMAs. Please see Figure 31 and 32.

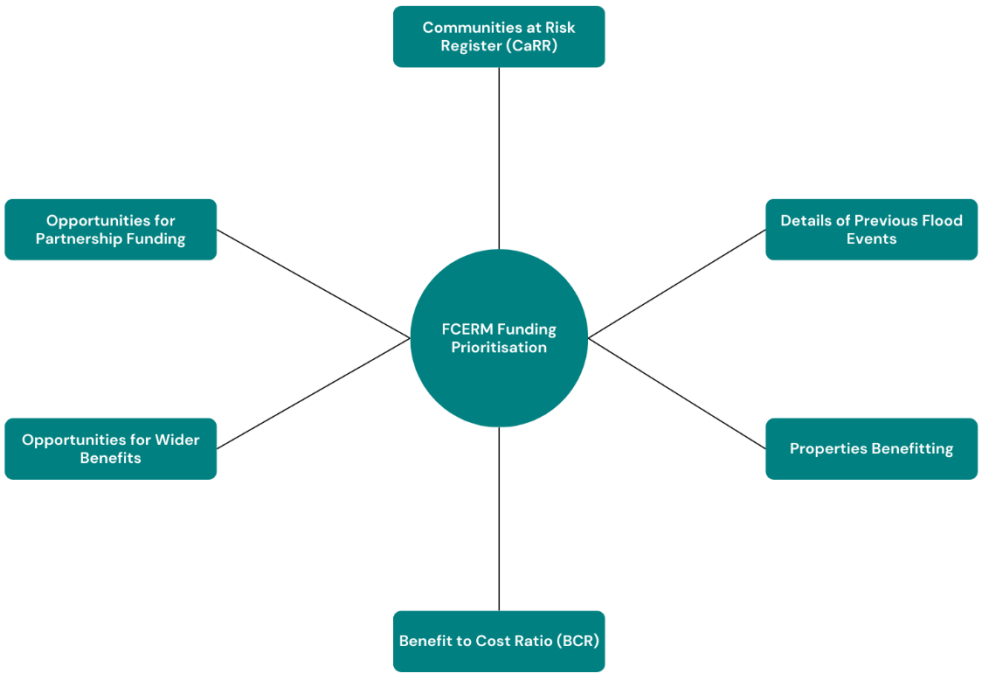


Figure 32: Prioritisation of FCERM Funding

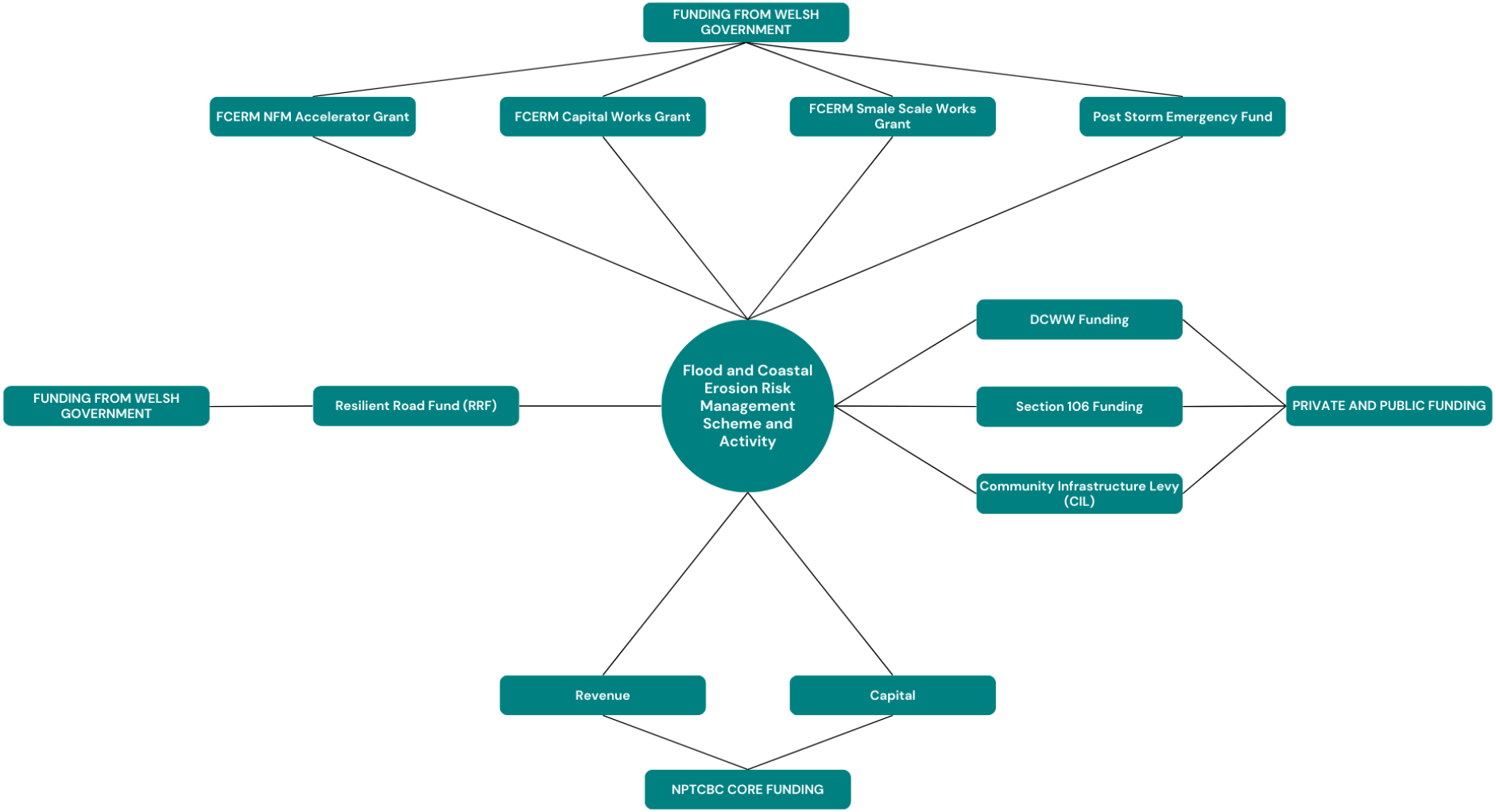


Figure 33: FCERM Scheme and Activity Funding Streams

10. Environmental Assessments

Assessments have been undertaken alongside the development of this Local Strategy to ensure the Objectives, Measures and Actions presented consider the environment within the local authority area, including important designations.

The NRW website provides advice for SEAs (Strategic Environmental Assessment) and HRAs.

10.1 Strategic Environmental Assessment (SEA)

A Strategic Environmental Assessment (SEA) is a way of assessing and monitoring the likely effects (positive and negative) of plans, programmes, and strategies on the environment. It applies at the level of the plan or strategy (i.e. Local Strategy) which sets the direction for future development projects.

An SEA is a legal requirement to accompany a Local Strategy. Such assessments help to enable informed and transparent decision-making for the benefit of plan makers and the wider community in Wales.

The SEA process carried out through the development of the LFRMSP has been thorough and comprehensive. Continuous dialogue has taken place between the Plan making team and the SEA team, with a series of discussions held and recommendations made.

The draft LFRMSP was assessed against a set of SEA Objectives and decision-making questions, used consistently through the assessment process, across as aspects of the proposed Plan and it is considered this has helped to ensure that environmental issues have been incorporated into the LFRMSP. Based on the findings of the SEA, it is possible to draw a number of key conclusions with regard to LFRMSP.

In terms of the need for the LFRMSP, it was shown that there is a legislative requirement for this to be developed, as well as high level principles and measures in respect of addressing flood risk set out at a national level in Wales. This means there is little flexibility in setting out or considering strategic alternatives to the LFRMSP. As such, consideration of Alternatives was made on the basis of considering implementing a new LFRMSP rather than continuing with the current approach to flood management in Neath Port Talbot. The SEA has shown that this represents a sound approach to managing flood risk, while also recognising that there are potential environmental opportunities (such as NFM and NBS) from the new approach, while also addressing the core requirements.

In the first instance, consideration was made of the LFRMSP Strategic Objectives, which were developed to reflect national objectives, but also reflect the local context and priorities of Neath Port Talbot. It was shown through consideration of how compatible these were to the SEA Objectives that the proposed approach under NPTLFMRSP provided a generally firm underpinning to help ensure that the environmental performance of the Plan could be maximised. While there were some areas of uncertainty, these were not sufficient to preclude progressing with further development of the LFRMSP.

A key area of focus for the SEA was on the series of Measures that were selected to achieve the strategic objectives outlined. It was noted as the foremost outcome intention that implementing these measures would lead to a reduction in flood risk across the LFRMSP area.

The first Measures examined were Measure 1 and 2 which fall under the broader theme of ‘Development planning and adaptation’. The main elements of these measures related to the implementation of Sustainable drainage (SuDS) and overall, it is considered that these measures set a good basis for a range of beneficial effects across the SEA objectives. Many of these effects can be anticipated to be significant, notably in respect of biodiversity, soils, water quality and resources, vulnerability of built assets / infrastructure and resilience / adaptation to climate change, landscape and townscape, resource use and waste production. It is also worth noting that the measures Strategies to help with recovery will also limit effects. Better preparation would include through improved infrastructure, early warning systems, and disaster response plans, thereby lessening the immediate impact of floods. It is also anticipated this will lead to lower long-term vulnerability by encouraging sustainable land-use practices and constructing resilient infrastructure that can withstand future flood events. There would also be post-flood recovery strategies to help enable quick restoration of normalcy. Well informed and prepared communities are also anticipated to have enhanced social and community

networks, with reduced property damage, lower recovery expenses and livelihoods which are more secure. local communities, as well as support attractive, resilient, and viable communities.

The health, economic and social wellbeing of communities is also anticipated to be significantly benefitted by the measures set out in respect of 'flood forecasting, warning and response'. Strategies to help with recovery will also limit effects. Better preparation would include through improved infrastructure, early warning systems, and disaster response plans, thereby lessening the immediate impact of floods. It is also anticipated this will lead to lower long-term vulnerability by encouraging sustainable land-use practices and constructing resilient infrastructure that can withstand future flood events. There would also be post-flood recovery strategies to help enable quick restoration of normalcy. Well informed and prepared communities are also anticipated to have enhanced social and community networks, with reduced property damage, lower recovery expenses and livelihoods which are more secure.

In respect of the broad theme of 'land, cultural and environmental management,' the Measures were concerned with Natural Flood Management and Nature Based Solutions (Measure 5) and general Environmental and Biodiversity enhancement (Measure 6). From an SEA perspective, these Measures are of considerable importance and provide a very strong basis for a range of beneficial effects across the SEA objectives. Many of these effects can be anticipated to be significant, notably in respect of biodiversity, designated sites, soils, the water environment, townscape and visual amenity, the health and wellbeing of communities and the ability to minimise resource use and waste production.

The Measures set out under the broad theme of 'Asset management and maintenance' were then assessed. These covered a range of related approaches such as asset surveys (Measure 7), S21 Asset register (Measure 8), Critical flood risk asset inspection (Measure 9) and Critical flood risk asset maintenance and repairs (Measure 10). Overall, it is considered that these measures are beneficial across most environmental aspects, though these benefits will most likely be slight. However, it is considered that those aspects of relevance to health, economic and social wellbeing are of significant benefit. The potential for water quality issues during refurbishment (including desilting operations) could be of adverse effect, though it is considered these could be well managed through pollution prevention measures such as silt mattresses, silt curtains, bunds etc. There could also be other (slight adverse) environmental issues relating to biodiversity, air quality, noise, soils and so on through the general construction type activities that may be involved in maintenance. Again though, it is anticipated that these could be easily managed through standard mitigation techniques.

Another key element of the broad theme of 'Asset management and maintenance' is Measure 11 – Construction of flood alleviation schemes. While this is part of the broad theme, it was considered that there is a particular likelihood of potential significant environmental effects from such a Measure, which is anticipated to require construction of hard engineered infrastructure and as such, this was assessed in isolation. Overall, it was noted that while hard engineered structures can have significant adverse effects, particularly during construction through issues such as a loss of biodiversity, or the amount of carbon emissions or embedded carbon they require to construct. During operation, they could act to prevent or restrict fish passage.

Nevertheless, they are highly effective at protecting infrastructure from flooding and if well built, can last many decades. As part of a range of catchment wide management, they can have a significant role at specific locations e.g. to protect high worth assets, or assets of cultural importance and as such can be considered a key element to wider sustainable management. They are particularly beneficial to providing reassurance to people that their properties are well protected or even provide the perception of protection. The benefits to physical and mental well-being from this protection, or perceived protection are significantly beneficial.

In order to begin to address issues related to hard engineered schemes, it was noted that there would be a requirement for further, more detailed assessment, including as required EIA and HRA and design processes should consider the full range of environmental topics set out in those processes. This would include considerations of specialist assessments into specific topics such as fish passage. The development of construction environmental management plans should also be ensured.

In relation to the broad theme of studies, assessment and plans, (this related to Measures 12 – 15 and covered Flood Risk Assessment, flood investigation, feasibility studies and development of business cases), it was considered that these, in themselves, are not anticipated to have direct effects on the environment and are therefore considered neutral for the purposes of this SEA. Nevertheless, they are considered to be a vital part of the overall approach to ensuring flood protection can be achieved, while still protecting people and the environment. It is important to note that further assessment may be required in respect of the findings of any

study, assessment or plan, or these could result in the development of some schemes, including those that could have adverse effects such as through the requirement for large scale engineering and construction. Nevertheless, it is considered that any issues arising could be addressed via other Measures set out in this plan.

Protection of people and their property is a fundamental aim of the LFRMSP. An important aspect of keeping people informed is addressed through the broad theme of 'high level awareness and engagement.' This sets out how risk will be communicated (Measure 16), people will be warned and informed (Measure 17), how partnership working will take place with other organisations (Measure 18) and how emergency response plans will be developed (Measure 19).

Overall, in respect of 'high level awareness and engagement', while beneficial effects are anticipated across the range of SEA Objectives, significant beneficial effects are anticipated in relation to that seek to ensure protection to build infrastructure and assets and how this will have beneficial effects on people through lowering the risk of flooding and reducing the stress involved. Reliable information alleviates anxiety, while training in emergency skills enhances safety. Timely flood warnings enable safe evacuations, property protection, and psychological preparedness, reducing panic and fostering community resilience. Warning and informing residents about flooding is a vital component of disaster risk reduction. It saves lives, protects property, minimises economic losses, enhances community resilience. Working with partner organisations will also be very beneficial and it is recommended that the LFRMSP notes more clearly that this will include organisations concerned with health and social care as well as economic agencies.

Following assessment of the Measures set out in LFRMSP, consideration was then made of the series of Actions based on these measures to alleviate flood risk for each of the locations identified as at risk of flooding across the catchments of the Neath Port Talbot area.

For many areas, it is acknowledged in the LFRMSP that there is a lack of understanding of what is causing the flooding or the precise mechanisms of flooding, the extent of the flood risk and how best to address that risk. As such, for many areas the key actions relate to undertaking assessments, update mapping, liaise with other organisations, undertake feasibility studies and so on. This lack of understanding is reflected in the range of Measures and subsequent Actions, which cover many of the activities that are required to fully understand these issues. The SEA considered that these types of Actions are not likely to result, in themselves, in significant environmental effects.

There are though elements of LFRMSP that could result in adverse environmental effects, some of which may be significant. This partly a reflection of the nature of the geography and topography of parts of Neath Port Talbot – steep sided valleys mean that many watercourses are very flashy in nature and can carry significant amounts of debris down the channel that is often the main cause of flooding to the area. As such, inspections and maintenance form a key element of the Plan.

While for the most part it is anticipated that activities associated with maintenance will be reasonably limited. For example, in the River Tawe catchment, 18 assets are noted, but these are all trash screens and maintenance activities here would mainly involve removing debris from these trash screens. However, there is a potential that some maintenance activities could be more intrusive or of greater extent. For example, note is made under Measure 10 of activities such as grid cleansing, de-silting, and channel clearance to allow for the drainage systems to work at maximum capacity. This raises the potential for pollution incidents such as silt deposition downstream of such activities. Nevertheless, it is considered that such pollution risk can be well managed through the use of silt traps, silt mats, silt curtains and so on. The SEA notes such mitigation measures.

Construction of flood alleviation schemes represent the main part of the LFRMSP that are anticipated by the SEA to potentially result in adverse environmental effects, often potentially significant. Such schemes are limited though and if not already in construction, are all in various stages of design and progress. This has included consideration of whether formal EIA is required or not. Where not, consideration of environmental issues has taken place where required, along with the development of Construction Environmental Management Plans. In addition, consideration was made of issues such as community adaptation (recreation or amenity gain), along with liaison with statutory bodies and this has helped inform design. Biodiversity gain has also been considered though this is more difficult to achieve in the relatively constrained urban environment in which the schemes are proposed.

Another key Action set out in the LFRMSP is the need to liaise with other organisations. Clear note is made that flood risk management involves collaboration among various key agencies. Natural Resources Wales

(NRW) oversees main rivers, coastal erosion, and reservoir safety, offering strategic guidance. NPTCBC acting as Lead Local Flood Authority (LLFA) manage local flood risks from surface water, groundwater, and watercourses. Water and sewerage company Dwr Cymru Welsh Water (DCWW) ensure drainage systems can handle wastewater and combined water floods during periods of heavy rainfall, while highway authorities manage flood risks on road networks. Emergency services, including fire, police, and ambulance services, provide immediate response during floods.

The SEA notes this Action to liaise with such bodies and anticipates a range of beneficial effects can be realised from this. However, it is also noted that dealing with other organisations can bring complexity to issues, or issues with lines of communication, roles and responsibilities. Another factor which is clear in the LFRMSP is the need to deal with private companies or individuals on occasion. For example, note is made that in some areas it will be the responsibility of the landowners to ensure their drainage apparatus is cleansed effectively to deal with rainfall, while the flood authority will ensure the area is mapped out to understand the drainage network serving the area. These details will then be passed onto the residents so that they are aware of the surface water flood risk. Nevertheless, it is anticipated that such issues can be dealt with through existing powers, approaches and policies.

Overall, it is anticipated that the LFRMSP represents a well-balanced approach in terms of environmental performance across the full range of potential key effects delineated in the SEA Framework.

10.2 Habitats Regulations Assessment (HRA)

A Habitats Regulations Assessment (HRA) considers the possible harm a project or plan could cause to certain specially protected sites, with the aim of ensuring damage to these sites is avoided.

Due to the potential of this Local Strategy to impact the Natura 2000 network of protected sites, namely Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites, a HRA needs to be undertaken in parallel with the SEA as soon as possible in the process.

The full HRA is contained within a separate report Habitats Regulations Assessment – Stage 1 Screening and Stage 2 Appropriate Assessment.

The HRA Stage 1 Screening Assessment has concluded that for all European Sites, LSE could not be discounted for all LSE pathways. Since the risk of adverse effects on the integrity on these European Sites could not be discounted at Screening, Stage 2 Appropriate Assessments were undertaken.

In the absence of detailed project-specific information, a high-level assessment of the potential for actions within the LTP4 to have an adverse effect on the integrity of European Sites was undertaken. NPT took into account that the Habitats Regulations applies to projects as well as plans. For those projects that require planning permission the relevant planning authority, if required, will need to undertake a HRA prior to any grant of permission, and it will have to be demonstrated that the project will comply with the Habitats Regulations. For schemes that would be progressed under permitted development rights it may be necessary to obtain ‘prior approval’ from the relevant planning authority, and approval will only be given for those schemes that comply with the Habitats Regulations.

With consideration given to the information provided above and within the main report for the Appropriate Assessment, it is considered that with the mitigation proposed, the LFRMSP will not adversely affect the integrity of any European Sites alone or in-combination with other plans or projects.

10.3 Water Framework Directive (WFD) Assessment

The Water Framework Directive (WFD) imposes legal requirements to protect and improve the water environment (including our rivers, coasts, estuaries, lakes, ground waters and canals).

The WFD assessment has been integrated in NPTLFRMSP SEA report v3.0 as it was felt it was better suited to be assessed against the measures and objectives in the same format. Please also read the NPTLFRMSP SEA Report Appendices v2.0 – Appendix G.

The Measures and Actions set out in the LFRMSP may result in physical modifications to watercourses, as well as changes to natural flow and levels of water. Construction activities, or poor maintenance activities,

could also allow invasive species to spread, or poorly executed work activities can result in pollution such as increased sedimentation.

On the other hand, there are a number of Measures and Actions which are in keeping with the aims of the WFD and River Basin Management Plans. In particular, the implementation of SuDS, Natural Flood Management and Nature Based Solutions will provide opportunities for more natural runoff rates in catchments, improvements in water quality, reduction in pollution, reduction in the need for hard infrastructure (or allow for the removal of some man-made features) and so on.

Nevertheless, note is made in the SEA Report that any scheme being developed in the fluvial, estuarine, or coastal environment (such as those set out under Measure 10) should undergo assessment in respect of implications for the WFD and the objectives of the RBMP. Any design should consider the findings of all such assessments. Note that consideration should be made of waterbody classifications prevailing at that time.

It is worth noting that Neath Port Talbot Council already require consideration of WFD for many of their activities and it is anticipated that this would continue for any schemes derived from the LFRMSP. For example, as the Lead Local Flood Authority, they are responsible for ordinary watercourse consent applications under Section 23 of the Land Drainage Act 1991 and Section 3 of the Flood and Water Management Act 2010 on the 06 April 2012. As part of their consenting process for culverts and works to these, they note the requirement to consider the key aims of the WFD through the consenting process.

11. Monitoring progress

11.1 How we measure progress

To align with S18 FWMA 2010 and the national strategy, it is NPTCBCs view that the Strategy and Action Plan can be reviewed bi-annually (every 2 years), and a report can include relevant case studies that illustrate successful activities to share best practice with partners and practitioners at a local and regional scale. The review will be able to report on the reduction in numbers of people at risk of flooding, and on areas of enhanced or new habitat. Furthermore, it will be able to demonstrate progress against the Water Framework Directive targets that are relative to flood risk and the benefits delivered for money spent. Although not a requirement NPTCBC views this as best practice, informative and pro-active.

A bi-annual report will;

- Provide an update on our measures, objectives and actions;
- Include dialogue on how NPTCBC have undertaken each measure and action;
- Assess the change in level of flood and coastal erosion risk in NPTCBC;
- Detail major new FCERM schemes and projects that have been successfully delivered;
- Reference major flooding incidents and provide links to local Section 19 reports;
- Provide examples of good FCERM practise locally and in the west wales region, including but not limited to, novel or innovative projects, the use of NFM, partnership working, information provision and community participation.

The report will be compiled by the LLFA and shared alongside the updated Action Plan, providing an opportunity to report on progress on the measures in the local Strategy and Plan, as well as wider FCERM matters and best practice across Wales.

It is worth noting that not all flood measures and actions that are considered 'Business as Usual' (Appendix A3) will be reported on. The LLFA considers these as duties under the **FWMA 2010, FRR 2009, LDA 1991, HA 1980** and **CPA 1949** that are acting upon in perpetuity and embedded in daily roles and responsibilities. Tasks that are included in the councils Service Delivery Plan and other internal reporting methods will be updated but not shared by the LLFA.

11.2 How regularly we monitor progress

Monitoring and updating this Strategy and Plan is necessary and, in line with the National Strategy, will be carried out biannually (every 2 years). This ensures latest information is included, current legislation is applied, and any national strategy changes are incorporated locally. The review frequency may vary in the longer term but never less than the minimum recommended frequency. The amendments to the Strategy will be reviewed by the Head of Service, and other appropriate political processes, as well as being made available to the public. The Action Plan will also be reviewed bi-annually by the LLFA management chain before being shared with the public as an addendum on the council Flood Risk Webpage.

12. Appendices

Appendix A1 – Our Previous Flood Action Plan (Update)

Action	Benefits	Target timescale	Critical dependencies (for delivery)	Cost	Related measure(s)	Funding option(s)	Delivery partners / options	Type(s) of flood management (National Strategy)	Type of Activity	Status
(1) Review Indicative FRAs	To ensure an accurate representation of flood risk within the county	3-6 Years	Internal & External Resources	Time Cost	N/A	None	NRW	N/A	Core Activity	Complete
(2) Set up internal flood recording database	Record and Monitor Internal Flood Incidents	1-3 Years	Internal Resources	Time Cost	N/A	None	None	N/A	Core Activity	Complete
(3) LLFA to monitor and review operation of Call Centre	Ensure the public are receiving the best possible service	Annually	Internal Resources	Time Cost	N/A	None	NPTCBC IT Department	N/A	Core Activity	In Progress
(4) Assimilate information in Flood Hazard Plans	Ensuring indicative Flood Risk Plans are amended and representative.	3-6 Years	Internal & External Resources	Time Cost	N/A	None	NRW	N/A	Core Activity	Complete
(5) Review List of Priority Schemes	Ensuring funding is allocated to the most at risk communities	Annually	Internal Resources	Time Cost	N/A	None	None	N/A	Core Activity	In Progress
(6) Assess priorities based on Resource availability	Ensuring LLFA is realistic in its delivery programme and potential achievements	Annually	Internal Resources	Time Cost	N/A	None	None	N/A	Core Activity	In Progress
(7) Lead on directing partnership response to flood events	Co-ordinate various programme and plans of routine activities to achieve strategy's desired outcomes	Annually	Internal Resources	Time Cost	N/A	None	All RMAs & Stakeholders	N/A	Core Activity	In Progress
(8) Investigate significant events (S19)	Identify responsible RMA or stakeholder and ascertain consequential actions	Annually	Internal Resources	Time Cost	N/A	None	All RMAs & Stakeholders	N/A	Core Activity	In Progress
(9) Appoint local Flood Champions	Instigate communications at a local level to ensure flood risk is effectively managed and communities are better informed	1-3 Years	Internal & External Resources	Time Cost	N/A	None	All RMAs & Stakeholders	N/A	Core Activity	Incomplete
(10) Provide public with Strategy	Ensuring population have access to information contained within the strategy	Annually	Internal Resources	Time Cost	N/A	None	NPTCBC IT Department	N/A	Core Activity	Complete
(11) RMAs and stakeholders to work together	Ensuring a coordinated response to flooding and effective management of flood risk	Annually	Internal & External Resources	Time Cost	N/A	None	All RMAs & Stakeholders	N/A	Core Activity	In Progress

Action	Benefits	Target timescale	Critical dependencies (for delivery)	Cost	Related measure(s)	Funding option(s)	Delivery partners / options	Type(s) of flood management (National Strategy)	Type of Activity	Status
(12) Produce a reviewing timetable for the Strategy	Ensuring information contained in the report is current and up to date	1-3 Years	Internal Resources	Time Cost	N/A	None	None	N/A	Core Activity	In Progress
(13) Demonstrate how the strategy contributes to wider environmental objectives	Consider enhancement of measures to maximise environmental benefits set out in SEA	1-3 Years	Internal Resources	Time Cost	N/A	None	None	N/A	Core Activity	Complete
(14) Incorporate SEA aims into all activities	Enhancing the environment and biodiversity when planning and developing business cases and flood prevention measures, ensuring multiple benefits are incorporated into FAS	Annually	Internal Resources	Time Cost	N/A	None	None	N/A	Core Activity	In Progress
(15) Enhancing Habitats in line with HRA	Implementation of SAB and provision of advice and guidance on land use management	1-3 Years	Internal & External Resources	Time Cost	N/A	None	All RMAs & Stakeholders	N/A	Core Activity	Complete
(16) Discharge of duties associated with SuDS	Achieving sustainable development and flood risk reduction through source control to emulate natural processes	1-3 Years	Internal & External Resources	Time Cost	N/A	None	All RMAs & Stakeholders	N/A	Core Activity	Complete
(17) Investigate Flood Incidents	Duty under s19 FWMA2010 to investigate and lead on addressing Flood incidents through liaison with other RMAs	Annually	Internal Resources	Time Cost	N/A	FCERM Revenue Grant	All RMAs & Stakeholders	N/A	Core Activity	In Progress
(18) Maintain Asset Register	Map and inspect structures or features that influence flood risk	Annually	Internal Resources	Time Cost	N/A	FCERM Revenue Grant	None	N/A	Core Activity	In Progress
(19) LLFA to become SAB	Approve, adopt (where appropriate) and maintain new SuDS	Annually	Internal Resources	Time Cost	N/A	None	None	N/A	Core Activity	In Progress
(20) Works Powers (See below Schemes)	LLFA to undertake works to manage flood risk from Surface Water, Ordinary Watercourses and Ground Water	Annually	Internal Resources	High	N/A	FCERM Capital Grant	All RMAs & Stakeholders	N/A	Reliant on WG and Internal Capital Funding	In Progress
(21) FCERM Aberavon CRMP Construction	Flood and Coastal Erosion protection	Complete 2020	Internal & External Resources	High	N/A	FCERM Capital Grant	External Consultancy	N/A	Reliant on WG and Internal Capital Funding	Complete
(22) FCERM Varteg Road FAS construction	Flood Risk Protection	Complete 2022	Internal & External Resources	Medium	N/A	FCERM Capital Grant	External Consultancy	N/A	Reliant on WG and Internal Capital Funding	Complete

Action	Benefits	Target timescale	Critical dependencies (for delivery)	Cost	Related measure(s)	Funding option(s)	Delivery partners / options	Type(s) of flood management (National Strategy)	Type of Activity	Status
(23) FCERM Rock Street FAS construction	Flood Risk Protection	Complete 2024	Internal & External Resources	High	N/A	FCERM Capital Grant	External Consultancy	N/A	Reliant on WG and Internal Capital Funding	Complete
(24) Designation Powers	LLFA to designate structures and/or features that effect flooding and coastal erosion	Annually	Internal Resources	Time Cost	N/A	None	Internal Departments	N/A	Core Activity	In Progress
(25) Progression of PARs (Preliminary Appraisal Report)	Review all previous PARs to progress those with a positive BCR to new Business Case Development stage (SOC/BJC/OBC/FBC)	Complete 2018	Internal & External Resources	Medium	N/A	FCERM Capital Grant	External Consultancy	N/A	Reliant on WG and Internal Capital Funding	Complete
(26) Set up Gully management system	Monitor, maintain and review gully cleansing performance	Complete 2021	Internal & External Resources	Low	N/A	FCERM Revenue Grant	External Consultancy	N/A	Reliant on WG and Internal Revenue Funding	Complete
(27) Set up critical culvert monitoring	Monitor, maintain and review culvert Trash Screen cleansing performance	Complete 2021	Internal & External Resources	Low	N/A	FCERM Revenue Grant	External Consultancy	N/A	Reliant on WG and Internal Revenue Funding	Complete
(28) GIS and Mapping	Map, inspect, monitor and maintain an asset database via a GIS platform to catalogue all drainage apparatus within the authority to include details such as condition, ownership, and responsibility	Annually	Internal Resources	Time Cost	N/A	FCERM Revenue Grant	None	N/A	Core Activity	In Progress

Appendix A2 – Our 2024 Flood Action Plan

2024 FLOOD ACTION PLAN										
Action	**Benefits**	**Target timescale**	**Critical dependencies (for delivery)**	**Cost**	**Related measure(s)**	**Funding option(s)**	**Delivery partners / options**	**Type(s) of flood management (National Strategy)**	**Type of Activity**	**Status**
(1) Develop Councils Flood Risk Website	Provide residents with the most relevant and easily accessible Flood Risk information	1-3 Years	Internal Resources	Time Cost	16 & 17	FCERM Revenue Grant	NPTCBC IT Department	A, B & E	Core Activity	Not Started
(2) Develop online public Gully and Culvert reporting system	Provide residents with ability to report gully or culvert blockages via online portal	1-3 Years	Internal Resources	Time Cost	7 & 16	FCERM Revenue Grant	NPTCBC IT Department	A, B, C & E	Core Activity	Not Started
(3) Develop the Detailed design and Construction of Grandison Brook FAS	Provide protection to residential and commercial properties in Briton Ferry against flooding	1-3 Years	Internal & External Resources	High	6, 10, 11 & 15	FCERM Capital Grant	External Consultancy	B, C & D	Reliant on WG and Internal Capital Funding	In Progress
(4) Develop the Detailed Design and Construction of Skewen FAS	Provide protection to residential and commercial properties in Skewen against flooding	1-3 Years	Internal & External Resources	High	6, 10, 11 & 15	FCERM Capital Grant	External Consultancy	B, C & D	Reliant on WG and Internal Capital Funding	In Progress
(5) Develop the Detailed Design and Construction of Cryddan Brook FAS	Provide protection to residential and commercial properties in Neath against flooding	3-6 Years	Internal & External Resources	High	6, 10, 11 & 15	FCERM Capital Grant	External Consultancy	B, C & D	Reliant on WG and Internal Capital Funding	In Progress
(6) Develop the Detailed Design and Construction of Stanley Place FAS	Provide protection to residential and commercial properties in Cadoxton against flooding	1-3 Years	Internal & External Resources	High	6, 10, 11 & 15	FCERM Capital Grant	External Consultancy	B, C & D	Reliant on WG and Internal Capital Funding	In Progress
(7) Update FRAW Map Heol Y Nant, Baglan FAS	Provide NRW with updated flood model to enable the benefits of Baglan FAS to be shown on the FRAW Map	1-3 Years	Internal & External Resources	Low	16 & 18	FCERM Revenue Grant	External Consultancy	A & D	Reliant on FCERM Revenue Grant	In Progress
(8) Update FRAW map Varteg Road, Ystalyfera	Provide NRW with updated flood model to enable the benefits of Varteg FAS to be shown on the FRAW Map	1-3 Years	Internal & External Resources	Low	16 & 18	FCERM Revenue Grant	External Consultancy	A & D	Reliant on FCERM Revenue Grant	In Progress
(9) Undertake Feasibility Study Morfa Glas FAS	Provide protection to residential and commercial properties in Glynneath against flooding	1-3 Years	Internal & External Resources	Medium	14 & 15	FCERM Capital Grant	External Consultancy	A & C	Reliant on WG Capital Funding	Not Started

(10) Undertake Feasibility Study at High Street, Blaengwrach	Provide protection to residential and commercial properties in Glynneath against flooding	1-3 Years	Internal & External Resources	Medium	14 & 15	FCERM Capital Grant	External Consultancy	A & C	Reliant on WG Capital Funding	Not Started
(11) Undertake Feasibility Study Glyncorrwg FAS	Provide protection to residential and commercial properties in Glyncorrwg against flooding	3-6 Years	Internal & External Resources	Medium	14 & 15	FCERM Capital Grant	External Consultancy & NRW	A & C	Reliant on WG Capital Funding	Not Started
(12) Undertake Feasibility Study Nant Hir FAS	Provide protection to residential and commercial properties in Gwaun Cae Gurwen against flooding	3-6 Years	Internal & External Resources	Medium	14 & 15	FCERM Capital Grant	External Consultancy & NRW	A & C	Reliant on WG Capital Funding	Not Started
(13) Undertake Feasibility Study Neath Town Centre FAS	Provide protection to residential and commercial properties in Neath Town Centre against flooding	1-3 Years	Internal & External Resources	Medium	14 & 15	FCERM Capital Grant	External Consultancy & NRW	A & C	Reliant on WG Capital Funding	Not Started
(14) Undertake Feasibility Study Margam FAS (Arnallt Brook)	Provide protection to residential and commercial properties in Margam against flooding	1-3 Years	Internal & External Resources	Medium	14 & 15	FCERM Capital Grant	External Consultancy	A & C	Reliant on WG Capital Funding	Not Started
(15) Undertake Feasibility Study at Ten Acre Wood, Margam	Provide protection to residential and commercial properties in Margam against flooding	1-3 Years	Internal & External Resources	Medium	14 & 15	FCERM Capital Grant	External Consultancy	A & C	Reliant on WG Capital Funding	Not Started
(16) Develop the Detailed Design and Construction of Briton Ferry Coastal Defence	Provide protection to residential and commercial properties in Briton Ferry against flooding and aid development of the Brunel Dock for enterprise and economic growth.	6+ Years	Internal & External Resources	High	6, 10, 11 & 15	FCERM Capital Grant	External Consultancy	B, C & D	Reliant on WG and Internal Capital Funding	Paused
(17) Develop the Detailed Design and Construction of Gnoll Park NFM Schemes	Provide protection to residential and commercial properties in Neath against flooding along with providing environmental enhancements to the area of Gnoll Country Park	1-3 Years	Internal & External Resources	Medium	5, 6, 10, 11 & 15	FCERM NFM Grant	External Consultancy & Woodland Trust	B, C & D	Reliant on WG Capital Funding	In Progress
(18) Assist with the development of Port Talbot FAS	Provide protection to residential and commercial properties in Aberavon and Port Talbot against flooding from the river Afan as well as open land for development to assist the LDP	1-3 Years	Internal & External Resources	Medium	18	FCERM Capital Grant	External Consultancy & NRW	B, C & D	Reliant on WG and Internal Capital Funding	In Progress
(19) Appoint Flood Risk Community Liaison Officer	Instigate communications at a local level to ensure flood risk is effectively managed and communities are better informed, aid with FCERM Project Developement	1-3 Years	Internal & External Resources	Low	4, 16, 17, 18 & 19	None	All RMAs & Stakeholders	A, B & E	Core Activity	Not Started

(20) Undertake a review and update the Critical Flood Risk Asset Plan	Ensure the culverts and Intake that are in the most at-risk areas and pose the greatest threat are inspected, cleansed and maintained by the LLFA	1-3 Years	Internal Resources	Time Cost	8, 9 & 10	None	None	A, B, C & E	Core Activity	In Progress
(21) Carry out flood risk Assessments at locations around the county borough that are at threat of flooding from all sources	Carrying out a thorough assessment of risk will allow NPT to either discount flooding shown on the FRAW mapping or progress project onto business case development, prioritising the most at-risk communities.	1-3 Years 3-6 Years 6+ Years	Internal & External Resources	Low	7, 12 & 14	FCERM Flood Revenue	External Consultancy	A & C	Reliant on WG and Internal Revenue Funding	Not Started
(22) Develop NFM Solution at Tonmawr Road-Mynydd Penrhys	Provides reduced flood risk to the only access road in and out of Tonmawr	1-3 Years	Internal & External Resources	Medium	5, 10 & 11	WG NFM Grant Funding	Private Landowner	B & D	Reliant on Internal and WG NFM Grant Funding	In Progress
(23) Liaise with NRW on river and sea flooding at various locations around the Authority	Ensure a joined-up approach to FRM, the sharing of information and actioning tasks and leads to bring about solutions to manage risk.	1-3 Years 3-6 Years 6+ Years	Internal & External Resources	Time Cost	14, 15 & 18	None	NRW	A	Core Activity	In Progress
(24) Map, inspect and maintain Drainage Apparatus at Prince Street, Margam	Carry out S21 asset survey of drainage apparatus to understand drainage regime and the level of risk	1-3 Years	Internal Resources	Low	8, 9 & 10	FCERM Flood Revenue	None	A & D	Reliant on WG and Internal Revenue Funding	Not Started
(25) Develop an additional maintenance rota, to inspect and cleanse surface water assets in high and medium Flood Risk Areas of Neath	Effectively reducing flood risk by maintaining assets within known flood risk areas.	1-3 Years	Internal Resources	Low	8, 9 & 10	None	None	A & D	Core Activity	Not Started
(26) Liaise with NWR and DCWW at Briton Ferry underpass at Church Street and Regent Street West	Effectively reducing flood risk by maintaining assets within known flood risk areas.	1-3 Years	Internal Resources	Low	18	None	None	A, B & E	Core Activity	In Progress
(27) Periodically carry out a CCTV survey of the culverted watercourse at Park Avenue, Skewen	Effectively reducing flood risk by Inspecting and maintaining assets within known flood risk areas.	1-3 Years	Internal Resources	Low	8, 9 & 10	FCERM Flood Revenue	None	A & D	Reliant on WG and Internal Revenue Funding	Not Started
(28) Carry out an asset survey at Park Avenue, Skewen	Carry out S21 asset survey of drainage apparatus to understand drainage regime and the level of risk	1-3 Years	Internal Resources	Low	7	FCERM Flood Revenue	None	A & D	Reliant on WG and Internal Revenue Funding	Not Started
(29) Inform residents of the flood risk at Heol Y Felin		1-3 Years	Internal Resources	Low	16 & 17	None	None	A & B	Core Activity	Not Started

Appendix A3 – Our Business-as-Usual Flood Action Plan

BUSINESS AS USUAL (BaU) FLOOD ACTION PLAN										
Action	**Benefits**	**Target timescale**	**Critical dependencies (for delivery)**	**Cost**	**Related measure(s)**	**Funding option(s)**	**Delivery partners / options**	**Type(s) of flood management (National Strategy)**	**Type of Activity**	**Status**
(1) LLFA to monitor and review operation of Call Centre	Ensure the public are receiving the best possible service	Annually	Internal Resources	Time Cost	16, 17 & 19	None	NPTCBC IT Department	B & E	Core Activity	In Progress
(2) Review List of Priority Schemes	Ensuring funding is allocated to the most at-risk communities	Annually	Internal Resources	Time Cost	11 & 15	None	None	C	Core Activity	In Progress
(3) Assess priorities based on Resource availability	Ensuring LLFA is realistic in its delivery programme and potential achievements	Annually	Internal Resources	Time Cost	11 & 15	None	None	A & C	Core Activity	In Progress
(4) Lead on directing partnership response to flood events	Co-ordinate various programme and plans of routine activities to achieve strategy's desired outcomes	Annually	Internal Resources	Time Cost	18 & 19	None	All RMAs & Stakeholders	B & E	Core Activity	In Progress
(5) RMAs and stakeholders to work together	Ensuring a coordinated response to flooding and effective management of flood risk	Annually	Internal & External Resources	Time Cost	18	None	All RMAs & Stakeholders	A, B & E	Core Activity	In Progress
(6) Produce a reviewing timetable for the Strategy	Ensuring information contained in the report is current and up to date	Annually	Internal Resources	Time Cost	3	None	None	A	Core Activity	In Progress
(7) Incorporate SEA aims into all activities	Enhancing the environment and biodiversity when planning and developing business cases and flood prevention measures, ensuring multiple benefits are incorporated into FAS	Annually	Internal Resources	Time Cost	6	None	None	A & B	Core Activity	In Progress
(8) Maintain Asset Register	Map and inspect structures or features that influence flood risk	Annually	Internal Resources	Time Cost	8	FCERM Revenue Grant	None	A, B, C & E	Core Activity	In Progress
(9) LLFA to become SAB	Approve, adopt (where appropriate) and maintain new SuDS	Annually	Internal Resources	Time Cost	1 & 2	None	None	B & D	Core Activity	In Progress
(10) Works Powers	LLFA to undertake works to manage flood risk from Surface Water, Ordinary Watercourses and Ground Water	Annually	Internal Resources	High	All	FCERM Capital Grant	All RMAs & Stakeholders	A, B, C, D & E	Reliant on WG and Internal Capital Funding	In Progress

BUSINESS AS USUAL (BaU) FLOOD ACTION PLAN										
Action	**Benefits**	**Target timescale**	**Critical dependencies (for delivery)**	**Cost**	**Related measure(s)**	**Funding option(s)**	**Delivery partners / options**	**Type(s) of flood management (National Strategy)**	**Type of Activity**	**Status**
(11) Designation Powers	LLFA to designate structures and/or features that effect flooding and coastal erosion	Annually	Internal Resources	Time Cost	8	None	Internal Departments	A & B	Core Activity	In Progress
(12) GIS and Mapping	Map, inspect, monitor and maintain an asset database via a GIS platform to catalogue all drainage apparatus within the authority to include details such as condition, ownership, and responsibility	Annually	Internal Resources	Time Cost	7	FCERM Revenue Grant	None	A, B, C & E	Core Activity	In Progress
(13) Continue to install CCTV camera systems on Critical Flood Risk Structures in the most at-risk areas	Enable effective management of Critical Flood Risk Assets	Annually	External Contractor	Low	9, 10, 16 & 17	FCERM Revenue Grant	External Contractor	A, B, C, D & E	Reliant on WG Grant Revenue Funding	In Progress
(14) Maintain & Develop the Gully Inspection programme	Enable effective management of Gully Assets	Annually	Internal Resources	Time Cost	7	FCERM Revenue Grant	External Developer	B, D & E	Core Activity	In Progress
(15) Maintain & Develop the Culvert Inspection Programme	Enable effective management of Critical Flood Risk Assets	Annually	Internal Resources	Time Cost	7, 8, 9 & 10	FCERM Revenue Grant	External Developers	A, B & C	Core Activity	In Progress
(16) S21 Asset Investigations	Continue to build a detailed record and register of drainage infrastructure in the county borough to aid with FRM	Annually	Internal Resources	Time Cost	8	FCERM Revenue Grant	None	A, B & E	Core Activity	In Progress
(17) S19 Flood Investigations	Continue to provide detailed flood risk assessments following the flooding of 4+ houses in one location during one storm event	Annually	Internal Resources	Time Cost	13	FCERM Revenue Grant	None	A, C & E	Core Activity	In Progress
(18) Maintain Addressing Floods Database	Continue to provide a record of property's effected by flooding to build historical database of evidence detailing causes and outcomes	Annually	Internal Resources	Time Cost	12	FCERM Revenue Grant	None	A, C & E	Core Activity	In Progress
(19) T98 Asset Inspections	Continue to record detailed conditional reports of all critical flood risk assets	Annually	Internal Resources	Time Cost	8 & 9	FCERM Revenue Grant	None	A, B & C	Core Activity	In Progress
(20) Quarterly or monthly Meetings with Dwr Cymru Welsh Water	Encourage collaborative working with RMA and assist each other with	Annually	Internal Resources	Time cost	18	None	DCWW	A, B, C & E	Core Activity	In Progress

BUSINESS AS USUAL (BaU) FLOOD ACTION PLAN										
Action	**Benefits**	**Target timescale**	**Critical dependencies (for delivery)**	**Cost**	**Related measure(s)**	**Funding option(s)**	**Delivery partners / options**	**Type(s) of flood management (National Strategy)**	**Type of Activity**	**Status**
	drainage investigations and flood resolutions.									
(21) SCBCEG - Regional Quarterly Meetings with LLFA & RMAS	Encourage collaborative working within SCBCEG (Swansea and Carmarthen Bay Coastal Engineering Group) and shared best practice	Annually	Internal Resources	Time cost	18	FCERM Revenue Grant	WLGA, LLFA's & RMA's	A, B, C & E	Core Activity	In Progress
(22) SWWFRMG - Regional Quarterly Meetings with LLFA & RMAS	Encourage collaborative working within SWWFRMG (Southwest Wales Flood Risk Management Group) and shared best practice	Annually	Internal Resources	Time cost	18	FCERM Revenue Grant	WLGA, LLFA's & RMA's	A, B, C & E	Core Activity	In Progress
(23) Implementation of SMP2 Actions	Carry out actions and measures identified in the SMP2 for the coastline to ensure NPT are resilient to coastal change.	Annually	Internal Resources	Time Cost	3	None	NRW	A, B, C, D & E	Core Activity	In Progress
(24) Manage and Maintain Surface Water Pumping Stations under NPTCBC ownership	Reduce the risk of surface water flooding to residential and commercial properties by ensuring the performance of PS assets in low spots and flood prone areas.	Annually	Internal Resources	Medium	9	Internal Revenue	None	B & D	Core Activity	In Progress
(25) SMP2 coastal monitoring and erosion rate surveys	Continue to implement coastal monitoring of SMP2 policy Units	Annually	Internal Resources	Low	3	Internal Revenue	None	A	Core Activity	In Progress
(26) SMP2 coastal maintenance and repairs	Continue to inspect, monitor and maintain CPA coastal defences in SMP2 policy Units	Annually	Internal Resources	Medium	3	Internal Revenue	None	B & D	Core Activity	In Progress
(27) Continue to maintain and inspect the highway drainage system and apparatus at specific locations around the county borough	Effectively reducing flood risk by maintaining assets within known flood risk areas.	Annually	Internal Resources	Low	9 & 10	Internal Revenue	None	B & D	Core Activity	In Progress
(28) Continue to Liaise with private landowners to maintain culverts, intakes and structure in known flood risk areas	Effectively reducing flood risk by ensuring those who are responsible for maintaining assets are carrying out their duties as defined under the LDA 1991.	Annually	Internal Resources	Low	16, 17 & 18	Internal Revenue	None	A & D	Core Activity	In Progress

Appendix B - Legislative context

For further information please see Annex C of the Welsh Government Guidance.

Flood and Water Management Act 2010

The Flood and Water Management Act was introduced in April 2010 in England and Wales. It was intended to implement Sir Michael Pitt's recommendations following the widespread flooding of 2007. The act was also intended to clarify roles and responsibilities between Risk Management Authorities (RMAs).

Under the Act, the Welsh Government are required to produce a National Strategy for Flood and Coastal Erosion Risk Management, and NPTCBC to produce a Local Flood Risk Management Strategy (LFRMS) which was initially completed in June 2013.

The LFRMS was created to define who the Risk Management Authorities are, what their function is and what their responsibilities are. The Strategy also had to be consistent with the National Strategy for Flood and Coastal Erosion Management. Prior to its publication, the LFRMS underwent a public consultation with all feedback being considered for inclusion.

Following a recent review by Welsh Government it is now intended to merge both the LFRMS and FRMP into one document that covers all aspects of Flood Risk Management that meets LLFA duties set out in both the Flood and Water Management Act and Flood Risk Regulations (below).

Flood Risk Regulations 2009

Under the Flood Risk Regulations 2009, Lead Local Flood Authorities (LLFAs) are responsible for producing Flood Risk Management Plans (FRMPs) for Indicative Flood Risk Areas that were identified in the Preliminary Flood Risk Assessments (PFRAs).

While Natural Resources Wales (NRW) is responsible for producing FRMPs at a river basin district level for communities at risk of flooding from main rivers and the sea, LLFAs are only required to produce local FRMPs to manage flooding from surface water and ordinary watercourses.

Although these regulations were driven by European legislation LLFA's continue to work to a six-year cycle for reporting as we await direction from central government.

Water Framework Directive 2000

The Water Framework Directive 2000 is a European Union Directive which commits member states to achieve good qualitative and quantitative status of all water bodies by 2015.

One of the requirements of the WFD is that National Resources Wales must produce and update a River Basin Management Plan for each district. NPTCBC lies within the Western Wales River Basin District.

Environment (Wales) Act 2016

The Act sets to promote sustainable management of natural resources; to provide for targets for reducing emissions of greenhouse gases; to reform the law on charges for carrier bags; to provide for the separate collection of waste, prohibit disposal of food waste to sewers and provide for prohibiting or regulating disposal of waste by incineration; to make provision about several and regulated fisheries for shellfish; to make provision about fees for marine licences; to establish the Flood and Coastal Erosion Committee; and to make minor changes to the law about land drainage and byelaws made by the Natural Resources Body for Wales.

Wellbeing of Future Generations (Wales) Act 2015

The Well-being of Future Generations (Wales) Act is about improving the social, economic, environmental, and cultural well-being of Wales. The Act gives a legally-binding common purpose – the seven wellbeing goals – for national government, local government, local health boards and other specified public bodies. It details the ways in which specified public bodies must work and work together to improve the well-being of Wales. It will make the public bodies listed in the Act think more about the long-term, work better with people and communities and each other, look to prevent problems, and take a more joined-up approach. This will help us to create a Wales that we all want to live in, now and in the future.

Planning (Wales) Act 2015

The Planning (Wales) Act ('The Act') is a set of provisions derived from an extensive evidence base and stakeholder engagement that will provide a modern legislative framework for the operation of the planning system. It puts in place delivery structures, processes, and procedures, to make the planning system fit for the 21st Century. Taken together the provisions will allow the planning system to support the delivery of national, local and community aspirations by creating sustainable

places where citizens have improved access to quality homes, jobs and built and natural environments and supports the use of the Welsh language.

Environmental Assessment of Plans and Programmes (Wales) Regulations 2004 – requirement for a Strategic Environmental Assessment (SEA)

A Strategic Environmental Assessment (SEA) is an approach used to ensure environmental issues are assessed and integrated at the earliest opportunity in the decision-making process when developing this Local Strategy.

It is a legal requirement in the UK for certain plans and programmes stipulated by the SEA Directive (2001/42/EC), to undergo Strategic Environmental Assessment (SEA). The SEA Directive is implemented in Wales by the Environmental Assessment of Plans and Programmes (Wales) Regulations 2004.

As the Local Strategy is a 'statutory plan,' a Strategic Environmental Assessment is needed, which will appraise the potential environmental impacts of the Local Flood Risk Management Strategy and its objectives, prior to its approval and formal adoption.

The purpose of Strategic Environmental Assessment is to provide for a high level of protection of the environment, by ensuring the integration of environmental considerations into the preparation of the Local Strategy and to contribute to the promotion of sustainable development and environmental protection.

Conservation of Habitats and Species Regulations 2017 – requirement for a Habitats Regulations Assessment (HRA)

In Wales, the Conservation of Habitats and Species Regulations (SI 1012, 2017), often known as the Habitats Regulations, implements the EU Habitats Directive (Directive (92/43/EEC) on the Conservation of natural habitats and of wild flora and fauna) and certain elements of the Birds Directive (2009/147/EC). This legislation provides the legal framework for the protection of habitats and species of European importance in Wales and England. Regulation 9(5) of the Habitats Regulations requires that a competent authority must consider the requirements of Habitats Directive in exercising any of its functions. Article 6(3) of the Habitats Directive defines the requirements for assessment of plans and projects potentially affecting European sites.

Measures to address specific flood risk identified during the implementation of this Strategy may also require separate Habitats Regulations Assessment, depending on the measure proposed.

Appendix C - Public consultation

There is a requirement for consultation between the Public, NRW, LLFAs and other RMAs as the Flood Risk Management Strategy and Plan is being developed.

A consultation period of four (4) weeks will be held so that our Flood Risk Partners can comment on this Flood Risk Management Strategy and Plan. The consultation period will be held between **3rd February 2025** and **9th March 2025.**

The following Flood Risk Partners will be invited to comment on the draft Flood Risk Management Strategy and Plan:

- All Risk Management Authorities
- All NPTCBC employees
- Members of the public

Attempts will be made to engage with the above through the following:

- Ensuring the plan is easily visible and accessible on the Authority's internet page
- Ensuring the plan is easily visible and accessible on the Authority's internal internet page
- Through social media networks
- A hard copy document will be available to view on request at the The Quays, Brunel Way, Baglan, SA11 2GG.

  A consultation questionnaire post on the council website (Appendix

The draft Flood Risk Management Strategy and Plan will be published on the Authority's web page prior to the commencement of the consultation period. A facility allowing our Flood Risk Partners to comment on the document will also be made available. All Flood Risk Partners are encouraged to respond to the consultation and make comments on the document with the Risk Management Authorities being encouraged to provide a more in-depth response.

All responses that are received during the consultation period will be incorporated into a spread sheet and will be reviewed by officers for comment. Any response which identifies a potential change in the document will be considered and the consequent change will be made if relevant. The spread sheet will then be published on the Authority's web page approximately 12 weeks after the close of the consultation period.

There has been significant interaction and collaboration between NPTCBC, WG, NRW and other RMAs through the Southwest Wales Flood Risk Management Group since the previous cycle of Strategy's and Plans. Attendance to all scheduled meetings has been achieved by both parties providing opportunities for continued collaborative working.

The Consultation period was concluded with a total of 4 responses in the feedback/Summary Appendix F

The table in Appendix G contains the itemised feedback from the Public Consultation

Appendix D – Review of the Document

The first full review of this document will be carried out by no later than March 2030 and subsequent reviews will then be carried out at six-year periods.

On completion of the review, NPTCBC will prepare an updated Strategy and Plan that will include an assessment of the progress of implementation of the measures set out within this document. A review to identify the reasons behind any measures which have failed to be implemented during the life cycle of this document will also be undertaken.

Following the publication, a bi-annual review will be undertaken by NPTCBC to establish the progress being made in the implementation of the measures and actions.

Appendix E - Glossary of Terms

Accretion:

The gradual extension of land by natural forces, as in the addition of sand to a beach by the sea, or the extension of a floodplain through the deposition of sediments by repeated flooding.

Climate Change Adaptation:

Adjustments in natural or human systems in response to actual or expected climate change, or its effects, which moderates harm or exploits beneficial opportunities.

Climate Change Mitigation (also known as Decarbonisation):

Intervention to reduce the sources of, or to enhance the sequestration of, greenhouse gases.

Coastal adaptation:

The process of adjustment due to actual or expected climate change. Adaptation seeks to moderate or avoid harm to communities.

Coastal erosion:

The wearing a way of land and the removal of beach or dune sediment by wave action, tidal currents, wave currents, drainage, weathering, or high winds.

Coastal erosion risk:

A measure of potential coastal erosion in terms of likelihood and impact.

Coastal erosion risk management authority:

Defined under the Coastal Protection Act 1949, as amended through Schedule 2 of the Flood and Water Management Act 2010. Authorities with certain powers to carry out coastal protection work. In Wales, these are the coastal Local Authorities and NRW.

Coastal Risk Management Programme:

This programme has been established to help Coastal Local Authorities deliver actions in the Shoreline Management Plans.

FCERM Business Case Guidance:

The Welsh Government guidance on preparing a business case for FCERM capital funding, issued to Local Authorities and NRW and published by the Welsh Government.

Flood and Water Management Act 2010:

An Act of Parliament updating and amending legislation to address the threat of flooding and water scarcity.

Flood and Coastal Erosion Committee (FCEC):

An independent advisory body to the Welsh Ministers and Welsh Risk Management Authorities on matters relating to flood and coastal erosion risk management.

Flood Risk Assessment Wales (FRAW):

A national assessment of risk from all sources of flooding for public and professionals.

Flood and Coastal Erosion Risk Management (FCERM):

The management of all aspects of flood and coastal erosion risk through understanding risk (probability and consequence) and seeking to modify these factors to reduce its impacts.

Green infrastructure:

Provides flood risk management solutions, traditionally done with hard engineering, by utilising the natural properties of native vegetation. Green measures involve exclusive use of natural materials to manage risk.

Green-grey interventions:

Enhancement of grey infrastructure projects to create and deliver environmental/ biodiversity benefits. Green-Grey measures use natural materials in combination with traditional engineered materials to reduce risk.

Groundwater:

Water held underground in the soil or in pores and crevices in rock.

Hybrid schemes:

The use of Natural Flood Management alongside traditional interventions.

Internal Drainage Board (IDB):

An operating authority which is established in areas of special drainage need in England and Wales with permissive powers to undertake work to secure clean water drainage and water level management within drainage districts.

Lead Local Flood Authority (LLFA):

Local Authority (the County Council or County Borough Council) for the area as defined in the Flood and Water Management Act.

Likelihood:

A term describing the chance of something happening, normally in terms of very low, low, medium, or high likelihood, and with the everyday phrases ‘possible but not expected,’ ‘possible,’ ‘probable’ and ‘expected.’ Can also be expressed as a percentage, e.g. 1% chance of flooding each year.

Local Resilience Forum:

A group required under the Civil Contingencies Act, 2004 who are responsible for the coordination of emergency planning in local areas.

Main River:

A watercourse shown as such on the Main River Map, and for which NRW has responsibilities and powers, to protect, risk of life where there is factual evidence of a flood risk.

Maintenance:

Work done to preserve the condition of a defence and maintain a standard of protection.

Measure:

Actions specified to achieve the objectives for managing flood and coastal erosion risk.

National Asset Database:

A database of flood assets managed by NRW. Intended to improve the analysis and mapping of risk and maintenance of those assets. It will hold data on flood assets maintained by Risk Management Authorities, with detail on their location, ownership, and condition.

National Coastal Erosion Risk Management (NCERM):

The National Coastal Erosion Risk Management map shows the estimated erosion extents based on current understanding. The maps show scenarios under the agreed SMP policy as well as under 'no active intervention' over the 3 SMP periods.

Nature Based Solutions:

Natural Flood Management (NFM) is sometimes referred to as nature-based solutions, particularly in the Natural Resources Policy, however, the NFM term is more widely used and recognised in flood risk management.

Natural Flood Management (NFM):

Measures that help to protect, restore, and emulate the natural functions of catchments, floodplains, rivers, and the coast. NFM takes many different forms and can be applied in urban and rural areas, and on rivers, estuaries, and coasts. This term covers both coastal and flood risk management solutions in this document.

Ordinary watercourse:

All watercourses that are not designated as main river, and which are the responsibility of Local Authorities or, where they exist, Internal Drainage Boards.

Risk Management Authority (RMA):

A Welsh Risk Management Authority is defined in Section 6 of the Flood and Water Management Act 2010 as NRW; a Lead Local Flood Authority, a district council for an area where there is no unitary authority, or a highway authority wholly in Wales; an internal drainage board for an internal drainage district that is wholly or mainly in Wales; a water company that exercises functions in relation to an area in Wales.

Recovery:

The process of rebuilding, restoring, and rehabilitating a community following an incident.

Shoreline Management Plan (SMP):

A large-scale assessment of the risks associated with coastal processes and helps reduce these risks to people and the development, historic and natural environments. Shoreline Management Plans are based on sediment cell boundaries relating to the movement of sand and shingle along the coast.

Sustainable Drainage System (SuDS):

Approach to surface water management which helps to deal with excesses of water by mimicking natural drainage processes.

Surface water flooding:

Also known as pluvial flooding. When the rate of rainfall exceeds the rate that water can infiltrate the ground, soil, or drainage systems.

Surface water runoff:

The amount or rate of water sheeting off land into watercourses or causing flooding elsewhere.

Technical Advice Note (TAN) 15 – Development and Flood Risk:

TAN 15 supports Planning Policy Wales and provides advice regarding development on flood plains, including consideration of flood risk from all sources.

Wider benefits:

Wider benefits help to deliver the Wellbeing of Future Generations objectives providing additional gain. In the context of this Strategy, those gains or benefits would be through the delivery of flood and coastal erosion risk management. This means that aside from reducing the flood or coastal erosion risk to a community, a scheme may deliver other benefits such as recreation, tourism, and/or biodiversity.

Appendix F – Consultation Feedback Comments

Feedback ID	Name/Role	Organisation	Comments	Feedback Response	Date Received	Action Required
1	NRW	NRW	We welcome the opportunity to comment on your LFRMSP and FCERM Local Strategy Measures and are pleased to see the alignment with the National Strategy Measures, as well as our own Flood Risk Management Plans. Within NRW's FRMP we have set out our desire to implement catchment-based approaches and work with partners as one of our key priorities, we have also set out a measure focused on working in collaboration with other risk management authorities to manage flood risk and deliver improved ways of working.	Noted	14/03/2025	No
2	NRW	NRW	There could be reference to the potential NPT PSB Climate Change Risk Assessment and Adaptation Plan.	Noted - NPT PSB Climate Change RA and AP not approved. Update will be carried out in 2-year review	14/03/2025	No
3	NRW	NRW	Although not available at the time of drafting, the Climate Change Community at Risk Register has now been circulated to LLFAs. Therefore, the information for section 2.3 could now be updated and include surface water flooding.	Updated and referenced in report	14/03/2025	Yes
4	NRW	NRW	It may also be worth including how flood risk will interact with other climate risks (wildfires, droughts, landslides).	Updated and referenced in report	14/03/2025	Yes
5	NRW	NRW	When referring to flood risk it should also be accepted that the associated increased risk of erosion, both fluvial and coastal, may also pose significant threats to existing and proposed development. The risk of erosion may affect land not currently identified as being at risk of flooding and therefore may need to be assessed separately.	Updated and referenced in report	14/03/2025	Yes
6	NRW	NRW	There could be reference to: The potential NPT PSB Climate Change Risk Assessment and Adaptation Plan NPT Local Nature Partnership Nature Recovery Action Plan	Noted – As above will be included in 2-year review	14/03/2025	No
7	NRW	NRW	The Flood Risk Regulations 2009 legislation was revoked as part of the Retained EU Legislation Bill on the 31 December 2023. It may be appropriate to note this change within the legislative context. Thanks for including reference to NRW's FRMP – It might be useful to highlight that both the overarching national section and specific Southwest Wales placed based section are relevant	Updated and referenced in report	14/03/2025	Yes
8	NRW	NRW	Suggest reference to Civil Contingencies Act and the Local Resilience Forum. Page 24. Please update reference from National Resources Wales to Natural Resources Wales Natural Resources Wales section – "Providing flood warnings to the public" NRW provide flood warnings for flooding from rivers and the sea, and not all sources of flooding. Please could there be more	Updated and referenced in report	14/03/2025	Yes

			explanation of the flood warning service as a short paragraph. We would be happy to provide some text. “Act as a central contact for flood information and enquiries” NRW have a strategic oversight role to understand and communicate flood risk across Wales. Within our oversight role we provide data, information and supporting advice to enable those at risk of flooding in Wales to understand their flood risk and to increase their flood Resilience. Flood information and queries will differ by remit and responsibility, so NRW will always signpost to the relevant organisations based on the source of flooding and who is responsible for managing that risk. NRW are one of many organisations with a responsibility to communicate flood risk. Advice and information is available on our website for those at risk of flooding. This includes personal flood plans, business flood plans, and community flood plans. Or you can call the 24/7 call centre Floodline (Call 0345 988 1188 or Type Talk 0345 602 6340), and through leaflets and templates to help prepare for flooding. Copies can be downloaded or requested by the public and partners at Online form / Ffurflen ar-lein. (including school flood plans). We organise and facilitate network events for flood volunteers or those interested in the flood risk in their community, to give them the opportunity to meet with others and those involved in flood risk. Future events will be promoted within the quarterly newsletter Flooding Matters / Llygad ar Lifogydd NRW have a position statement focused on NRW’s role engaging the public about flood risk and advice on actions to take to mitigate the impact of flooding on their homes, businesses, and communities. “Monitoring coastal erosion” NRW model and map coastal erosion risk for Wales, Natural Resources Wales / Check your coastal erosion risk (National Coastal Erosion Risk Management map). The Wales Coastal Monitoring Centre (WCMC) deliver a coastal monitoring programme on behalf of Welsh RMAs.			
9	NRW	NRW	The link provided for riparian owners may change – this is the webpage Natural Resources Wales / Owning a watercourse The section on riparian landowners only refers to ordinary watercourses and consent required from the LLFA under the Land Drainage Act 1991 at the moment. Riparian responsibilities also apply equally to main rivers and permission required under the Environmental Permitting Regulations (England & Wales) 2016, NRW responsible for regulating these flood risk activities Natural Resources Wales / Check if you need a flood risk activity permit (FRAP) For reference to NRW, could all three previous organisations be added (Forestry Commission Wales, Environment Agency Wales and Countryside Council for Wales).	Updated and referenced in report	14/03/2025	Yes

10	NRW	NRW	River flooding Please could a link to this webpage be added to 'Main River' as there is a map on there which shows all the main rivers in Wales: Natural Resources Wales / Responsibility for rivers, streams, culverts, and canals	Updated and referenced in report	14/03/2025	Yes
11	NRW	NRW	Reservoir flooding In Wales, Natural Resources Wales are the regulator for all large raised reservoirs, namely those that are capable of holding 10,000 cubic metres, or more, above the natural level of any part of the surrounding land. In NPTCBC there are 11 reservoirs that fall within the definition with 3 of those being owned by the council. Whilst the responsibility for ensuring reservoir owners observe and comply with the law sits with NRW, it is the owner that holds the liability to minimise that risk as low as reasonably practicable. The report should also make it clear that NPTCBC holds the responsibility for managing the flood risk from its own assets (and for compliance with law) including flooding from its reservoirs. Flooding does not only occur from large reservoirs, suggest that the word 'large' is removed.	Updated and referenced in report	14/03/2025	Yes
12	NRW	NRW	Measure 2 - SAB & Planning Consultee. Whilst this recognises the need for assessment of flood risk as part of planning determination the role of NRW as technical flood risk consultees should be noted. The term 'Flood Risk Assessment' should be amended to Flood Consequence Assessment' to align with WG policy and guidance.	Updated and referenced in report	14/03/2025	Yes
13	NRW	NRW	Measure 5 – Natural Flood Management (NFM) and Nature Based Solutions (NBS) We welcome reference to this approach and also reference how nature-based solutions for sediment management also links to the role of maintaining and keeping key assets resilience (Measure 10).	Noted	14/03/2025	No
14	NRW	NRW	It may be beneficial to include a link to a new webpage explaining Communities at Risk Register - Natural Resources Wales / How we plan and prioritise our flood risk management work	Updated and referenced in report	14/03/2025	Yes
15	NRW	NRW	As this action is attributed to all RMAs, it would be really helpful to have a greater understanding of this work package and the longer-term plans, including detail and expectation of the local flood champion role, each RMA as well as other key local stakeholders like town and community councils.	Action 19 has been altered to 'Appoint Flood Risk Community Liaison Officer' and Cost changed to Low to reflect this change.	14/03/2025	Yes
16	NRW	NRW	We welcome action 8 and reference to an asset database. We would encourage you to share the updated details with us in your next submission to the National Flood Asset Database. As per Annex IV of the Grant Memorandum and Measure 7 of National Strategy for Flood and Coastal Erosion Risk Management in Wales. This is so we can ensure we have the most accurate data within the National Flood Asset Database. As well as updating the Flood Risk Assessment Wales map and Flood Map for Planning map with local model data.	Noted, this is in line with current NPT Flood Risk practices.	14/03/2025	No

			Information on adding or updating your flood assets is available at Adding your flood assets (Grant Memorandum - Annex IV) Information regarding changes to risk data following the business case model development and scheme delivery can be found at Challenging our flood maps In all cases we recommend discussions at an early stage with our local operations team, who will be able to advise on any modelling requirements, NRW support/involvement timescales, latest NRW or industry guidance and how to submit data to us.			
17	NRW	NRW	We recognise the ongoing discussions regarding this project, and we hope we will be able to collaborate further on the river and tidal flooding in Aberavon and Port Talbot.	Noted	14/03/2025	No

Appendix G – Property Count Ranking

Residential Property's in areas at risk of flooding (depth >0.0m)	Rivers & Large Watercourses					Surface Water & Small Watercourses					Sea					Combined	
Risk Receptor	High Risk 1:30	Medium Risk 1:100	Low Risk 1:1000	Score	Rank	High Risk 1:30	Medium Risk 1:100	Low Risk 1:1000	Score	Rank	High Risk 1:30	Medium Risk 1:100	Low Risk 1:1000	Score	Rank	Score	Rank
Weighting	0.50	0.35	0.15			0.50	0.35	0.15			0.50	0.35	0.15				
Afan	166	185	4345	799.5	2	273	241	1097	385.4	2	0	0	0	0	4	1184.9	2
Corrwg	91	80	67	83.55	6	25	11	62	25.65	10	0	0	0	0	4	109.2	8
Pelenna	2	17	6	7.85	12	4	8	6	5.7	14	0	0	0	0	4	13.55	13
Ffrwdwyllt	91	51	183	90.8	5	3	2	66	12.1	12	3	0	0	1.5	2	104.4	9
Afon Pryddin	5	1	0	2.85	14	22	4	38	18.1	11	0	0	0	0	4	20.95	12
Amman	18	16	19	17.45	10	65	25	185	69	8	0	0	0	0	4	86.45	10
Dulais	1	2	78	12.9	11	197	35	193	139.7	7	0	0	0	0	4	152.6	7
Kenfig	29	24	239	58.75	7	230	44	345	182.15	5	0	0	0	0	4	240.9	5
Neath	972	830	764	891.1	1	1404	419	2265	1188.4	1	345	718	182	451.1	1	2530.6	1
River Clydach	16	17	26	17.85	9	176	56	326	156.5	6	1	0	3	0.95	3	175.3	6
Neath Vale	625	199	1153	555.1	3	305	78	331	229.45	3	0	0	0	0	4	784.55	3
Tawe	6	26	753	125.05	4	265	96	373	222.05	4	0	0	0	0	4	347.1	4
Lower Clydach	0	0	0	0	15	0	0	0	0	15	0	0	0	0	4	0	15
Upper Clydach	2	8	233	38.75	8	18	50	73	37.45	9	0	0	0	0	4	76.2	11
Twrch	0	8	12	4.6	13	9	6	15	8.85	13	0	0	0	0	4	13.45	14
Totals	2,024	1,464	7,878			2,996	1,075	5,375			349	718	185				

Non-Residential Property's in areas at risk of flooding (depth >0.0m)	Rivers & Large Watercourses					Surface Water & Small Watercourses					Sea					Combined	
Risk Receptor	High Risk 1:30	Medium Risk 1:100	Low Risk 1:1000	Score	Rank	High Risk 1:30	Medium Risk 1:100	Low Risk 1:1000	Score	Rank	High Risk 1:30	Medium Risk 1:100	Low Risk 1:1000	Score	Rank	Score	Rank
Weighting	0.5	0.35	0.15			0.5	0.35	0.15			0.50	0.35	0.15				
Afan	14	53	611	117.2	2	63	36	145	65.85	2	0	0	2	0.3	4	183.35	2
Corrwg	11	31	1	16.5	6	21	3	10	13.05	7	0	0	0	0	5	29.55	6
Pelenna	2	0	0	1	12	10	0	1	5.15	11	0	0	0	0	5	6.15	12
Ffrwdwyllt	7	10	3	7.45	11	3	6	0	3.6	12	1	0	0	0.5	3	11.55	11
Afon Pryddin	0	0	0	0	14	1	0	1	0.65	13	0	0	0	0	5	0.65	13
Amman	28	1	1	14.5	7	8	0	10	5.5	10	0	0	0	0	5	20	10
Dulais	3	16	16	9.5	10	19	3	12	12.35	8	0	0	0	0	5	21.85	8
Kenfig	13	6	21	11.75	9	8	5	24	9.35	9	0	0	0	0	5	21.1	9
Neath	410	142	96	269.1	1	248	100	338	209.7	1	81	39	31	58.8	1	537.6	1
River Clydach	15	20	17	17.05	5	28	5	29	20.1	4	5	0	1	2.65	2	39.8	5
Neath Vale	54	12	98	45.9	3	44	6	23	27.55	3	0	0	0	0	5	73.45	3
Tawe	3	34	94	27.5	4	26	9	26	20.05	5	0	0	0	0	5	47.55	4
Lower Clydach	0	0	0	0	14	0	0	1	0.15	14	0	0	0	0	5	0.15	15
Upper Clydach	3	4	66	12.8	8	17	8	20	14.3	6	0	0	0	0	5	27.1	7
Twrch	0	0	1	0.15	13	0	0	1	0.15	14	0	0	0	0	5	0.3	14
Totals	563	329	1,025			496	181	641			87	39	34				

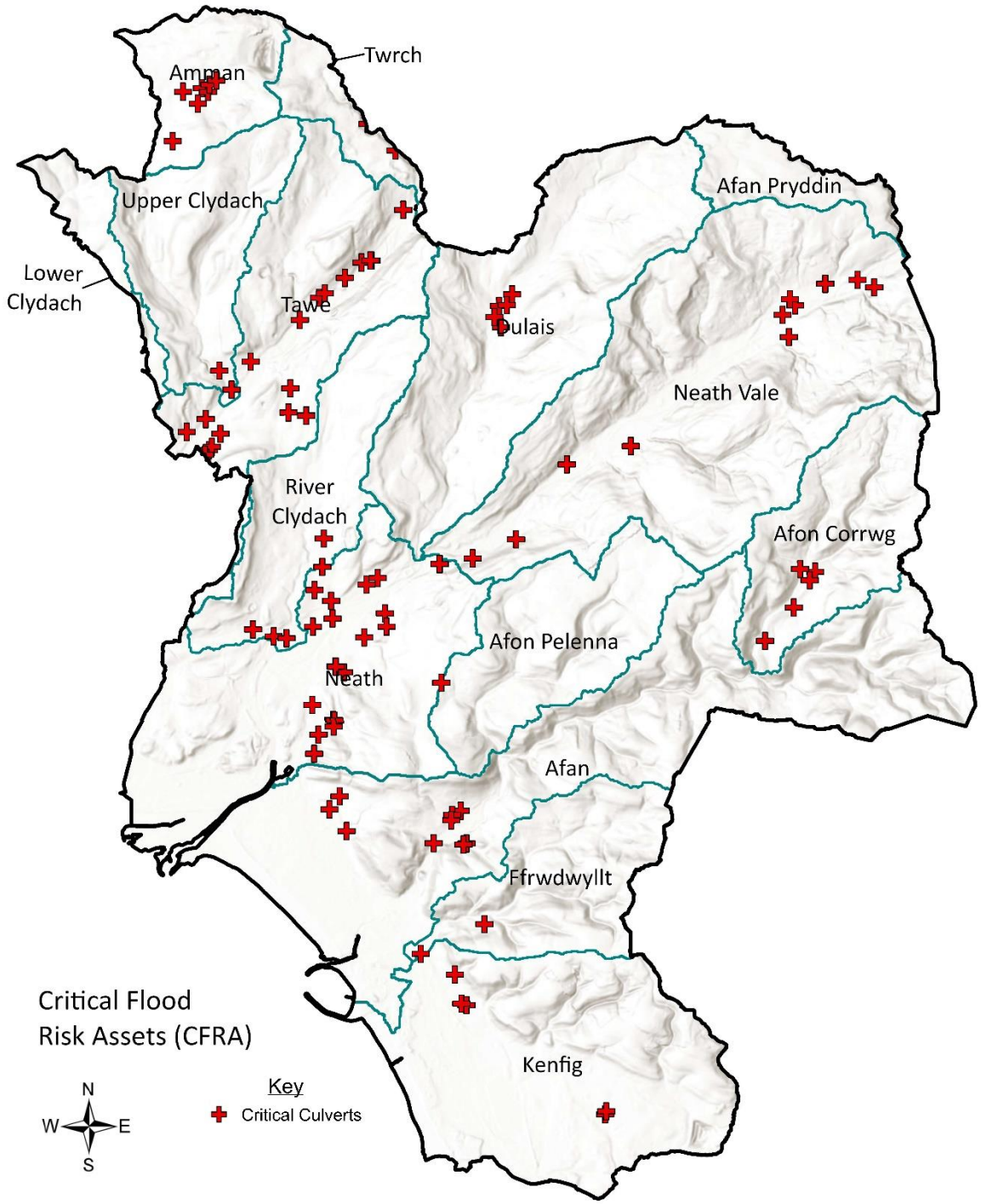
Essential Services in areas at risk of flooding (depth >0.0m)	Rivers & Large Watercourses					Surface Water & Small Watercourses					Sea					Combined	
Risk Receptor	High Risk 1:30	Medium Risk 1:100	Low Risk 1:1000	Score	Rank	High Risk 1:30	Medium Risk 1:100	Low Risk 1:1000	Score	Rank	High Risk 1:30	Medium Risk 1:100	Low Risk 1:1000	Score	Rank	Score	Rank
Weighting	0.50	0.35	0.15			0.5	0.35	0.15			0.50	0.35	0.15				
Afan	5	1	44	9.45	2	4	2	22	6	2	0	0	1	0.15	2	15.6	2
Corrwg	3	0	2	1.8	7	0	0	3	0.45	12	0	0	0	0	3	2.25	8
Pelenna	0	0	0	0	13	0	0	0	0	14	0	0	0	0	3	0	14
Ffrwdwyllt	1	0	3	0.95	9	2	0	2	1.3	9	0	0	0	0	3	2.25	8
Afon Pryddin	0	0	0	0	13	1	0	0	0.5	11	0	0	0	0	3	0.5	12
Amman	1	1	0	0.85	10	1	0	4	1.1	10	0	0	0	0	3	1.95	11
Dulais	0	0	1	0.15	11	2	1	5	2.1	8	0	0	0	0	3	2.25	8
Kenfig	0	4	6	2.3	5	3	3	8	3.75	5	0	0	0	0	3	6.05	5
Neath	24	9	6	16.05	1	23	10	32	19.8	1	8	7	6	7.35	1	43.2	1
River Clydach	2	0	1	1.15	8	3	3	4	3.15	7	0	0	0	0	3	4.3	7
Neath Vale	9	3	16	7.95	3	6	2	4	4.3	4	0	0	0	0	3	12.25	3
Tawe	0	7	3	2.9	4	6	1	7	4.4	3	0	0	0	0	3	7.3	4
Lower Clydach	0	0	0	0	13	0	0	0	0	14	0	0	0	0	3	0	14
Upper Clydach	0	2	10	2.2	6	5	1	4	3.45	6	0	0	0	0	3	5.65	6
Twrch	0	0	1	0.15	11	0	0	1	0.15	13	0	0	0	0	3	0.3	13
Totals	45	27	93			56	23	96			8	7	7				

Appendix H – Critical Flood Risk Assets (CFRAs)

ASSET ID	ASSET NAME	WARD	SFRA
CUL_0006	YNYS LEE	Bryn and Cwmavon	Afan
CUL_0007	FOOTPATH AT YNYS LEE	Bryn and Cwmavon	Afan
CUL_0009	PENTWYN ESTATE FOOTPATH	Baglan	Afan
CUL_0010	CHESTNUT ROAD	Baglan	Afan
CUL_0011	WILLOW WAY	Baglan	Afan
CUL_0012	BEECHWOOD ROAD	Margam and Taibach	Kenfig
CUL_0013	TORONTO AVENUE	Margam and Taibach	Kenfig
CUL_0014	PANT HOWELL DDU	Briton Ferry East	Neath
CUL_0015	YNYSYMAERDY ROAD	Briton Ferry East	Neath
CUL_0016	YNYSYMAERDY ROAD	Briton Ferry East	Neath
CUL_0017	BRITON FERRY ROAD	Neath East	Neath
CUL_0018	GRAIG ROAD	Briton Ferry East	Neath
CUL_0019	BROOK COURT	Neath East	Neath
CUL_0020	CWMAVON ROAD	Bryn and Cwmavon	Afan
CUL_0022	GOYTRE ROAD	Margam and Taibach	Ffrwdwyllt
CUL_0023	HEOL Y GLYN	Cymer and Glyncorrwg	Corrwg
CUL_0024	CYMMER ROAD	Cymer and Glyncorrwg	Corrwg
CUL_0025	GADLYS TERRACE AND PLEASANT VIEW ADJACENT ROAD	Cymer and Glyncorrwg	Corrwg
CUL_0028	NEATH ROAD	Resolven and Tonna	Neath Vale
CUL_0030	GLYNNEATH ROAD	Blaengwrach and Glynneath West	Neath Vale
CUL_0031	B4242 BLARNGWRACH TO GLYNNEATH	Blaengwrach and Glynneath West	Neath Vale
CUL_0033	MAES Y FFYNNON	Blaengwrach and Glynneath West	Neath Vale
CUL_0034	MAIN ROAD	Cadoxton	Neath
CUL_0035	CHURCH ROAD	Cadoxton	Neath
CUL_0036	DWR Y FELIN ROAD	Bryn-Coch South	Neath
CUL_0037	COURT WALK	Bryn-Coch South	Neath
CUL_0038	CAE NANT TERRACE	Coedffranc Central	Clydach
CUL_0039	TREFORGAN ROAD	Crynant, Onllwyn and Seven Sisters	Dulais
CUL_0040	MARCH HYWEL	Rhos	Tawe
CUL_0041	MARCH HYWEL	Rhos	Tawe
CUL_0042	NEW ROAD	Rhos	Tawe
CUL_0043	NEW ROAD	Rhos	Tawe
CUL_0044	A4109 FROM CRYNANT TO SEVEN SISTERS	Crynant, Onllwyn and Seven Sisters	Dulais
CUL_0045	STARVIN HILL	Crynant, Onllwyn and Seven Sisters	Dulais
CUL_0048	A4067 FROM GLAIS TO PONTARDAWE	Alltwen	Tawe
CUL_0050	GRAIG NEWYDD	Godre'r Graig	Tawe
CUL_0051	CEFN SAESON FACH ACCESS LANE FROM B4287	Cimla and Pelenna	Neath

ASSET ID	ASSET NAME	WARD	SFRA
CUL_0052	OLD ROAD	Dyffryn	Clydach
CUL_0053	PHEASANT ROAD	Trebanos	Tawe
CUL_0054	SWANSEA ROAD	Trebanos	Tawe
CUL_0055	HERBERT STREET BYPASS	Pontardawe	Upper Clydach
CUL_0056	JAMES STREET	Pontardawe	Upper Clydach
CUL_0057	BIRCHFIELD ROAD	Pontardawe	Tawe
CUL_0060	CLWYD ROAD	Gwaun-Cae-Gurwen and Lower Brynamman	Amman
CUL_0061	NEW ROAD	Gwaun-Cae-Gurwen and Lower Brynamman	Amman
CUL_0062	GARTH ROAD	Gwaun-Cae-Gurwen and Lower Brynamman	Amman
CUL_0085	C250 FROM CYMMER TO GLYNCORRWG	Cymer and Glyncorrwg	Corrwg
CUL_0104	PARK STREET	Cymer and Glyncorrwg	Corrwg
CUL_0129	MAIN ROAD	Crynant, Onllwyn and Seven Sisters	Dulais
CUL_0132	PEN Y BONT TERRACE	Crynant, Onllwyn and Seven Sisters	Dulais
CUL_0178	NEW ROAD	Resolven and Tonna	Neath Vale
CUL_0181	LANE BETWEEN 234 AND 236 NEATH ROAD	Briton Ferry East	Neath
CUL_0185	YNYSMEUDWY ROAD	Pontardawe	Tawe
CUL_0215	DAN Y COED HILL	Bryn and Cwmavon	Afan
CUL_0221	HEOL MABON	Bryn and Cwmavon	Afan
CUL_0230	DULAIS FACH ROAD	Resolven and Tonna	Neath
CUL_0231	DULAIS FACH ROAD	Resolven and Tonna	Neath
CUL_0233	LLANTWIT ROAD	Neath North	Neath
CUL_0237	DYFED ROAD	Neath North	Neath
CUL_0317	GRAIG ROAD	Godre'r Graig	Tawe
CUL_0318	CILMAENGWYN ROAD	Godre'r Graig	Tawe
CUL_0361	RHIWFAWR ROAD	Cwmllynfell and Ystalyfera	Twrch
CUL_0410	NEATH ROAD	Bryn-Coch North	Clydach
CUL_0413	LANCASTER CLOSE	Glynneath Central and East	Neath Vale
CUL_0432	GRAIG ROAD	Godre'r Graig	Tawe
CUL_0439	GROES WEN LANE	Margam and Taibach	Kenfig
CUL_0493	GNOLL AVENUE SIDE LANE ADJACENT TO NUMBER 19	Neath North	Neath
CUL_0564	NEATH ROAD	Resolven and Tonna	Neath Vale
CUL_0565	MAIN ROAD	Bryn-Coch North	Clydach
CUL_0597	A4067 FROM YNYSMEUDWY TO GODRE`R GRAIG	Godre'r Graig	Tawe
CUL_0603	HIGH STREET	Blaengwrach and Glynneath West	Neath Vale
CUL_0652	MONASTERY ROAD	Dyffryn	Clydach
CUL_0662	A4067 FROM GLAIS TO PONTARDAWE	Alltwen	Tawe
CUL_0688	DWR Y FELIN ROAD	Bryn-Coch South	Neath

ASSET ID	ASSET NAME	WARD	SFRA
CUL_0732	CWM CADNO	Margam and Taibach	Kenfig
CUL_0766	A4067 FROM GLAIS TO PONTARDAWE	Alltwen	Tawe
CUL_0769	A4067 FROM GLAIS TO PONTARDAWE	Alltwen	Tawe
CUL_0833	ZOAR ROAD	Cwmllynfell and Ystalyfera	Tawe
CUL_0837	DYNEVOR AVENUE	Bryn-Coch South	Neath
CUL_0923	MORRISTON PLACE	Gwaun-Cae-Gurwen and Lower Brynamman	Amman
CUL_0924	NEW ROAD	Gwaun-Cae-Gurwen and Lower Brynamman	Amman
CUL_0925	TROTTING TRACK	Gwaun-Cae-Gurwen and Lower Brynamman	Amman
CUL_1058	MEADOW ROAD	Neath South	Neath
CUL_1108	PONTNEATHVAUGHAN ROAD	Glynneath Central and East	Neath Vale
CUL_1187	CWRT YR EOS	Margam and Taibach	Kenfig
CUL_1195	HEOL Y GORS	Gwaun-Cae-Gurwen and Lower Brynamman	Amman
CUL_1207	NEW ROAD	Resolven and Tonna	Neath Vale
CUL_1305	YNYS Y NOS	Glynneath Central and East	Neath Vale
CUL_1414	LANE REAR OF WEST END	Margam and Taibach	Ffrwdwyllt
CUL_1540	THE AVENUE	Bryn and Cwmavon	Afan
CUL_1544	GRAIG ROAD ACCESS TO CEMETERY	Godre'r Graig	Tawe
CUL_1545	LANE FROM OLD NEATH ROAD TO SCHOOL ROAD	Neath East	Neath
CUL_1546	HEOL GWYS	Cwmllynfell and Ystalyfera	Twrch
CUL_1547	NEATH ABBEY BUSINESS PARK ROAD	Dyffryn	Clydach


Twrch
Amman
Upper Clydach
Lower Clydach
Tawe
Dulais
Afan Pryddin
Neath Vale
River Clydach
Afon Corrwg
Afon Pelenna
Neath
Afan
Ffrwdwyllt
Kenfig
Critical Flood Risk Assets (CFRA)
Key
Critical Culverts
N
W
E
S

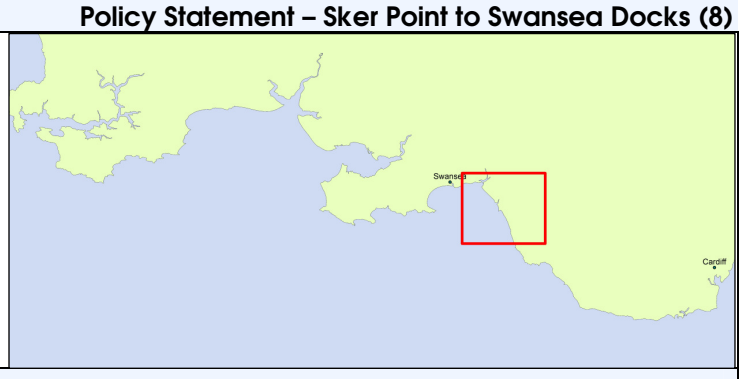
Appendix J – Prioritised Pipeline of Flood Alleviation Schemes

SCHEME NAME	SFRA	PROPOSED CONSTRUCTION START DATE	PROPOSED CONSTRUCTION END DATE
Stanley Place FAS	Neath	June 2024	September 2025
Grandison Brook FAS	Neath	April 2026	October 2027
Skewen FAS	Clydach	April 2028	October 2029
Cryddan Brook FAS	Neath	April 2030	October 2031
Neath FAS	Neath	April 2032	March 2033

Dates and order of prioritisation are based on information available at the time of publication

Appendix K – Extract from SMP2

Sker Point to Swansea Docks (8)



Recommendations:

Long Term Plan

This frontage comprises the heavily developed and modified shores of Port Talbot and the Neath Estuary, with various revetments, defences, breakwaters and structures associated with the Port of Port Talbot. Prior to development this coastline would have been characterised by extensive sand dune systems, although only two dune areas remain, Kenfig Burrows and Margam Burrows (to the south of Port Talbot) and the smaller Crymlyn Burrows (to the north of the Neath Estuary).

The plan is to continue to manage the risk of coastal erosion and flooding to industrial, residential, non-residential, commercial and amenity assets along the coast, whilst enabling natural evolution of the dunes.

There are significant linkages and interdependencies along this frontage and its future evolution, will be dependent upon future management strategies for Port Talbot steelworks, the Port of Port Talbot and the Neath Estuary, which includes the Port of Neath and various leisure functions.

Location (Policy Unit)		Preferred SMP2 policy and approach to implementing the Plan		
		0-20 years	20-50 years	50-100 years
8.1	Sker Point to Afon Cynfig (Kenfig and Margam Burrows)	A policy of **managed realignment** is proposed to allow this largely undeveloped extensive dune system to respond and evolve naturally with minimal interference. This will enable long term habitat management and introduction of measures to manage and control recreational pressures. There is little risk of breach or adverse impact on the wider shoreline or hinterland.		
8.2	Port Talbot steelworks	The policy is to **hold the line**, maintaining and upgrading existing defences (privately funded) in response to future climate change/ sea level rise as required. This will continue to manage the risk of coastal erosion and flooding to the industrial area and minimise the risk of potentially contaminated material from being released into the coastal zone.		
8.3	Port of Port Talbot (including River Avan)	The policy is to **hold the line**, maintaining and upgrading the existing defences (privately funded) as required to ensure that the risk of coastal erosion and flooding to the industrial area is managed. The maintenance and upgrading of structures and operations associated with the Port of Port Talbot (breakwaters and maintenance dredging) is the responsibility of the port authority. Port structures are not considered by the SMP, since they do not comprise coastal erosion and risk management measures. However since port structures provide a defence function it has been assumed that they will be maintained throughout the period of the SMP.		
8.4	Port of Port Talbot to Baglan Burrows (Aberavon Beach)	The policy is **hold the line**, maintaining, upgrading and replacing defences in response to future climate change/ sea level rise, subject to the availability of public funding for coastal erosion and flood risk management. There are a large number of socio-economic assets at risk from coastal erosion and flooding along this frontage along with the risk that potentially contaminated fill could be released into the coastal zone.		
8.5	Baglan Burrows	The policy of **managed realignment** will enable the dune system to function naturally, with minimal interference and monitoring, with the option to construct a secondary set back defence if there is a risk of the dunes breaching. This will minimise the risk of coastal erosion and flooding to hinterland assets, including a power station, industrial area and potentially contaminated land.		
8.6	Neath Estuary	Maintain and upgrade existing defences under a policy of **hold the line** to minimise the risk of coastal erosion and flooding to assets and to manage the risk of potentially contaminated fill from being released in the estuary and coastal system. The maintenance and upgrading of structures and operations associated with the Port of Neath (training walls, maintenance dredging of the navigation channel and deposition of dredged material in areas within the Estuary adjacent to the navigation channel) is the responsibility of the port authority and it has been stated that these will be managed in future to ensure that the port and other leisure functions are maintained. Port structures are not addressed by the SMP, since they do not comprise coastal erosion and risk management measures, but have been included for completeness.		
8.7	Crymlyn Burrows (River Neath to Former BP tank farm)	This is a largely undeveloped dune system, which also affords some protection to the nature conservation site of Crymlyn Bog. To allow this largely undeveloped extensive dune system to respond and evolve naturally, a long term policy of **managed realignment** is proposed. This will enable long term habitat management and introduction of measures, as necessary, to control recreational pressures and also to manage any potential risk to the A483, which runs behind the dunes.		
8.8	Former BP tank farm	The short term policy is to **hold the line** by maintaining existing defences, whilst decontamination of the site is completed in advance of the proposed Bay Science and Innovation Campus development. It is unlikely that maintenance of existing defences would attract public coastal erosion and flood risk management funding, due to the limited number of socio-economic assets which are currently at risk.	Assuming that the Bay Science and Innovation Campus development is progressed in the medium/ long term, this will involve the construction of new defences along this frontage under a policy of **hold the line**, following decontamination of the site and subject to obtaining the necessary consents, licences and approvals. It is unlikely that these defences would attract public coastal erosion and flood risk management funding. In advance of the development studies will need to be undertaken to identify the potential impacts of the development on the adjacent environmentally designated area of Crymlyn Burrows and potential impacts of future climate change in order to develop suitable mitigation measures. The potential risk of outflanking of the development following failure of the existing defences along the frontage to the west (between the development and Swansea Docks) also needs to be considered and addressed.	

A review of the impacts of the preferred SMP2 policies on coastal evolution and behaviour is provided in Appendix E: Policy Development and Appraisal, Section E1.3.

Policy sensitivities and key uncertainties (further detail is included in Appendix K)

All units: the interlinkages along this frontage mean that most of the shoreline would be sensitive to changes in the Neath Estuary, either natural or due to modifications in how the estuary is managed.

Policy unit 8.1 – although the policy is unlikely to change, the long term risk to the M4 motorway, if the dunes become significantly more mobile, should be considered.

Policy unit 8.2 - the policy is sensitive to future private investment in maintaining and improving defences along the Port Talbot steelworks industrial site, if existing defences are allowed to fail there is a risk of potentially contaminated fill being eroded and released into the coastal zone.

Policy unit 8.3 – hold the line involves continued maintenance and upgrading of structures (breakwaters) and operations (maintenance dredging of navigation channel) for the Port of Port Talbot, which is subject to future management plans for these ports, future investment and the availability of private funding, since these structures/ operations are not covered by public funding of coastal erosion and flood risk management.

Policy units 8.4 and 8.5 – maintaining and upgrading existing defences (in response to future climate change/ sea level rise) is subject to the future availability of public funding for coastal erosion and flood risk management. Along these frontages the cost of implementing the preferred policy could be sensitive to future climate change (sea level rise, increased storminess) which would affect exposure of defences, and also result in changes to the sediment regime. The sediment regime could be affected by changes in management practices elsewhere within Swansea Bay (e.g. maintenance dredging of navigation channnels) and bathymetric changes.

Policy unit 8.6 – hold the line involves continued maintenance and upgrading of structures (training walls) and operations (maintenance dredging of the navigation channel) for the Port of Neath, which is subject to future management plans for this port, future investment and the availability of private funding, since these structures/ operations are not covered by public funding of coastal erosion and flood risk management. It has been assumed that training walls would be maintained/ improved and regular maintenance dredging of the navigation channel undertaken. Without maintenance the training walls would be expected to continue to fail in the short-term (0-20 years). It is likely they would continue to have some influence beyond this as they are substantial structures which would degrade slowly. Ultimately, however, the channel could break through and be free to meander across the intertidal zone, potentially impacting on the adjacent shorelines, policy units 8.5 and 8.7, and it is therefore recommended that the feasibility of these policy options is reviewed as part of the next SMP review. Although policy decisions along adjacent stretches of coast are unlikely to change, the implementation measures may also need to be reviewed at this stage.

Policy unit 8.7 – The future evolution of this frontage and the long term sustainability of this policy is dependent upon the future evolution and policy within adjacent policy units PU 8.6: Neath Estuary (continued maintenance dredging of the navigation channel and deposition of dredged material onto Crymlyn Burrow) and PU 8.8: Former BP tank farm.

Policy unit 8.8 This policy is sensitive to the future development plan, which is likely to involve private funding of defence improvements, subject to consideration of the potential impact on the adjacent shorelines and obtaining the necessary consents, licences and approvals.

Changes from present management / SMP1 policy[1]

Overall, these policies have not changed significantly since SMP1.

Policy unit 8.5 – Rather than hold the line (as proposed in SMP1), managed realignment is proposed, but this could involve provision of set back defences and the aim remains the same, namely to manage the risk of coastal erosion and flooding to the industrial area.

Policy unit 8.6 – SMP1 stated the need for a strategy study to develop and examine a range of future management options for Neath Estuary. The SMP2 proposes a hold the line policy in advance of undertaking this study.

Policy unit 8.7 – SMP1 stated that the anticipated long term policy was unknown and currently the present management is hold the line.

[1] The SMP1 documents should be referred to for more details as unit boundaries do not always align with SMP2 policy units and the policies refer to different time periods.

Sker Point to Swansea Docks (8) (this is a summary of impacts, for full details see **Appendix G SEA Report**)	
Issue	**Appraisal**
Receptor: Property, population and human health Aberavon is the only residential area along this heavily industrialised frontage. The coast is defended except at Kenfig and Margam Burrows, Baglan Burrows and Crymlyn Burrows.	
Will SMP policy maintain coastal settlements and manage the impact of coastal flood and erosion?	+ The plan will continue to manage flood and erosion risk to Aberavon through managing and upgrading of existing defences, subject to the availability of public funding for coastal erosion and flood risk management.
Will SMP policy directly increase the actual or potential coastal erosion or flood risk to communities?	+ There is little proposed change to existing policy along this frontage, reducing the risk of coastal erosion and flooding to residential areas is a key policy driver.
Is SMP policy sufficiently flexible to take account of dynamic coastal change?	− Maintenance and upgrading of existing defences (subject to the availability of public funding for coastal erosion and flood risk management) along the majority of this frontage would fix the shoreline position, reducing the potential for future dynamic coastal change. However this frontage has been highly modified in the past, since prior to development it would have been characterised by extensive sand dune systems. + Areas of undeveloped dunes would be allowed to develop and respond naturally.
Could there be a detrimental impact on the fabric of coastal communities?	+ Ongoing maintenance and upgrading of existing defences will continue to manage risk of coastal erosion and flooding to coastal communities.
Receptor: Land use, infrastructure and material assets This frontage is highly industrialised and includes Port Talbot steelworks, the Port of Port Talbot, Baglan Bay power station and industrial estate and the Port of Neath.	
Will SMP policy maintain key industrial, commercial and economic assets and manage the impact of coastal flooding and erosion?	− The Plan will manage the risk to key assets through maintenance of existing defences. Defences would be upgraded as required to continue to provide a suitable standard of protection, subject to the availability of funding.
Will the SMP policy ensure critical services and infrastructure remain operational, for as long as required?	+ The risk of coastal erosion and flooding to critical services and infrastructure would continue to be managed. The recommended policy at Baglan Burrows is managed realignment to enable the dune systems to function naturally with minimal interference. However the development of the dunes will be monitored and if there was a sufficient rick of a breach in the dunes, secondary defences would be provided inshore of the dunes to manage the risk of coastal erosion and flooding to industrial assets. + There would be no risk to critical marine, road and rail linkages.
Will there be an impact on marine operations and activities?	+ It is assumed that the port structures (breakwaters and training walls) would be maintained and maintenance dredging of navigation channels would be continued to enable marine operations and activities to continue at the Port of Port Talbot, the Port of Neath and within the Neath Estuary.
Will SMP policy impact coastal flooding or erosion on agricultural activities?	x There are no agricultural activities along this shoreline.
Will the SMP policy ensure that MoD (Qinetiq) ranges remain operational?	x There are no MoD (Qinetiq) assets along this shoreline.
Receptor: Amenity and recreational use The coastal settlement at Aberavon includes a range of leisure, amenity and recreational facilities including a wide promenade, and an amenity beach.	
Could the SMP policy have an impact on tourism in the area?	+ Continued maintenance and upgrading of defences along Aberavon will manage the risk of coastal erosion and flooding to leisure, amenity and recreation facilities. − Defences will prevent natural roll-back of the beach, therefore beach narrowing and steepening will occur in response to sea level rise.
Will SMP policy affect coastal access along, or to, the coast?	x There is limited public coastal access along approximately half of this coastline as a result of industrial development. The public can access the coast at Aberavon and through the following dune systems: Kenfig and Margam Burrows, Baglan Burrows and Crymlyn Burrows.
Receptor: Historic environment Kenfig Castle and Medieval Town Scheduled Monument is located near the M4 within Kenfig Burrows. There are also a number of listed buildings in Aberavon and numerous wreck sites on the foreshore and in the intertidal area.	
Will SMP policy maintain the fabric and setting of key historic listed buildings, cultural heritage assets and conservation areas?	x Kenfig Castle and Medieval Town SM is not at risk, due to its position inland. + No risk to listed buildings at Aberavon due to maintenance of the existing defences. − Listed buildings associated with the Port of Port Talbot are likely to suffer periodic flood risk due to overtopping as sea level rises. − There is a risk of erosion or submergence of the various wreck sites. The level of this risk is dependent on erosion rates and rates of sea level rise.

Sker Point to Swansea Docks (8) (this is a summary of impacts, for full details see **Appendix G SEA Report**)	
Issue	**Appraisal**
Will the SMP provide sustainable protection of archaeological and palaeo-environmental features or ensure adequate time for monitoring, assessment and mitigation measures to be devised in response to ongoing and future erosion.	+ Maintenance of defences at Aberavon will ensure that archaeological assets will continue to be managed. ● Where there are wreck sites on the foreshore and in the intertidal areas, there is risk of flooding and erosion, which would not be affected by SMP policy. Monitoring and mitigation measures would be dependent on rates of natural erosion and sea level rise.
Receptor: Landscape character and visual amenity The landscape of this frontage is varied. The dune systems, particularly Kenfig and Margam Burrows are expansive, undeveloped areas. However, the majority of the frontage is heavily industrialised.	
Will SMP policy maintain a range of key natural, cultural and social features critical to the integrity of the coastal landscape?	+ For much of this shoreline there is no proposed change from existing policy, therefore minimal change to the landscape, particularly in the short term. This would enable the natural and industrialised landscapes to be maintained, and the visual contrast between them. – Defences may need to be raised in response to future climate change and sea level rise to continue to provide a suitable standard of protection with respect to coastal erosion and flooding. Providing raised defences may affect visual amenity, particularly along the promenade at Aberavon.
Could SMP policy lead to the introduction of features which could be unsympathetic to the character of the landscape?	+ There is no intent to provide defences along any currently undefended sections of this frontage, other than set-back defences at Baglan Burrows. + Although there may be a need to construct set-back defences at Baglan Burrows, these would not be expected to adversely affect the character of the landscape due to its industrial nature.
Receptor: Biodiversity, flora and fauna Although this shoreline is largely industrialised, there are a number of designated sites: Kenfig SSSI, Crymlyn Burrows SSSI, Kenfig Pools and Dunes National Nature Reserve and Kenfig Special Area of Conservation.	
Will SMP policy enable a sustainable approach to habitat management?	+ There are no new defences proposed in currently undefended areas, other than set-back defences at Baglan Burrows, therefore this is considered a sustainable approach to natural evolution of the coastline and its habitats. + At both Kenfig Burrows and Crymlyn Burrows a policy of managed realignment is considered sustainable and would allow natural coastal processes to continue, but with the option of implementing small-scale management techniques, if necessary, to improve or maintain habitats.
Will SMP policy maintain or enhance any international, national or local sites of natural conservation interest?	● Natural erosion of foredunes at Kenfig Burrows and Crymlyn Burrows could occur as sea level rises. There may also be some change in habitats within the dunes if flood risk increases. However, dune systems would be expected to maintain their overall integrity. + Local dune management techniques could be implemented, as required, at Kenfig Burrows and Crymlyn Burrows in order to maintain or enhance the dune systems. + The recommended policy of hold the line within the Neath Estuary assumes that the training walls would be maintained and that maintenance dredging of the navigation channel would continue. The training walls would continue to trap sediment on the west and manage the risk of coastal erosion to Crymlyn Burrows. Material dredged from the navigation channel has previously been deposited onto Crymlyn Burrows to enhance the habitat, and this could be repeated in future.
Will SMP policy accelerate intertidal narrowing (coastal squeeze) and will this affect designated habitats?	+ These dune systems would be allowed to evolve naturally, leading to natural coastal narrowing as sea level rises, if the stable vegetated dunes prevent retreat.
Will there be a net loss of BAP habitat within the SMP timespan as a result of SMP policy?	– Loss of peat exposure with and without piddock evidence due to MR at Kenfig Burrows and due to sea level rise at Port Talbot Steelworks. This would occur in the short term, medium and long term. – Narrowing of intertidal habitat at Neath Estuary due to provision of defences.
Receptor: Earth heritage, soils and geology Crymlyn Burrows SSSI is noted for its geomorphology and geology.	
Does SMP policy work with natural processes and enhance or maintain natural features?	+ The SMP plan is to allow natural coastal evolution along the designated frontage, thereby working with natural coastal processes.
Will SMP policy maintain or enhance the visibility of coastal geological exposures, where designated?	x There are no designated geological exposures.
Receptor: Water There are numerous coastal, freshwater, transitional (areas of water near river mouths, which are partially saltwater but are influenced by freshwater) and groundwater bodies in the SMP2 area that have the potential to be affected by SMP2 policies.	
Will SMP policy manage the risk of pollution from contaminated sources?	+ The recommended policy is for hold the line along the majority of this heavily industrialised frontage where there is significant contamination risk. At Baglan Burrows, where there are currently no defences, the policy allows for the construction of set back defences

Sker Point to Swansea Docks (8)
(this is a summary of impacts, for full details see **Appendix G SEA Report**)

Issue	Appraisal
	should the risk of coastal erosion and flooding to Baglan Bay power station and the industrial hinterland increase. The former BP tank farm at the western end of the frontage is currently being decontaminated, and the policy is to hold the line at least until this process is complete.
Will SMP policy adversely affect water bodies in the coastal zone?	+ Increased extents of naturally functioning coastline will result in the Swansea Bay water body from MR at the burrows at Kenfig and Margam (PU8.1), Baglan (PU8.5) and Crymlyn (PU8.7), which supports WFD objectives. − Elsewhere, HTL is likely to result in loss of intertidal habitats with sea level rise, and may have consequences for biological quality elements and risk failure of the WFD objective related to future achievement of good potential in the Swansea Bay water body (currently bad potential). ● HTL at PU8.3 is unlikely to affect WFD objectives for the Afan water body, which is already at good potential. HTL at the PU8.6 should benefit biological quality elements in the Neath water body (already at good potential) since the channel training walls encourage sedimentation and intertidal habitat. ● The Swansea Southern Carboniferous Limestone and Swansea Carboniferous Coal Measures groundwater bodies and river and lake surface water bodies will be unaffected.

Impact colour key	+ Positive	● Neutral	− Negative	x Not applicable

Sker Point to Swansea Docks (8)						
ACTION PLAN						
Action	**Action Ref**	**Policy Unit**	**Action Description** (to be approved)	**Potential source for funding** (subject to approval)	**Responsibility** Lead partner * (supporting partner)	**When by** (subject to funding)
1. Studies for Scenario Area			-			
2. Studies for Policy Units	2.1	8.2	Engage with and encourage Tata Steel to undertake a study to identify the current and future risk of coastal erosion and flooding to Port Talbot steelworks and associated infrastructure to enable a long term sustainable flood and coastal erosion risk management plan to be developed for the site. This should include a study into the nature of the potentially contaminated land which is potentially at risk from coastal erosion. Ensure that any future management plans are monitored and used to inform and, where appropriate, update the SMP.	Tata Steel	Tata Steel (Neath Port Talbot County Borough Council and EAW)	0 to 20 years
	2.2	8.3	Engage with and encourage ABP to undertake a study to identify the current and future risk of coastal erosion and flooding to the Port of Port Talbot and associated infrastructure to enable a long term sustainable flood and coastal erosion risk management plan to be developed for the site. Ensure that any future management plans for the Port of Port Talbot including future maintenance dredging are monitored and used to inform and, where appropriate, update the SMP.	ABP	ABP (Neath Port Talbot County Borough Council and EAW)	0 to 20 years
	2.3	8.4, 8.6 and 8.8	Undertake a scoping assessment to identify when a feasibility study of the upgrading/improvement options to existing defences needs to be carried out and/or identify the criteria/factors that would trigger this feasibility study. The timing of this feasibility study will be influenced by factors such as: existing frequency of flooding risk of coastal erosion, type of receptors at risk, depths and velocity of flooding, residual asset life and consideration of alternative funding options where it is not possible to justify public investment in coastal erosion and flood risk management.	WAG	Neath Port Talbot County Borough Council & City and County of Swansea	0 to 20 years
	2.4	8.6	Ensure that any future management plans for the Port of Neath including future maintenance dredging and proposals wrt the training walls are monitored and used to inform and, where appropriate, update the SMP.	WAG/ Private developer	Neath Estuary Group (Neath Port Talbot County Borough Council)	Ongoing
	2.5	8.8	Undertake studies to identify the potential impacts of the proposed Bay Science and Innovation Campus development on the adjacent environmentally designated area of Crymlyn Burrows and potential impacts of future climate change. The potential risk of outflanking of the development from the undefended frontage to the west also needs to be considered and addressed.	Private developer	ABP (Private developer, City and County of Swansea)	0 to 20 years
3. Strategy	3.1	8.6	Undertake Neath Estuary strategy study to consider the technical, socio-economic and environmental viability of a wide range of alternative management options to identify a long term sustainable solution for the management of the Neath Estuary and the adjacent Baglan Burrows and Crymlyn Burrows. The study should consider the following existing and future coastal/ estuarine processes and sediment regime under a range of future climate change scenarios, current and future coastal erosion and flood risks, future climate change impacts, environmental issues, constraints and opportunities, Port of Neath current operations and future development aspirations, leisure and amenity uses of the estuary, alternatives for managing the training walls and the maintenance dredging regime, socio-economic issues, alternative sources of funding to enable management, sources of potential investment in the area and the nature of potentially contamination areas at risk from erosion.	WAG/ Private developer	Neath Estuary Group (Neath Port Talbot County Borough Council)	0 to 5 years
4. Scheme work	4.1	8.4	Continued maintenance and upgrading of existing defences along the Aberavon seafront to continue to manage the risk of coastal erosion and flooding to the hinterland, subject to the future availability of public funding for coastal erosion and flood risk management	WAG	Neath Port Talbot County Borough Council	0 to 20 years
	4.2	8.5	Develop a scheme for provision of a set-back defence to manage the risk of coastal erosion and flooding to the industrial area inshore of Baglan Burrows which could be implemented quickly if dune monitoring identifies that there is a potential risk of a breach in the dunes.	WAG	Neath Port Talbot County Borough Council	0- to 20 years
	4.3	8.6	Implement recommendations of the Neath Estuary strategy study.	WAG	Neath Estuary Group	0 to 100 years
5. Monitoring (data collection)	5.1	8.5	Develop a bi-annual monitoring regime (in advance of winter and following winter) to assess the condition of the dunes at Baglan Burrows (and the surrounding area including Neath Estuary and Crymlyn Burrows) to enable the	WAG	Neath Port Talbot County Borough	ASAP

SUPERSEDED
Contact SUBDEC for current action plan

			potential risk of a breach in the dunes over the winter period to be assessed.		Council	
	5.2	All	Undertake beach and coastal defence asset monitoring to inform further studies and future SMP reviews. In particular, estuary morphology and dune recession rates, should be monitored. This information should not only be used in future coastal management, but also to assist in stakeholder liaison by use of data in public education campaigns.	WAG	Coastal Group (Wales Coastal Monitoring Centre)	0 to 100 years
	5.3	All	Continue with existing beach profile monitoring programme and provide information to the Wales Coastal Monitoring Centre for storage and analysis. Use beach profile data to identify the future risk of undermining and overtopping of existing defences,	WAG	Coastal Group (Wales Coastal Monitoring Centre)	0 to 100 years
	5.4	8.2 to 8.6 & 8.8	Undertake periodic defence inspection, including condition assessment and photographs. Confirm defence crest levels.	WAG	Coastal Group (Wales Coastal Monitoring Centre)	0 to 20 years
	5.5	All	Undertake further studies, and associated modelling, to better understand sediment regime in the SMP area and inform future coastal management. Undertake monitoring of current velocities within the Neath Estuary.	WAG	Neath Estuary Group (Neath Port Talbot County Borough Council)	0 to 100 years
	5.6	All	Monitor risk to the coastal footpath and investigate potential re-routing of the path where appropriate.	WAG	Neath Port Talbot County Borough Council	Ongoing
6. Asset management	6.1	All	Ensure that the extent of public and privately owned defences are defined and mapped to inform future management decisions.	WAG	Neath Port Talbot County Borough Council and City and County of Swansea (Wales Coastal Monitoring Centre)	0 to 20 years
	6.2	All	Undertake an appraisal of asset inspection and beach profile monitoring data to assess the existing and future risk of undermining and overtopping of existing structures.	WAG	Coastal Group (Wales Coastal Monitoring Centre)	0 to 20 years
7. Communication	7.1	All	Undertake consultation with the local community, key stakeholders and general public during the development of the Neath Estuary Strategy and whenever appropriate to ensure an acceptable approach is developed and adopted.	WAG	Neath Estuary Group (Neath Port Talbot County Borough Council and EAW)	0 to 20 years
	7.2	All	Undertake monitoring and management of Action Plans to ensure SMP policies are put into practice.	WAG	Coastal Group	0 to 100 years
8. Interface with planning and land management	8.1	All	Continue with risk-based improvements to flood risk maps to provide an appraisal of likely future projected sea level rise.	WAG	EAW	0 to 20 years
	8.2	All	Ensure SMP policies and flood and erosion risks are accounted for in the next revisions of land use plans in order to help manage residual risks from coastal erosion and flooding, and to inform future planning decisions.	WAG	Neath Port Talbot County Borough Council planning	0 to 20 years
9. Emergency response	9.1	8.4 & 8.5	Development, monitoring and review of emergency response plans to prepare for storm events which are likely to exceed existing defence standards of protection or lead to failure of existing defences (for example following breach or overtopping).	WAG	Neath Port Talbot County Borough Council	0 to 20 years
10. Adaptation/ resilience			-			
11. Flood forecasting and warning	11.1	All	Continue with risk-based improvements to flood risk maps and inundation modelling to provide improved flood warning service.	WAG	EAW	0 to 20 years
12. Habitat creation and environmental mitigation			-			
* Note: It is recommended that the lead partner/s investigate the potential for local partnerships and alternative sources of funding.						

SUPERSEDED
Contact SCBCEG for current action plan

Appendix L – Consultation Questionnaire

Q1. Are the conclusions drawn about flood and coastal erosion risk in NPTCBC helpful in setting out the problems and opportunities?

- Fully Agree
- Partially Agree
- Neither agree nor disagree
- Partially Disagree
- Completely Disagree
- No Opinion

Q2. Are the objectives appropriate?

- Fully Agree
- Partially Agree
- Neither agree nor disagree
- Partially Disagree
- Completely Disagree
- No Opinion

Q3. Is there a balance of different types of measures set out to achieve these objectives?

- Fully Agree
- Partially Agree
- Neither agree nor disagree
- Partially Disagree
- Completely Disagree
- No Opinion

Q4. Of the different types of measures proposed which do you feel should be prioritised by the Authority? (Please select 3 options)

- Sustainable Urban Drainage Systems (SuDs) Development
- SuDs Approval Body (SAB) and Planning Consultee
- Flood Action Plans
- Adaptation and Resilience
- Natural Flood Management and Nature Based Solutions
- Environmental and Biodiversity Enhancements
- Asset Surveys
- Section 21 Asset Register (Flood and Water Management Act 2010)
- Critical Flood Risk Asset Inspections
- Critical Flood Risk Asset Maintenance and Repairs
- Construction of Flood Alleviation Schemes
- Flood Risk Assessments
- Section 19 Investigations into Flooding (Flood and Water Management Act 2010)
- Feasibility Studies
- Business Case Development
- Communicating Risk
- Warning and Informing
- Partnership Working with other Risk Management Authority's
- Emergency Response Plans
- No Opinion

Q5. Are the measures focused sufficiently on delivering environmental improvements – are there additional measures we should be proposing to enable flood risk management to be more sustainable in the future?

- Fully Agree
- Partially Agree
- Neither agree nor disagree
- Partially Disagree

- Completely Disagree
- No Opinion

Q6. Are there additional measures we should be proposing to enforce?

Q7. Have any known flood risk issues not been identified/addressed as part of this draft Strategy and Plan?

Q8. We have proposed a change on how we approach flooding in the geographical sense, opting to manage Flood Risk based on fluvial catchments rather than Political Wards, as we did in 2015. Do you feel this is the correct approach?

- Fully Agree
- Partially Agree
- Neither agree nor disagree
- Partially Disagree
- Completely Disagree
- No Opinion

Q9. The draft Flood Risk Management Strategy and Plan sets out the most significant flood risk in the NPTCBC. Do you

- Fully Agree
- Partially Agree
- Neither agree nor disagree
- Partially Disagree
- Completely Disagree
- No Opinion

Q10. Do you feel that this draft Flood Risk Management Strategy and Plan effectively targets and aims to achieve the objectives set out by Welsh Governments National Flood and Coastal Erosion Risk Management strategy (FCERM) of:

A. Improving our understanding and communication of risk

B. Preparedness and building resilience

C. Prioritising investment to the most at-risk communities

D. Preventing more people becoming exposed to risk

E. Proving an effective and sustained response to events

- Fully Agree
- Partially Agree
- Neither agree nor disagree
- Partially Disagree
- Completely Disagree
- No Opinion

Q11. The draft Flood Risk Management Strategy and Plan describes four categories of measures

1. Prevention 2. Protection 3. Preparedness 4. Recovery and Review

Q12. Are there any measures you feel that we might have missed?

Q13. If yes, please provide more information here:

Q14. Do you feel the revised Action Plans (Appendix A1, A2 & A3) go far enough in addressing flood risk within the county borough. Are there any you feel we have missed?

- Fully Agree
- Partially Agree
- Neither agree nor disagree
- Partially Disagree
- Completely Disagree
- No Opinion

Q15. Are there any action plans you feel we have missed?

Q16. What do you consider to be the greatest cause of flood risk in NPTCBC? (Please select 3 options)

- Ground water
- Blocked culvert inlet grids
- Ordinary water courses or streams (*not rivers*)
- Combined sewers (*Foul and surface water*)
- Surface water run off
- Highway drainage (Blocked Gullies etc)
- Drainage channels
- Other

Q17. What do you consider to be the highest priorities for managing flood risk in NPTCBC? (Please select 3 options)

- Maintenance of culvert inlet grids,
- drainage channels and gullies
- Improvement of existing drainage infrastructure
- Construction / Improvement of flood defence systems
- Sustainable drainage systems (SuDS) for new developments
- Better land management (reducing run off at the source)
- Other

Q18. In which Strategic Flood Risk Area (SFRA) of NPTCBC do you live?

- AFAN
- AFAN PRYDDIN
- AFON CORRWG
- AFON PELENNA
- AMMAN
- DULAIS
- FFRWDWYLLT
- KENFIG
- LOWER CLYDACH
- NEATH
- NEATH VALE
- AFON CLYDACH

- TAWE
- TWRCH
- UPPER CLYDACH
- NONE OF THE ABOVE

Q19. Please provide full postcode.

Q20. Which Organisation or Group do you represent?

- Resident of NPTCBC
- Member of the Public (Live outside of NPTCBC)
- Elected Member
- Risk Management Authority (RMA)
- Stakeholder
- Other

Q21. Please provide any additional comments you have about the Draft Flood Risk Management Strategy and Plan.

About you

Under the Equality Act 2010 and the Public Sector Equality Duties, the council has a legal duty to look at how its decisions impact on people because they may have particular characteristics.

Appendix M – Consultation Questionnaire Responses

	Respondent 1	Respondent 2	Respondent 3
Q1.Are the conclusions drawn about flood and coastal erosion risk in NPTCBC helpful in setting out the problems and opportunities? • Fully Agree • Partially Agree • Neither agree or disagree • Partially Disagree • Completely Disagree • No Opinion #Comment Box	Fully Agree	Fully Agree	Fully Agree
Q2.Are the objectives appropriate? • Fully Agree • Partially Agree • Neither agree or disagree • Partially Disagree • Completely Disagree • No Opinion #Comment Box	Fully Agree	Fully Agree	Fully Agree
Q3.Is there a balance of different types of measures set out to achieve these objectives? • Fully Agree • Partially Agree • Neither agree or disagree • Partially Disagree • Completely Disagree • No Opinion #Comment Box	Fully Agree	Fully Agree	Fully Agree
Q4.Of the different types of measures proposed which do you feel should be prioritised by the Authority? (Please select 3 options) • Sustainable Urban Drainage Systems (SuDs) Development • SuDs Approval Body (SAB) and Planning Cunsultee • Flood Action Plans • Adaptation and Resilience • Natural Flood Management and Nature Based Solutions • Environmental and Biodiversity Enhancements • Asset Surveys • Section 21 Asset Register (Flood and Water Management Act 2010) • Critical Flood Risk Asset Inspections • Critical Flood Risk Asset Maintenance and Repairs • Construction of Flood Alleviation Schemes • Flood Risk Assessments • Section 19 Investigations into Flooding (Flood and Water Management Act 2010)	"Sustainable Urban Drainage Systems (SuDs) Development","Flood Action Plans","Adaptation and Resilience","Section 21 Asset Register (Flood		"Sustainable Urban Drainage Systems (SuDs) Development"

- Feasibility Studies
- Business Case Development
- Communicating Risk
- Warning and Informing
- Partnership Working with other Risk Management Authority's
- Emergency Response Plans
- No Opinion

Q5.Are the measures focused sufficiently on delivering environmental improvements – are there additional measures we should be proposing to enable flood risk management to be more sustainable in the future?	Fully Agree	No Opinion	Fully Agree

- Fully Agree
- Partially Agree
- Neither agree or disagree
- Partially Disagree
- Completely Disagree
- No Opinion

#Comment Box

Q6. Are there additional measures we should be proposing to enforce?	Yes	Yes	No
#Comment Box	Drainage clearance in all local areas		

Q7.Have any known flood risk issues not been identified/addressed as part of this draft Strategy and Plan?	Don't know	Yes	Don't know

#Comment Box

Q8. We have proposed a change on how we approach flooding in the geographical sense, opting to manage Flood Risk based on fluvial catchments rather than Political Wards, as we did in 2015. Do you feel this is the correct approach?	Fully Agree	No Opinion	Partially Agree

- Fully Agree
- Partially Agree
- Neither agree or disagree
- Partially Disagree
- Completely Disagree
- No Opinion

#Comment Box

Q9. The draft Flood Risk Management Strategy and Plan sets out the most significant flood risk in the NPTCBC. Do you	Partially Agree	No Opinion	Partially Agree

- Fully Agree
- Partially Agree
- Neither agree or disagree
- Partially Disagree
- Completely Disagree
- No Opinion

#Comment Box	Clearing of drains and road surfaces		
Q10. Do you feel that this draft Flood Risk Management Strategy and Plan effectively targets and aims to achieve the objectives set out by Welsh Governments National Flood and Coastal Erosion Risk Management strategy (FCERM) of:	Fully Agree	No Opinion	Partially Agree
A. Improving our understanding and communication of risk	Fully Agree	No Opinion	Partially Agree
B. Preparedness and building resilience	Partially Agree	No Opinion	Fully Agree
C. Prioritising investment to the most at risk communities	Fully Agree	No Opinion	Fully Agree
D. Preventing more people becoming exposed to risk	Fully Agree	No Opinion	Partially Agree
E. Proving an effective and sustained response to events	Fully Agree	No Opinion	Neither agree nor disagree

- Fully Agree
- Partially Agree
- Neither agree or disagree
- Partially Disagree
- Completely Disagree
- No Opinion

#Comment Box

Q11. The draft Flood Risk Management Strategy and Plan describes four categories of measures			
1. Prevention	Fully Agree	No Opinion	Partially Agree
2. Protection	Partially Agree	No Opinion	Partially Agree
3. Preparedness	Partially Agree	No Opinion	Partially Agree
4. Recovery and Review	Fully Agree	No Opinion	Partially Agree

Q12. Are there any measures you feel that we might have missed?	Yes	No

#Comment Box

Q13. If yes, please provide more information here:	Effective and timely upkeep of sludge in drains

#Comment Box

Q14. Do you feel the revised Action Plans (Appendix A1, A2 & A3) go far enough in addressing flood risk within the county borough. Are there any you feel we have missed?	Partially Agree	No Opinion	Partially Agree

- Fully Agree
- Partially Agree
- Neither agree or disagree
- Partially Disagree
- Completely Disagree
- No Opinion

#Comment Box

Q15. Are there any action plans you feel we have missed?	Don't know	No

#Comment Box

Q16. What do you consider to be the greatest cause of flood risk in NPTCBC? (Please select 3 options)
• Ground water
• Blocked culvert inlet grids
• Ordinary water courses or streams (*not rivers*)
• Combined sewers (*Foul and surface water*)
  • Surface water run off
  • Highway drainage (Blocked Gullies etc)
  • Drainage channels
  • Other
	"Ground water ","Blocked culvert inlet grids ","Drainage channels"		"Ground water ","Blocked culvert inlet grids ","Surface water run off"

Q17. What do you consider to be the highest priorities for managing flood risk in NPTCBC? (Please select 3 options) • Maintenance of culvert inlet grids, • drainage channels and gullies • Improvement of existing drainage infrastructure • Construction / Improvement of flood defence systems • Sustainable drainage systems (SuDS) for new developments • Better land management (reducing run off at the source) • Other	"Maintenance of culvert inlet grids,","Drainage channels and gullies","Improvement of existing drainage infrastructure"		"Maintenance of culvert inlet grids,","Drainage channels and gullies","Improvement of existing drainage infrastructure"
Q18. In which Strategic Flood Risk Area (SFRA) of NPTCBC do you live? • AFAN • AFAN PRYDDIN • AFON CORRWG • AFON PELENNA • AMMAN • DULAIS • FFRWDWYLLT • KENFIG • LOWER CLYDACH • NEATH • NEATH VALE • AFON CLYDACH • TAWE • TWRCH • UPPER CLYDACH • NONE OF THE ABOVE	AFAN	FFRWDWYLLT	NEATH
Q19. Please provide full postcode.			SA11 2AQ
Q20. Which Organisation or Group do you represent? • Resident of NPTCBC	Resident of Neath Port Talbot County Borough	Elected Member	Resident of Neath Port Talbot County Borough

- Member of the Public (Live outside of NPTCBC)
- Elected Member
- Risk Management Authority (RMA)
- Stakeholder
- Other

Q21. Please provide any additional comments you have about the Draft Flood Risk Management Strategy and Plan.
#Comment Box

About you

Under the Equality Act 2010 and the Public Sector Equality Duties, the council has a legal duty to look at how its decisions impact on people because they may have particular characteristics.